



**Defining and Measuring the Personal and Professional
Development for Healthcare Professionals on International
Placements in Low and Middle Income Countries**

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Submitted in Partial Fulfilment of the Requirements of the

Degree of Doctor of Philosophy

2018

Table of Contents

1. Introduction	2
1.1. Introducing international placements.....	2
1.1.1. Motivations for undertaking international placements	4
1.1.2. The case for international placements: increasing personal and professional development.....	5
1.1.3. International placements: providing potential benefits to the NHS.....	7
1.2. Challenges with promoting international placements within the NHS.....	11
1.3. Rationale for the thesis.....	12
1.3.1. Aim of the thesis.....	13
1.3.2. Objectives	13
1.4. Summary.....	13
2. A Review of the Literature	14
2. 1. Introduction.....	14
2.2. Systematic review methods.....	14
2.2.1. Data sources and study selection	15
2.2.2. Citation mapping.....	16
2.2.3. Results of search	16
2.2.4. Additional searching outside of the parameters of the systematic search	18
2.2.5. The focus on non-clinical skills	18
2.3. Exploring the four emerging themes in the reviewed literature and how this relates to NHS policy documents	20
2.3.1. Leadership.....	21
2.3.2. Communication skills	24
2.3.4. Cultural knowledge, skills and attitudes	28
2.3.5. Personal development.....	32
2.4. Additional important themes that are discussed less frequently.....	34
2.4.1. Financial awareness	34
2.4.2. Problem solving and working with limited resources.....	35
2.4.3. Multi-disciplinary team work	35
2.4.4. Clinical guidance	36
2.4.5. Teaching and academic skills	36
2.4.6 Negative outcomes/costs.....	37
2.4.7 Section summary.....	38
2.7. Contextual factors	38

2.7.1. A platform for comparison and systems knowledge.....	40
2.8. Review of existing educational theories that have been applied to international learning	41
2.8.1. Moderating and mediating variables.....	41
2.8.2. Learning environments	44
2.8.3. Component 1: Material	46
2.8.3.1. Organisational	47
2.8.3.2. Experiencing an unfamiliar environment and culture.....	48
2.8.4. Component 2: Social.....	49
2.8.4.1. Participation	49
2.8.4.2. Teacher-learner relationship/teaching as a feature of learning environments	50
2.8.5. Component 3: Intra-psychological.....	54
2.8.5.1. Level of challenge experienced by learner	55
2.8.6. Concept 4: Measurement	56
2.8.7. Concept 5: Opportunities	56
2.8.8. Transformational learning theory: A theoretical explanation of learning on international placements	60
2.8.9. Experiential learning on international placements.....	62
2.9. Theoretical hypothesis and summary of contextual factors.....	64
2.10. Existing measures of healthcare professional learning/PPD on international placements.....	65
2.10.1. Requirement 1: Quantitative/Qualitative	66
2.10.2. Requirement 2: Population	66
2.10.3. Requirement 3: Country.....	66
2.10.4. Requirement 4: Validity/Reliability	66
2.10.5. Requirement 5: Domains	67
2.10.6. Summary	67
2.10.7. The necessity for metrics	70
2.10.8. Problems with measuring broad outcomes	70
2.11. Summary.....	72
2.11.1. Understanding the PPD outcomes of international placements.....	72
2.11.2. Understanding the negative outcomes	72
2.11.3. Understanding the contextual differences between an international and UK learning environment	72
2.11.4. The necessity for an agreed upon set of outcomes/measurement tool.....	73
2.12. Conclusion	73
3. Methodology	74

3.1. Introduction.....	74
3.2. Ontology, epistemology and research paradigms of inquiry	74
3.3. My position: post-positivism	75
3.4. Qualitative and quantitative Methodologies	77
3.4.1. Mixed methods methodology: The best fit	80
3.5. The psychometric/psychological assessment approach	81
3.5.1. Latent traits and item response theory	83
3.6. Research questions.....	84
3.7. Summary	84
4. Methods.....	86
4.1. Introduction.....	86
4.2. Core outcome sets	89
4.2.1. Outlining core outcome sets.....	89
4.2.2. Methods to develop a core outcome set	91
4.3. Literature search: exploration of approaches to literature search	91
4.3.1. Exploration of synthesis.....	92
4.3.2. Rationale for choosing meta-synthesis	93
4.4. Consensus methods: exploration of consensus methods	94
4.4.1. Rationale for choosing Delphi methodology	95
4.5. Tool development	97
4.5.1. Exploration of measures of learning	97
4.5.2. Creating a self-report tool	102
4.6. Pilot.....	102
4.6.1. Rationale for using a statistical data reduction technique.....	102
4.6.2. Rationale for choosing principal component analysis	105
4.6.3. Multidimensional item response theory model.....	106
4.7. Generating preliminary findings	106
4.7.1. Between-group comparisons.....	107
4.7.2. Within-participant comparisons.....	107
4.7.3. Interaction between variables and PPD outcomes	107
4.8. Summary	108
5. Meta-synthesis of personal and professional development reported in the literature	110
5.1. Introduction to empirical work	110
5.2. Background	111
5.3. Methods.....	112

5.3.1. Study design and sample.....	112
5.3.2. Data extraction	113
5.4. Results.....	114
5.4.1. Data sources	114
5.4.2. Quality of literature.....	115
5.4.3. Outcomes	121
5.5. Discussion	144
5.5.1 Limitations	147
5.5.2. Future directions and implications.....	149
5.6. Conclusion	149
5.7. Summary.....	150
6. Delphi Study: a Consensus Technique.....	151
6.1. Background.....	151
6.2. Methods.....	151
6.2.1. Design	151
6.2.2. Participants.....	152
6.2.3. Instrumentation	152
6.2.3.1. Round one and pilot.....	152
6.2.3.2. Round two.....	153
6.2.3.3. Round three.....	153
6.2.3.4. Round four	153
6.2.3. Analysis.....	154
6.3. Results.....	154
6.3.1. Participants.....	154
6.3.2. Rounds	155
6.3.3. Thematic results.....	157
6.3.4. Statements with above 90% consensus.....	158
6.3.5. Statements for which the most stakeholders strongly agree	159
6.3.6. Non-consensus statements	159
6.3.7. Changes in stakeholder opinion between rounds.....	160
6.4. Discussion	161
6.4.1. Communication.....	163
6.4.2. Cultural learning	164
6.4.3. Leadership.....	164
6.4.4. Non consensus statements.....	165
6.4.5. Change in opinions	166

6.4.6. Limitations	166
6.4.7. Future directions and implications	167
6.5. Conclusions.....	168
6.6. Summary	168
7. Development of a Psychometric Tool to Measure Personal and Professional Development on International Placements	169
7.1. Introduction.....	169
7.2. Background	169
7.3. Method	171
7.3.1. Participants.....	171
7.3.2. Design	171
7.3.3. Procedure	172
7.3.3.1. Creating a tool.....	172
7.3.3.2. Pre-pilot.....	172
7.3.3.3. Pilot	173
7.3.4. Materials	173
7.3.4.1. Measure.....	173
7.3.5. Analysis.....	174
7.3.5.1. Principal component analysis	174
7.3.5.2. Multidimensional item response theory	175
7.4. Results.....	175
7.4.1. Developing the tool.....	175
7.4.2. Pre-pilot.....	176
7.4.3. Pilot.....	176
7.4.3.1. Participants.....	176
7.4.3.2. Principal component analysis	178
7.5. Discussion	186
7.5.1. Limitations	187
7.5.2. Future directions	188
7.6. Summary.....	188
8. Measuring Differences using the Tool.....	190
8.1. Background	190
8.1.2. Aim	191
8.2. Methods.....	191
8.2.1. Participants.....	191
8.2.2. Design	192

8.2.3. Procedure	192
8.2.4. Materials: Measure.....	192
8.2.4.1 Phase 2	193
8.2.5. Analysis.....	193
8.2.5.1. Phase 1	193
8.2.5.3. Phase 2	194
8.3. Results.....	194
8.3.1. Participants.....	194
8.3.1.1. Phase 1	194
8.3.1.2. Demographics for phase 1	194
8.3.1.3. Phase 2	196
8.3.2. Domain Scores	196
8.3.3. Phase 1: Between- group comparison of domain scores	197
8.3.3.1. Additional between-group comparisons	200
8.3.4. Phase 2: Within-participant longitudinal study: comparison of pre and post placement domain scores	203
8.4. Discussion	203
8.4.1. Limitations	205
8.4.2. Future directions	208
8.5. Summary	208
9. Secondary Analysis of the Pilot Data: Contextual Factors and Costs	210
9. 1. Background	210
9.2. Methods.....	211
9.2.1. Participants.....	211
9.2.2. Design	211
9.2.3. Procedure	211
9.2.4. Materials: Measure.....	212
9.2.5. Analysis.....	215
9.2.5.1. Costs/negative outcomes.....	215
9.2.5.3. Contextual factors	215
9.3. Results.....	217
9.3.1. Participants.....	217
9.3.2. Negative outcomes/costs.....	217
9.3.2.1. Financial.....	217
9.3.2.2. Recognition and accreditation.....	218
9.3.2.3. Return to the UK.....	218

9.3.2.4. Exposure	218
9.3.2.5. Skills	218
9.3.2.5. Pre-departure expectations.....	218
9.3.3. Contextual elements of the placements.....	220
9.3.3.1. Destination	220
9.3.3.2. Length of stay	221
9.3.3.3. Social, material/organisation, intra-psychological and opportunity elements of an LMIC environment that may affect PPD	221
9.3.3.4. Intra-Psychological	225
9.3.3.5. Material and organisational.....	227
9.3.3.6. Opportunities.....	228
9.4. Discussion	229
9.4.1. Costs.....	230
9.4.2. Contextual factors	232
9.4.3. Limitations	234
9.4.4. Future directions	236
9.5. Summary	236
10. Discussion.....	238
10.1 Introduction.....	238
10.1.1. Impact of research.....	238
10.2. What personal and professional development happens on international placements?	239
10.2.1. Behaviour change.....	242
10.2.2. Adapting communication.....	244
10.2.3. Difficult communication	247
10.2.4. Team work	250
10.2.5. Cultural sensitivity	253
10.2.6. Teaching.....	256
10.2.7. Management.....	258
10.2.8. Satisfaction with life	260
10.2.9. Adaptability.....	262
10.2.10. Confidence	264
10.2.11 Summary	267
10.3. What are the negative outcomes of international placements?	267
10.4. Can personal and professional development on international placements be measured and which components are most amenable to quantification?.....	272
10.4.1. What the tool does	272

10.4.2. What the tool does not do	273
10.4.3. Outcomes that were removed during the research process	275
10.5. Limitations of the tool.....	277
10.5.1. Effectiveness of self-report measures	277
10.5.2. Self-selecting bias	278
10.5.3. Performance vs self-assessment.....	278
10.5.4. Unrealistic optimism.....	279
10.5.6. Above-average effects	279
10.5.7. Overconfidence effect.....	279
10.5.8. Metacognition	280
10.5.9. Lack of theoretical basis for PCA.....	281
10.5.10. Summary	281
10.6. Limitations of Findings.....	282
10.6.1. Transformational learning and meta-cognitive awareness	282
10.6.2. Reductionism	282
10.6.3. Size of the core outcome set	282
10.6.4. Core outcomes set not encompassed within tool	283
10.6.5. Summary	283
10.7. How do international contexts facilitate learning that is of benefit?	284
10.7.1. Destination country.....	284
10.7.2. Length of stay	284
10.7.3. Level of difficulty	285
10.7.4. Discussing the unique components of an LMIC learning/working environment	285
10.7.5. Material/Organisational	285
10.7.6. Social.....	286
10.7.7. Opportunities.....	287
10.7.8. Intra-psychological	288
10.8. Educational Theories	289
10.8.1. Transformational learning theory	289
10.8.2. Deliberate practice theory	291
10.8.3. Zone of proximal development.....	292
10.8.4. Experiential learning.....	293
10.8.5. Educational theory summary	293
10.9. Conclusion	297
10.10. Reflection on the work conducted within this thesis	298
10.11. Summary.....	300

11. Summary and Recommendations for Policy and Practice	301
11.1. Summary of the thesis.....	301
11.2. Important scholarly contributions	303
11.2.1. The importance of measurement.....	304
11.2.2. Importance of using mixed methods.....	305
11.3. Recommendations based on this research.....	305
11.3.1. Importance of an ethical balance	305
11.3.2. Applying the findings to a UK environment or controlled LMIC environment	306
11.3.3. Recommendations for employers: trusts, the NHS and Health Education England	307
11.3.4. Recommendations for volunteering projects and those responsible for sending	308
volunteers.....	
11.3.5. Recommendations for health professionals with an interest in international	309
placements.....	
11.3.6. Recommendations for academics and researchers.....	310
11.3.7. Recommendations for policy makers.....	310
11.4. Future research.....	311
11.5. Conclusion	312
12. References	313
13. Appendix	Error! Bookmark not defined.

List of Tables

Table 1: Existing measures or frameworks that have relevance to this research.....	68
Table 2: Papers included in the systematic review	116
Table 3: Table of PPD outcomes extracted from the literature, higher order themes, lower	122
order components and examples from the data.....	
Table 4: Tables of potential variables, higher order themes, lower order components and	136
examples from the literature	
Table 5: Number of statements with consensus at each round	155
Table 6: Examples of core outcomes that fell within more than one categories	155
Table 7: Applying my results to the current knowledge: my core learning outcomes	156
presented within the existing domains from Jones et al. (14).....	
Table 8: Statements with above 90% consensus.....	158
Table 9: Statements with most stakeholder agreement.....	159
Table 10: Participants: Anticipated and Actual Numbers.....	176
Table 11: Participant Demographic Information Table, showing the age, employment	177
status, nationality and career stage (years since registration) of participants	
Table 12: Staff cadres of participants, percentage of sample made up by each profession	
and percentage of staff in North West Demographic data and number of staff from each	
profession with international experience(1=Past international experience, 2=currenty	

overseas, 3=no international experience, not interested, 4=no international experience, interested, 5=due to depart).....	178
Table 13: Comparison of selected goodness-of-fit indices between the unidimensional model and the proposed model.	179
Table 14: Cronbach’s alpha co-efficient for each construct	179
Table 15: The final selection of items with the dimension each one of them belongs, the loading estimates, and the standard errors of the loading estimates, the ratios between the estimate and the standard error and the two-tailed p-values.....	181
Table 16: Professional cadres of the groups with and without international experience..	195
Table 17: Career stage of the groups with and without international experience.....	195
Table 18: Genders of the groups with and without international experience	195
Table 19: Median scores and interquartile range for each of the domains for all 436 participants.....	196
Table 20: Median scores on each of the domains when participants are grouped into five categories of international experience	198
Table 21: The median scores and interquartile range for each domain for those with and without international experience.....	199
Table 22: The difference in median scores on each domain according to gender and the results of the Mann Whitney U comparison	201
Table 23: The difference in median scores on each domain according to career stage and the results of the Kruskal Wallis test	201
Table 24: The difference in median scores on each domain according to professional cadre and the results of the Kruskal Wallis H test.....	202
Table 25: Longitudinal comparison of medians (pre and post placement scores) on each of the 10 domains	203
Table 26: Each of the variable item and how they were presented	213
Table 27: Each of the negative outcome items and how they were presented	214
Table 28: Participant professional groups.....	217
Table 29: The percentage of participants that reported each negative outcome.....	218
Table 30: Comparison of median scores when participants are grouped according to host country	220
Table 31: Comparison of domain scores according to length of stay (short, medium or long)	221
Table 32: the percentage of participants who reported each social variable on past international experience and any domains that had significantly different scores for those who experienced it	223
Table 33: Cross-tabulation between career stage and the presence of a more knowledgeable other	224
Table 34: Intra-psychological variables: frequencies and any significant differences between those with and without a particular variable.....	226
Table 35: Material and Organisational variables: frequencies and any significant differences between those with and without each variable.....	227
Table 36: Opportunity variables: frequency and any differences between those with and without that variable	228
Table 37: Items removed during the Delphi	275

Table 38: Most agreed upon items in the Delphi and whether there were included in the final tool.....	276
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Illustrations

Figure 1: PRISMA Flow Diagram to show the papers included and excluded in the systematic search. Source: (Adapted From) Moher, Liberati, Tetzlaff, (2009).....	17
Figure 2 Hypothetical model to show the effect of contextual variables on PPD in LMICs	42
Figure 3: A model of moderating and mediating variables	43
Figure 4: A visual depiction of Isba and Boors description of four components of medical student learning environments. Developed from the book chapter ‘Creating a Learning Environment’ with the addition of opportunity from previous work (117,122).....	46
Figure 5: A Diagram to visually depict the systems described in the theory of Ecological Systems. Source: (Adapted From) https://voices.no/index.php/voices/article/view/829/685	48
Figure 6: A diagram to explain the Zone of Proximal Development. Source: (Adapted From): http://www.cuppacocoa.com/the-zone-of-proximal-development/	51
Figure 7: A hypothetical model to outline the differences between an LMIC and HIC environment	Error! Bookmark not defined.
Figure 8: A Graph to depict transformational learning on international placements. Source: (Adapted from) <i>Fee, A., & Gray, S. J. (2013) (28)</i>	60
Figure 9: A visualisation of the 4 stage process of experiential learning. Source: (Adapted From) http://www.simplypsychology.org/learning-kolb.html	Error! Bookmark not defined.
Figure 10: Outputs of this thesis	87
Figure 11: A visual depiction of the interaction between the aims, methods and outputs .	88
Figure 12: Levels of specificity in the outcomes presented in the literature	89
Figure 13: A visual depiction of item reduction at each stage of the step-wise research process.....	98
Figure 14: A visual depiction of Factor Analysis	104
Figure 15: A visual depiction of Principle Component Analysis	105
Figure 16: A visual depiction of Multidimensional Item Response Theory.....	106
Figure 17: PRISMA Flow Diagram to show the papers included and excluded in the systematic search. Source: (Adapted From) Moher, Liberati, Tetzlaff, (2009).....	114
Figure 18: Percentage consensus for communication statements.....	157
Figure 19: Percentage consensus for cultural learning statements	157
Figure 20: Percentage consensus for leadership statements	158
Figure 21: Latent Variables and Loadings	183
Figure 22: Screen Plot.....	184
Figure 23: Estimates for mean individual precision of the latent variable scores.	184
Figure 24: Information functions for the latent variables.	185
Figure 25: Estimates for individual standard errors of measurement of the latent variable scores.....	185
Figure 26: Number of respondents in each phase	196
Figure 27: Levels of PPD outcomes found in my research	241

Figure 28: Visual depiction of each environment in relation to opportunity to practice and level of supervision	294
Figure 29: A visual depiction of both environments in terms of resources and level of supervision	295
Figure 30: A graph to show my theoretical conclusion about PPD on international placements.....	296
Figure 31: An example future model of interaction between outcomes and variables using the findings of this research	300

Acknowledgements

Firstly, I would like to thank my supervisors Prof. Louise Ackers, Prof. Anya Ahmed and Dr. Lucie Byrne-Davis for all their support, advice and expert guidance, and for the opportunity to work on an exciting fully-funded PhD studentship; which began with a trip to Uganda. I would like to thank Health Education England (HEE), particularly Ged Byrne, for funding my PhD. I would also like to thank the members of the research team that worked alongside me for the past four years, helping with piloting, recruitment, design and decision making: Dr John Chatwin, Natalie Tate, Hassan Osman, Eileen Cunningham and James Ackers-Johnson. I would also like to thank Dr Carlos Collares for conducting the statistical tests in Chapter 7. I would also like to thank the participants, particularly Delphi stakeholders for their continued, uncompensated participation. Also, volunteer project management, colleagues in Manchester and Salford Universities and HEE staff for their help with recruitment of participants.

I would like to thank my husband, Lee, for all of his support at home and for driving/accompanying me to various conferences and meetings, both nationally and internationally. I would also like to thank my young son George for being adaptable enough to go to nursery so soon and to cope to with seeing me infrequently during the writing phrase.

I would also like to thank my parents, sisters, stepmother and in-laws: Michelle, Mark, Lucinda, Kate, Karen, Tony and Emily, for their practical and emotional support and for helping with childcare allowing me to progress. I'm appreciative of my parents for providing me with an upbringing that has instilled the importance of hard-work and academic achievement for social mobility.

Finally, I would like to thank a few friends and family for their ongoing support with my PhD and throughout my academic career: Yvonne, Anna, Catherine, Darren, Sarah, Helen, Fay, Emma and Ellie.

This thesis was one component of the MOVE project (Measuring the outcomes of Volunteering for Education). A group of multi-disciplinary researchers across Salford and Manchester Universities considering the educational benefit of health professional volunteering. More information about the project can be found here:

<https://www.salford.ac.uk/research/care/research-groups/knowledge-health-and-place/projects/move>

Declarations

Some of the material presented in Chapters 1 and 2 have been adapted and published in a peer-reviewed book 'Healthcare, Frugal Innovation, and Professional Voluntarism: A Cost-Benefit Analysis'

A paper entitled 'The benefits of international volunteering in a low-resource setting: Development of a core outcome set' based on Chapters 5 and 6 is currently under review with Human Resources for Health.

Abbreviations

A - Adaptability

AC – Adapting Communication

BC – Behaviour Change

C - Confidence

CFA – Confirmatory Factor Analysis

CS – Cultural Sensitivity

DC – Difficult Communication

EFA- Exploratory Factor Analysis

FA- Factor Analysis

HIC – High Income Countries

HPIP – Health professional international placements

LMIC – Low and Middle Income Countries

M- Management

MIRT- Multivariate Item Response Theory

NHS- National Health Service

PCA- Principle Component Analysis

PPD – Personal and Professional Development

SWLS - Satisfaction with Life Scale

T- Teaching

TW – Team Work

Abstract

It is frequently reported that British health professionals learn and develop considerably as a result of undertaking international placements in low and middle-income countries. However, there has been little attempt to empirically identify, analyse and measure the learning that happens. Much of the learning is described using broad, generalised terms such as ‘communication skills’ or ‘leadership’. This thesis aimed to uncover the constituent components of these broad terms by using a systematic review and meta-synthesis of the peer-reviewed literature. The potential learning outcomes generated during the meta-synthesis were then presented to a group of stakeholders in Delphi consensus study, who decided which of the items were most important. The Delphi method developed a set of core learning outcomes for international placements; which were converted into a self-assessment tool. The tool was piloted on a large sample size and reduced to a 40-item psychometric, self-assessment tool. Preliminary findings from the data gathered in the pilot study are discussed. An adaptation of transformational learning theory in relationship to international placements is proposed alongside discussion of how this research relates to existing educational theory. Future uses of the tool to generate more data are also discussed. This thesis is funded by Health Education England, who wished to explore the creation of a psychometric tool to measure learning on health professional international placements.

1. Introduction

1.1. Introducing international placements

International placements in low resource settings (sometimes referred to as international volunteering) are a rapidly growing phenomenon (Tourism Research and Marketing (TRAM), 2008). TRAM estimate that each year 1.6 million volunteers are hosted worldwide by at least 300 organisations (1). Fundamentally, international placements (or volunteering) which routinely implies a flow of individuals from high income countries (HICs) to low and middle income countries (LMICs) can take numerous forms and are not homogenous (1–3). These placements are distinctly different from student international placements where the primary aim is to learn and develop (4–6). This introductory chapter will begin by introducing health professional volunteering and placements, what they are and the motivations for undertaking these. I will present the benefits and challenges that the NHS faces regarding such activity. This is followed by an outline of the rationale for the thesis, aims, objectives and funding considerations.

International volunteering can be traced back historically over 100 years. In 1909 the British Red Cross initiated the Voluntary Aid Detachment Scheme, whereby volunteers helped treat wounded soldiers in Europe and the Middle East during World War One (7). Fifty years later in 1958, in the UK, formal organisations such as Voluntary Services Overseas (VSO) began linking international volunteers to projects. In the 1960's and 1970's it became popular for students and graduates to study or volunteer internationally (8). In recent years popularity has greatly increased and there are many smaller charities offering international volunteering placements, including the publicised response of volunteers to the Ebola crisis in West Africa in recent years (9).

Within much of the literature on which this thesis is built, there is discussion around defining the concept of international volunteering (2,3). Volunteering, in its various capacities, has a place in the lives of many British people. National data sets suggest that 39% of UK adults had volunteered formally in some capacity at least once in the preceding year (10). This equates to a figure of 19.8 Million UK adults choosing to volunteer at least once a year. Formal volunteering in this report is described as 'giving unpaid help' to 'benefit other people or the environment' (10). However national and international

volunteering are often categorised as two separate entities, with different underlying motivations, outcomes and structures (2).

This thesis focuses on health professionals on international placements. Health professionals travel from high income countries to work in health facilities in low and middle-income countries for little or no remuneration. This does not include those who migrate permanently or for a significant amount of time or those who are receiving a full UK (or equivalent) salary to work internationally. The majority of the health professionals referred to in this thesis would be recruited or referred to as volunteers. However, after attending many meetings with stakeholders in this field, particularly during data collection events, there was abundant disagreement about what constitutes a volunteer. For example, whether it is altruistic or for personal gain, whether they receive salary or accreditation, there was even debate about the condition of accommodation (whether those staying in 5 star hotels are volunteers). The meaning of volunteer was often contested in meetings with stakeholders anecdotally, primarily because they are aware of the tremendous personal and professional benefits reported by British professionals both anecdotally and in the literature (11–14). This underlines the importance of measuring the beneficial outcomes for British professionals. Therefore, I decided not to use the terminology ‘volunteer’ to eliminate the debate over its meaning and to allow focus on the research questions.

Healthcare professionals make up a significant proportion of the individuals who choose to undertake international placements. A 2009 survey found that 10% of Voluntary Services Overseas (VSO: a large international professional volunteering organisation) professionals were doctors or nurses (15). Many of the international placements discussed in the literature concern health professional students, as the term placement often suggests a student placement. Yet placements described in this thesis are not unique to students. Many individuals choose to undertake placements post-qualification. However, this typically happens internationally, with healthcare professionals choosing to spend time abroad, working in a healthcare facility (13,16–20). International placements take place around the world from high income environments such as Australasia and North America, to lower income settings, such as Africa, South America and Asia (13,19,21,22).

On international placements healthcare professionals undertake a range of activities; which are often linked to projects. Most professionals work in healthcare facilities in some capacity and utilise their UK professional training in health provision (11). Although these

types of placements are the focus of this thesis, it must also be noted that some health professionals might travel abroad to a placement that does not involve the use of their professional training, such as working in orphanages or on environmental or building projects (15). Even placements with a health provision focus may vary significantly from the activities conducted by professionals in the UK. For example, in low income environments it is suggested that disciplinary boundaries are often transgressed and a doctor may find herself doing the work of a nurse (in a UK environment) and vice versa (23–25). Individuals often find themselves working outside of their specialities, undertaking activities they would not do in the UK, or working with different populations (4,11,24). In some projects the focus is on service delivery, meaning professionals spend their time predominantly treating patients. Whilst in others, the focus is on capacity building, meaning transfer of knowledge to local staff is the priority (26). Hence, daily activity on international placements changes depending on the project's aim: capacity building projects may focus more on teaching and team work, whilst service delivery activities may be more clinical.

1.1.1. Motivations for undertaking international placements

The motivation for international placements is rarely solely personal and professional development (PPD). Many individuals choosing to work in low-income countries would consider themselves 'volunteers.' Helping or altruism is often one motivating factor, which is somewhat contrasted to personal and professional development (27). The notion that those from high-income countries (HICs) are altruistically offering 'help' to those in low and middle-income countries (LMICs), can also lead to a distortion of the partnership relationship between high and low-income partners in health partnerships. The low-income partners can be seen as beneficiaries and the high-income partners seen as donors (28–30). Furthermore, a tension often exists between UK healthcare professionals and local international staff, as the intentions or role of healthcare professionals and students is often not explicit to the teams with whom they are working. However, the donor-recipient relationship is becoming increasingly contested in recent literature and policy and mutual benefits realised (31,32).

Some literature argues that despite altruism being a consideration, the primary motivation is typically personal as opposed to pro-social (33,34). In a large-scale study of international volunteers from many professions, 'to develop useful skills for work or school' was only the 7th most reported motivation for international placements. It was

considered less important than ‘to have a challenging or meaningful experience’, ‘to make a difference by helping others’, ‘to gain greater cross-cultural understanding’ or ‘to travel or live abroad’ (35). This study suggests that the development of cross-cultural knowledge is a greater expected outcome than the development of career specific skills. When considering professional motivations specifically, research found junior doctors in Uganda were more likely to aim to develop clinical skills. Yet more experienced staff hoped to develop non-technical skills. Hence, literature suggests that although personal and professional development is often not the primary or sole motivating factor for international placements, it is a motivating factor for some. The type of learning desired depends upon the individual and more explicitly, their career stage, with cultural knowledge generally being a greater motivation than career specific skills.

As the traditional motivation for international work in low resource environments was to provide altruistic ‘help’ to those in need (7), much of the literature regarding healthcare volunteering and international placements has focused predominantly on the benefits experienced by the overseas partner (13,18,20). However the benefits for the British professionals and the NHS are becoming increasingly apparent (13,31,36). The percentage of doctors choosing to work and travel after foundation year almost doubled from 2011 to 2013 (37). A foundation year is the two year training scheme that bridges medical education and specialism practice. Furthermore, much of the literature suggests placements provide great learning opportunities and environments for the British healthcare professionals that choose to undertake them, irrespective of whether learning is the primary motivating purpose (13,14).

1.1.2. The case for international placements: increasing personal and professional development

There is a general consensus in the literature that there are personal and professional developments that occur as a result of international placements (4,13,24,38). What exactly this learning entails and how it is facilitated within an international context is much less conclusive (13). It can be assumed that there will be differences between an international healthcare facility and an NHS facility, as there would between two British NHS facilities. Yet understanding how this difference in context directly affects health professional learning is a complex task and does not appear to be directly addressed in the literature (13). Hence, literature presents an implication of causation (i.e. learning happens

invariably as a result of international placements) and a necessity to understand how learning on international placements compares to learning in a usual place of work.

This difference in health facility environments, particularly in low income vs high income environments is evident in a comparison of key figures. For example, figures suggest the major hospital in the capital of Uganda, Mulago has an average of 31812 births per year, in comparison to Liverpool women's hospital (the largest single site maternity hospital in the UK) which has an average of 8000 (39,40). So, there are contextual differences between health facilities in different countries. It must therefore be considered how working and being exposed to this different environment influences the learning described in the literature and which particular components of the environment have the most poignant effect on learning. Furthermore, understanding 'what' this learning actually is, what it encompasses and how it is evidenced is equally under-represented in the current literature. Much of the literature includes personal opinions about what authors believe people learn, but little attempt to measure and evidence this learning (18,38,41,42).

In terms of learning expectations, a recent study found that health professionals due to undertake international placements expected to gain clinical skills (43). Some professionals may even travel in order to have the opportunity to experience higher numbers of clinical cases. But what many did not expect was the personal and professional development of non-clinical skills; which seem to be an important but unexpected outcome of international placements. These non-clinical skills tend to focus around leadership, communication, cultural knowledge and personal development (13,17,21,24,44).

Whilst it is not clear or agreed upon exactly how such learning should be labelled, much of the literature has a strong assumption that the learning that happens as a result of international placements is transformational (33). Furthermore, that a major shift in personal attitudes, knowledge and skills happens. For example one article referred to in this thesis is entitled 'Tanzania changed me' (41). The paper describes how one volunteer has 'learnt a lot and it has made me think differently' and that she returns from each trip 're-energised'. The same author quotes that 'nurses who volunteer overseas to train local staff often return with their own practice greatly enhanced'. This supports the argument that learning is often not the focus of the health professional's trip, but that it happens indirectly as a result of the placement.

This relationship between international placements and professional development is often cited in the literature. For example, the experience doctors gain overseas helps towards their professional development and they return to UK practice with enhanced organisational, clinical, and managerial skills; which are of notable benefit to their patients (38). There seems to be consensus throughout the literature that international placements are beneficial for professional and personal development, but also that the healthcare professionals themselves are aware of this upon return; ‘those returning from overseas work confirm the benefit of their experience and consider the time valuable in terms of professional development as well as of benefit to the NHS’ (12).

In addition to the narratives of experiences on international placements, there have been attempts to empirically study the effects of international placements. However, none of these studies are on a multi-professional, large scale. For example, one focuses on skills gain for trainee General Practitioner’s (GP’s) in developing countries and concludes that GP’s reported increased clinical skills, leadership, management and decision-making (24). Others focus specifically on health professional students, who work overseas with the intention of learning (22,45,46). Others focus on the development of one specific skill set as a result of international placements, for example leadership or cultural competence/sensitivity (17,22,44,47).

Despite numerous pieces of academic literature beginning to uncover specific developmental components, it remains unknown ‘what’ exactly is encompassed within the broad theme of learning and professional development on international placements, why it happens within the international context and why/how it might be of benefit to the NHS. The above discussion centred on how international placements facilitate personal and professional development. The following discussion will address how this PPD may be of benefit to the NHS. The project funder, Health Education England (HEE), recognise that there are potentially great benefits to the NHS in terms of the personal and professional development of the healthcare workforce. However, at the moment we don’t know what this PPD is, whether it can be measured and how to balance this against the costs.

1.1.3. International placements: providing potential benefits to the NHS

Personal and professional development on international placements is beginning to be recognised and the mutual benefits realised (13,14). Yet international activity is sometimes not considered PPD and many professionals find it difficult to obtain support to volunteer and report lack of recognition of professional development upon return (48). International

placements are frequently not recognised explicitly as training. Health professionals that work overseas predominantly do so using annual leave, rather than a recognised study leave for continued professional development (13,41).

In a troubled NHS that is dominating current media, one might ask: how could influential individuals, such as Lord Nigel Crisp, argue that sending health professionals abroad could be beneficial (14,31,49)? The NHS is reported to be struggling with staff recruitment, retention and workforce related costs (50). So sending professionals abroad to work internationally on the surface seems to be potentially worsening the existing problems. Yet if the arguments made in the literature are correct and well-evidenced, allowing staff to be released to travel overseas may actually help relieve some of the pressures. If international placements result in professional development of British NHS staff, it would essentially strengthen the existing staff within the workforce, potentially reducing the need for and cost of training and making the workforce more equipped and adaptable to face future problems. Many of the skills reported to develop as a result of international placements are what the NHS forward planning documents describe as essential to help take the NHS forward and resolve the current problems the NHS faces. For example, adaptability, leadership and delivering cost effective healthcare (51–53). The problems facing the NHS will now be discussed, followed by how international placements may provide solutions to some of the problems faced.

Increasing numbers of NHS providers are now thought to be facing financial difficulties. In 2011-12 only 5% of foundation trusts reported overspending (54). By the end of 2016 it was 66%, with 89% of acute hospitals projecting a deficit (55,56). For the first time since the Kings Trust Quarterly Monthly Report began in 2011, more than half of trust directors believe the quality of care in their local area has worsened in the past year (55). The NHS financial crisis is progressively worsening despite government initiatives to reduce spending (55).

In addition to the financial issues facing the NHS, human resource deficits facing the NHS are also dominating headlines. It is believed 70% of costs incurred by NHS trusts are workforce related (50), indicating that workforce is a huge contributor to the deficit. Tackling the human resource crisis, may well be imperative to controlling the NHS financial crisis. Between 2013 and 2015 there was a 50% increase in NHS nursing vacancies and a 60% increase for doctors (57). It is argued that these figures can be

attributed to numerous factors; including the creation of new posts, the lack of trainees and the growing, aging population with more complex health needs (57).

In the current climate of NHS staff shortages, cover often falls to locum staff from agencies, which cost the trust a significant amount of money. Figures suggest that 80 per cent of hospital trusts spend more than £1,000 per shift on medical cover for doctors. This equates to more than £2 billion in two years, which could have paid the wages of 48,000 nurses or 33,000 junior doctors over the same period (58). Again, suggesting that the human resource crisis may well be fuelling the financial crisis faced by the NHS.

Embedded deep within this human resource and financial predicament is the concept of migration both into and out of the UK. In order to fill the vacancies it is believed that 69% of trusts are actively recruiting doctors and nurses from overseas (57). Research suggests that 11% of NHS staff and 26% of Doctors are non-British (59). The NHS is seemingly an organisation reliant on skilled migration. However, NHS skilled migration is not unidirectional. The number of doctors wanting to emigrate from the UK has also increased by 20% in recent years (60).

The future NHS is in need of staff with more specialised skills to fit the current political and economic climate, to respond to the needs of diverse populations and show greater care, compassion and ability to communicate with a variety of patients (52,61).

Furthermore, due to the budget cuts, the NHS requires more from current staff than ever before; resourcefulness, cost efficiency, flexibility and work across professions and boundaries (52,61). Many recent documents have outlined the expectancies and requirements of the future workforce. For instance the HEE 15 year strategic plan (52) the NHS 5 year forward view (62) and many profession specific papers, for example the Health and Care Professions Council (HCPC) standards of proficiency (63), The General Medical Council's (GMC) Tomorrows Doctors report (51), The Royal College of General Practitioners (RCGP) 'the 2022 GP' report (64) and Nursing and Midwifery Council (NMC) Code (65).

The '2022 GP' document highlights that the NHS is under increasing financial pressure, the needs of patients and populations continue to grow, without sufficient budgets or funding (64). The current constraints mean that a more cost-effective system is necessary. No recent health system anywhere in the world has managed five years of minimum growth without having to raise funds through cutting services or staff or increasing

charges, yet the NHS has coped. The NHS five year plan argues that due to after-effects of the global recession most western countries will continue to experience budget pressures (61). The plan argues that changes need to happen, due to a funding and efficiency gap; which could result in worse services, fewer staff and restrictions. It suggests that the future NHS intends to deliver better value for money, put in place new measures to increase productivity and reduce skills and money wastage.

The Health Education England 15 year strategic plan has a great focus on the skills and competencies needed for the future workforce (52). It highlights that new infections and resistances to antibiotics will mean staff will need to have the competency to deal with the new challenges. It proposes a focus on broader staff training for generic competencies. It is based around 5 characteristics of the future workforce, one of these characteristics is to have ‘adaptable skills responsive to evidence and innovation’. The document also proposes that in order to invest successfully for the future, finite resources need to be invested more wisely and healthcare facilities should focus on co-ordinated care delivered by multi-disciplinary teams. Finally, it argues that future workforce will deliver knowledge and skills when care and compassion matter most. It also acknowledges that although many things will change in the next 15 years, the need for care and compassion will remain the same.

The NHS 5 year forward view is a similar more short term focused document outlining what the NHS plans to achieve in the next 5 years (62). These competencies and attitudes again match-up with much of what is suggested in the literature to happen as a result of international placements. The NHS 5 year forward view proposes that Health Education England will develop training to equip staff with skills and flexibilities to deliver new models of care with a focus on innovation and an investment in improving leadership.

In addition, the economic cost of training medical staff in the UK is considerable, Health Education England suggest that it costs about £1000 per week for undergraduate medical student practice placements within the current system (66). Even when healthcare professionals finish formal education the cost of continued professional development (CPD) still remains. Although literature suggests that the CPD budget is considerably lower, especially for non-medical staff. Research proposes that the percentage of training budget spent on CPD for nurses is less than 1% (67). However, for medical staff this figure is much higher, about 50% of the £728 million budget in 2011 (67).

To summarise, the NHS is facing financial and human resource difficulties that can be seen across trusts nationwide. The cost of staffing, for example paying locum staff and funding staff training is particularly significant. Finally, there is a need to fully utilise and train existing staff, ensuring they have the specific skills, knowledge and attitudes to ensure the success of the future NHS. It could be argued that international placements may help alleviate some of the difficulties faced by the NHS by providing staff with important skills, knowledge and attitudes, but also allowing staff time to experience another country and return 're-energised'. However, this radical solution would not be without challenges. This thesis aims to contribute to this debate by providing an evidence base of the personal and professional development on international placements that can be used to influence NHS policy.

1.2. Challenges with promoting international placements within the NHS

There is rationale surrounding the potential for NHS cost-reduction if international placements are considered a form of PPD. Professor Ged Byrne (Program Management, HEE) argues that global learning placements can be cost effective. In a presentation at the Global Health Exchange Launch Event in October 2015, he argued that training eight undergraduate medical students for eight weeks in Rwanda, as opposed to within the current UK practice placement model, would result in a net NHS saving of £51800, even after including flights, accommodation and insurance (66). Whilst these figures are not evidenced (as they are, to my knowledge, not currently published in a report), as management within Health Education England, Professor Byrne would arguably be considered a person of knowledge with regards to these figures. Yet currently, international placements are not recognised for their cost-reduction or PPD potential, but rather a personal activity or annoyance.

Staff that wish to undertake international placements are sometimes met with reluctance from line managers and an under-valuing or lack of knowledge regarding of the associated benefits. It seems that some trusts are unaware that most volunteers use annual leave to undertake international placements that are also often self-funded (25). Although it must also be noted that one paper argues that a proportion of managers are very supportive (25). The concept of a small number of forward thinking trusts actively supporting international placements is echoed in an opinion piece regarding a nurse's international experience (41).

However, the need to eliminate barriers in the majority of trusts is stated. Smith et al., surveyed GPs about international placements and found that many GPs stated that deaneries or Primary Care Trusts (PCTs) acted as barriers to their international placements or made it difficult to attain a position upon return (48).

Whilst Byrne & Roberts argue that the barriers must therefore not be completely financial from a professional development policy point of view, on an NHS organisational level there may be financial barriers (66). Although this does not currently happen invariably, expecting trusts to allow staff to leave the trust for a short period of time and offer a job upon return, may cause healthcare facilities to have to spend additional funds on agency or locum staff; who are considered much more costly to trusts than permanent staff (58). Therefore, in order to make international placements effective in terms of costs and trust practicalities, change would have to happen at a policy level. Byrne & Roberts propose potentially treating future the international placements as learning experiences, with funding from PPD budgets (66).

Whilst international placements in low resource settings seem a feasible way to deliver personal and professional development to the NHS, Health Education England and other stakeholders make it clear that they are wary of up-scaling investment until the benefits and learning outcomes of international placements are understood. Furthermore, the quality and content of learning that happens on such placements also needs to be better understood.

1.3. Rationale for the thesis

Whilst there is lots of academic and non-academic research, literature and reports about the outcomes of international placements, much of it is not empirically based. Lots of academic publications are individuals stories and involve little or no empirical research (41,68). Whilst this is useful as it provides insightful accounts and individual's opinions, it is difficult to collate, compare or gather learning outcomes.

There is a considerable interest in systematically exploring the learning outcomes to answer questions about what experiences result in what type of outcome(s). This would assist in the recognition of these activities as educational development as opposed to a corporate social responsibility activity, a holiday or for personal gratification (13,69). Understanding 'what' is gained would be crucial to generate specific intended learning outcomes for training and continuing professional development. Understanding 'how' it is

gained (under what circumstances) would result in an understanding of how to maximise the gain. Furthermore, a tension often exists between UK healthcare professionals and local international staff, as the intentions or role of healthcare professionals and students is often not explicit (28–30). Understanding what is gained, and how, could help make these ‘contracts’ more explicit.

Historically, international volunteering has been conceptualised as a benefit to the LMIC and a loss to the HIC (31,32). However recent research and policy documents explicitly discuss the benefit to UK health professionals in terms of personal and professional development and the necessity to develop competencies to be used in training curricula (13,32). This study will facilitate the specification and exploration of learning outcomes and so in the future help in addressing the imbalanced discourse of the ‘benefitting LMIC’ and the ‘donor HIC’.

1.3.1. Aim of the thesis

To describe the domains of PPD which could be developed for health professionals on international placements and to describe the variables that have been proposed to influence their development.

1.3.2. Objectives

- To systematically review the existing literature regarding learning on international placements
- To identify and specify the constituent components of broad, thematic PPD outcomes reported in past qualitative research
- To identify any negative outcomes of international placements
- To identify specific constituent components of LMIC learning environments that may have the potential to facilitate, impede or influence PPD
- To develop a psychometric tool and to explore the PPD domains within it and their relationships with variables proposed to alter them
- To test the utility of the tool
- To identify any emerging relationships between the components of a learning environment and the PPD outcomes

1.4. Summary

In this chapter I introduced the topic of health professional international placements and the potential benefits and challenges associated with them. In the next chapter I analyse the literature more thoroughly using a systematic search technique and present the potential benefits, costs and contextual factors of LMIC health professional placements.

2. A Review of the Literature

2. 1. Introduction

In chapter one, I introduced international placements: what they are, the spectrum of activities undertaken and the motivations for undertaking them. I also gave a brief overview of the learning that potentially happens on international placements and why this may be beneficial for the NHS. In this chapter, I provide an overview of the systematic search strategy used and how this was supplemented with searches outside of the defined parameters. I explore the peer reviewed literature to gather a more thorough idea of ‘what’ learning is reported on international placements. This is focused predominantly around four key themes: communication, leadership, cultural learning and personal development. I discuss the contextual components of an international environment in relation to ‘how’ this learning might happen. I also consider existing educational theory and discuss its application to this phenomenon. Finally, I discuss the current measures of personal and professional development (PPD) on international placements in low and middle income countries (LMICs) and how they apply to my research.

2.2. Systematic review methods

When beginning the literature review, I decided to first take a systematic approach to target papers that specifically concern benefits and costs of international placements and the factors that affect these. I conducted a systematic review of peer-reviewed literature between September and November 2014. In chapter 5 I discuss how I conducted a systematic review and meta-synthesis as part of the empirical methods. However I also used the papers found in this systematic search as the basis for my introductory literature review.

The inclusion criteria were an update of those published by Jones et al., (13), (see Appendix 1). The review was limited to peer-reviewed literature published in academic journals. I chose peer reviewed papers as a way of limiting by quality, there is a huge amount of anecdote surrounding this topic and I wanted to put a boundary around the work that had some markers of ‘research’. Being published in a journal is one such marker. For example, there is lots of grey literature describing experiences of individuals on international placements, but any outcomes reported in this way have not been subject to academic rigor or a peer review process. Therefore, it was a way to exclude more

descriptive pieces. For literature to be included the subjects must not be in receipt of their full UK salary: however a stipend or living allowance was permissible, this was to exclude those with permanent employment overseas. Student subjects were included, as more research has been conducted in this field regarding educational outcomes, (as opposed to the professional voluntarism field) and many outcomes/variables could overlap. Much more research has been conducted into the educational benefits of elective placements as they are considered learning experiences (4,45,70,71). To ensure outcomes are related to clinical work, individuals must undertake health focused activities on the placements to qualify, for example nurses teaching English in a school would be excluded from the review. At least some of the participants must have departed from the UK (papers that included a partial UK sample were included). At least a partial sample must also only have travelled to a Low or Middle Income Country (LMIC). To ensure data extracted met the research objectives, the paper must reference something that is perceived as a benefit, cost or potential variable. Any literature published since the earliest date indexed in each database to the current date was included, as little published literature exists, it was decided that time restrictions need not be applied.

I checked each paper to ensure that it met inclusion criteria. A second researcher, a member of the research team independently checked a randomly selected 20% of the included papers (JC, Sociologist) to ensure consistence with implementation of inclusion criteria. This was then discussed in a project team meeting and any disagreements resolved.

2.2.1. Data sources and study selection

I used a standard set of terms to search 11 databases for peer-reviewed literature between the earliest date indexed and the current date. The standard search terms included 5 columns of synonyms relating to: outcomes and variables, international volunteering placements, health professionals, UK and lower income countries (see Appendix 1).

The databases searched included both medical databases and more generic databases to ensure a broad search. The 11 databases searched were PUBMED, Cochrane Economic Evaluations, Health Management Information Consortium, Health Business Elite, Web of Knowledge/ Social Sciences Citation Index, PsycINFO, CINAHL, AMED, International Bibliography of Social Sciences, Social Services Abstracts and Sociological Abstracts,

Global Health and JSTOR. Each database was searched from the earliest date until the current date.

The abstracts and titles of each result of the electronic database search were screened and all articles that did not meet inclusion criteria were removed. Retained articles were rescreened to confirm inclusion.

2.2.2. Citation mapping

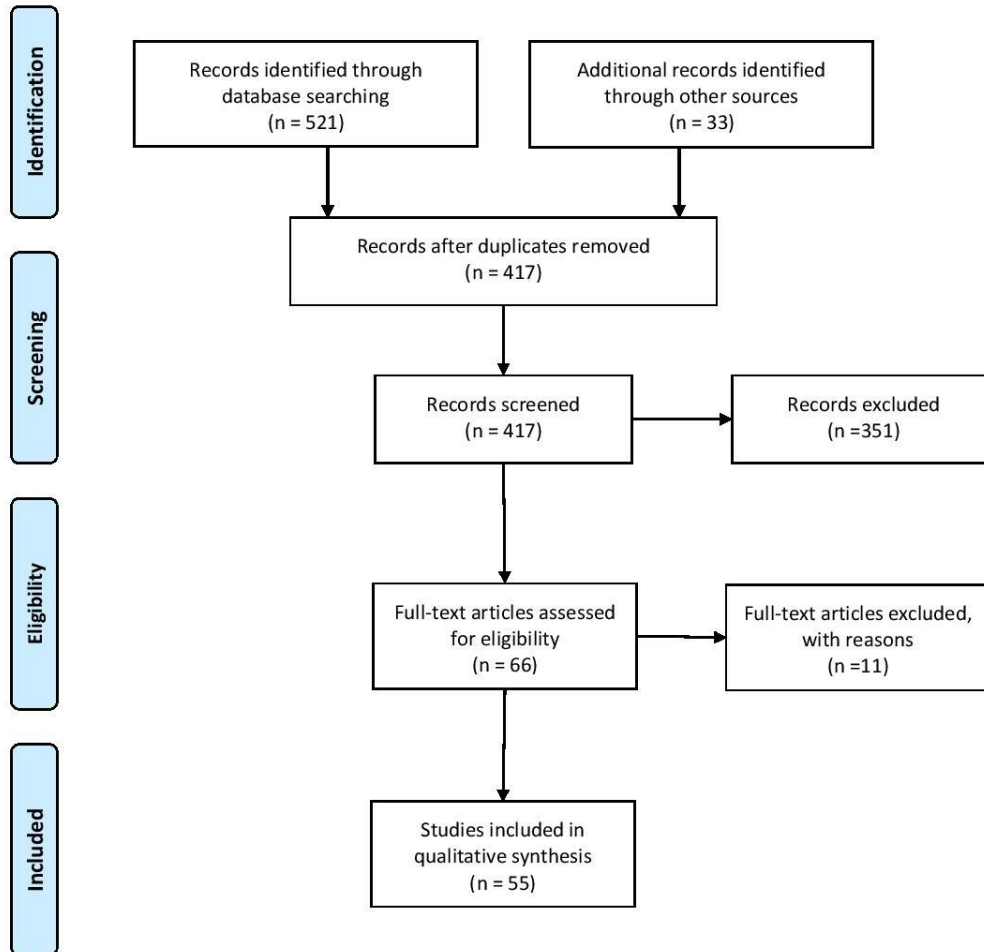
The reference list of each article that met the inclusion criteria was then checked and articles that met inclusion criteria extracted. A forward citation search was also performed on all included articles. This was to ensure any more recent or missed relevant articles were not overlooked. Any references found in the citation mapping process were again searched until the articles were not relevant and no longer met inclusion criteria.

2.2.3. Results of search

The search of the electronic databases generated 521 hits including duplicates, 384 unique papers (Figure 1). Of this, 22 articles were obtained after meeting inclusion criteria. An additional 33 articles were found through extensive citation mapping. Therefore, the total number of papers from which data were extracted was 55 (see table 2, section 5.4. for full list of papers).



PRISMA 2009 Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

Figure 1: PRISMA Flow Diagram to show the papers included and excluded in the systematic search. Source: (Adapted From) Moher, Liberati, Tetzlaff, (2009).

2.2.4. Additional searching outside of the parameters of the systematic search

The systematic review had two purposes, a) to provide a basis for the literature review in this chapter and b) as part of the methods of chapter 5. In this chapter I will describe the higher order themes that emerged from the thematic synthesis, to introduce the topic of PPD on international placements. The themes that emerged from the thematic synthesis of the peer-reviewed papers are also supplemented by wider reading of policy documents and grey literature and new literature that has been published since the systematic search. The following subsections will outline the importance of each theme from a policy perspective, the discussion will move onto how the literature reviewed suggests a) what the learning is within that theme b) how it might happen and c) why it's important from a policy perspective. There were four key non-clinical themes that emerged from more than 50% of the literature: communication, leadership, cultural skills and personal development. Other important but less frequently mentioned themes also emerged from the review, these will be discussed in less detail.

2.2.5. The focus on non-clinical skills

Before I begin the exploration of the non-clinical key themes, it's important for context to address the distinction and relationship between clinical and non-clinical skills. This thesis explored the learning of all health professional cadres, therefore examining the clinical and profession specific skills would not be possible within the remit of this thesis. Literature also suggests there are significant parallels between the non-clinical skills gained across professions (13,14).

In terms of clinical development, professionals report greater opportunities to interact with a greater volume and breadth of patients; which had an impact on confidence in decision making (11,24,68). When interviewing trainee doctors about their international placements, Kiernan et al. described how they attributed this clinical skill development to having greater hands-on experience (24). However, clinical skills development is not a guaranteed outcome of international placements, educators in the same study reported that whilst some professionals who undertook international placements had better clinical skills than their peers, for some there was no difference (24). Hence, international experiences alone are not enough to improve clinical skills, there must be other variables that influence the likelihood of this PPD development.

Professionals' PPD intentions are an interesting phenomenon in relation to clinical learning on international placements. It seems that whilst some professionals intend to develop specific clinical skills (often in regards to specific procedures or diseases), many report being surprised by the substantial development of non-clinical skills (43). Professionals travel to LMICs with the intention of gaining clinical knowledge about unknown procedures, diseases and populations. Tate (43) interviewed 13 returned professionals and found that before they travelled 91% intended to develop specific clinical skills during the placement, whilst only 41% expected to develop leadership skills and 17% efficiency (43). Many of the junior doctors interviewed in this study reported objectives to gain experience in clinical skills that would be difficult to develop in the UK. Although professionals intended to gain clinical skills, much of what they reported to have learnt post-placement were non-clinical 'soft' skills that have a more distal professional impact. This indication that personal development often takes precedence over specific professionals skills (i.e. clinical) on international placements is common in the literature involving wider professional fields (33). In a study of international learning in many professions, only 2% of the learning episodes recorded during placements were considered to result in domain-specific professional skill gain, as opposed to 30% of the matched learning experiences domestic placements (33). These findings propose that individuals learn more domain-specific skills in a domestic workplace as opposed to international placements. Or, that the learning experiences that are remembered and recorded in an international environment are non-clinical in nature. This could be due to the fact, that professionals (in Tate's study for example) don't intend or expect to learn such skills, so their development is more poignant, resulting in a transformational shift in perspective and awareness of one's own PPD.

The literature also presents some explanations for the proposed deficit of clinical skills development. There appears to be several factors operating in low income settings which seemingly make it more difficult for some professionals to develop clinical skills internationally than they would in a domestic environment. One such factor is supervision. Junior staff are often left alone in LMIC facilities; which means having a knowledgeable person to provide support when developing clinical skills is difficult (12,26). Another factor may be that medical equipment is not the same as it would be in the UK (72). British

professionals may find it difficult to improve clinical skills with equipment that is faulty, outdated or different to the UK.

Whilst there tends to be a precedence in the literature to report non-clinical learning, some papers do report profession-specific clinical skills. For example, doctors describe improvement in diagnostic skills; nurses learnt how to care for patients with tuberculosis; ophthalmologists report exposure to novel surgical techniques; urologists describe using vesico-vaginal fistula surgery (a procedure rarely used in the UK) (16,22,73,74). There is also discussion across professions of ‘going back to basics’, reports of re-engaging with basic science, doing things manually and less reliance on technology (13,75). This PPD development along with lots of the other developments described in this chapter, enhance and underpin all professional’s clinical skills. However, this thesis will not focus on the development of the clinical skills of any particular cadre of staff but rather look at the non-clinical learning that is widely reported to underpin professional learning on international placements.

In summary, there is a general tendency in the literature reviewed to focus on non-clinical skills development. However, a number of papers describe examples of the development of specific professional skills (16,22,73,74). The extent to which this happens in comparison to a UK environment is not known and to my knowledge has not been studied. There is also no discussion in the literature reviewed about how the clinical learning happens (through what mechanisms). Many professionals seem to have intentions of developing clinical skills as a result of practicing with a greater volume and breadth of patients. But, upon return seem surprised by the often unanticipated development of non-clinical skills (43).

2.3. Exploring the four emerging themes in the reviewed literature and how this relates to NHS policy documents

As stated previously, four broad themes of non-clinical learning emerged from review of the systematically searched papers in regards to ‘what’ learning happens and how this learning is facilitated in an international context. Whilst broad, these themes will provide an insight into the narratives of volunteers, academics, health professionals and project managers about what the PPD is and how they propose it happens on international placements in LMICs.

2.3.1. Leadership

The literature reviewed suggests that undertaking international placements, particularly in low income environments, increases leadership skills. There are numerous reasons behind this assumption. For example, British professionals are often given an opportunity to lead that they would otherwise not have in the UK/NHS (12,13,16,24,44). Many describe being in a low resource environment as a catalyst for leadership skill acquisition from necessity. Literature suggests that even British students/early career professionals sometimes find themselves as the most senior person in the facility, or in a position where local staff perceive them to be more senior, resulting in limited supervision and/or excessive responsibility (76).

In 2008, Lord Nigel Crisp published a report entitled 'Global Health Partnerships'; which triggered a UK government policy report (49,77). Both reports supported initiatives that combine NHS leadership development with international support in LMICs. Another study specifically focused on the outcomes of out of programme international work on the skills of GPs in three key domains: clinical skills, leadership, decision making and management (24). The study concluded that international placements develop generic skills such as leadership in GP trainees. Using an interview method, one participant stated that: 'leadership skills improved because it is easier to get involved in management and leadership' (whilst overseas). The concept of leadership is reported, rather vaguely as a generic skill set; the components of which are not defined. Other skills that could be considered a constituent component of leadership were reported in this study as general skills, for example taking initiative and decision making. The purpose of the Kiernan et al., (24) study is to match the skills gained abroad with Royal College competencies; hence the use of generic terms is fit for purpose as it allows similarities between the empirical literature and the policy documents to be extracted (24). However, it also does not describe specifically 'what' is learnt and how this learning happens in an international context. In order to find specific examples of leadership a study with a more exploratory approach or examples of personal narrative/experiences may provide more appropriate answers.

Within the 'theme' of leadership, some of the less empirical pieces describe more specific personal examples of leadership development. Some opinion pieces describe specific components of the leadership that may be useful in understanding 'what' learning happens (38,41). Managing change, organisations, finances and oneself are outcomes that could be considered aspects of leadership reported in one paper to happen as a result of international

placements (38). Others report a more general outcome for example arguing that international work results in ‘huge developments in terms of leadership skills’ (41). A participant in a questionnaire study described their new leadership experience as ‘gaining significant experience in report writing, project planning, managing budgets and particularly human resources’ (44).

Much of the literature reviewed describes what authors or participants believe facilitates the development of leadership skills in international contexts. For example, many papers describe the actual opportunity to take on a leadership role and have responsibilities, that would be unlikely to happen in the UK as a reason for the development of leadership skills (12,13,16,24,44). Others report the opportunities for junior staff or students to be involved in tasks/decision processes that they would not be involved in the UK (46). Therefore, much of the literature regarding the process of acquiring leadership skills as a result of international placement focuses on the importance of the environment or situation (assuming skills are developed as result of individuals being in certain situations and having certain opportunities). The literature suggests that a low income international context facilitates development of leadership skills due to environmental opportunities for greater responsibility, as opposed to a process within the individual. Career stage emerges as a subtle factor that may affect the development of leadership, in many papers junior staff are reported to gain these skills more frequently, because the opportunities for leadership are much greater compared to the NHS (46). Whereas, more senior individuals would more likely be given responsibilities in the UK too.

Numerous NHS policy documents outline the requirement of NHS staff to demonstrate leadership skills. The NHS ‘5 Year Forward View’ document has a focus on leadership, with an investment in improving leadership by backing diverse solutions and local leadership (62). Additionally, the ‘2022 GP’ has a focus on co-ordinating complex care and the importance of GPs leading multi-disciplinary skills (64). The Health and Care Professionals Council (HCPC) standards of proficiency suggests physiotherapists, psychologists and radiologists should understand the concept of leadership and be able to apply it to practice (63). Furthermore, one of the eight key Royal College of Nursing (RCN) principles of nursing practice (that apply to all nursing staff and students), focuses on leadership, developing the self and others (78). NHS policies propose that an ability to demonstrate leadership is necessary and desirable in staff of all professions and all career stages. If it were well-evidenced that international placements develop these skills, then it

could provide a way to increase human resource capital, at a time when maximising staff skills is increasingly important.

The NHS Leadership academy has created numerous frameworks to help assess leadership in healthcare professionals. The medical leadership competency framework (MLCF) was devised in 2008 and aims to identify necessary competencies for NHS professional (17). The model includes 5 domains: personal qualities, setting direction, working with others, improving services and managing services. It has been argued that this framework, along with others, can be applied to work in low resource settings to develop leadership (17). In a specific project involving UK professionals working in Cambodia with a purpose of leadership development, authors argue that having complete ownership of a healthcare improvement project enables professionals to engage in processes of planning, management, critical evaluation, systematic enquiry and encouraging innovation (17).

One study that uses a different NHS leadership framework utilises a questionnaire design and involved only General Practitioner's (GPs) (44). This used an updated version of the MLCF, named the NHS Leadership Framework. This is similar to the MLCF but has a few additional domains. This study asked participants to report leadership competencies gained through international work using a quantitative closed question design. It found that 89% of participants reported developing personal qualities as a result of international work and 87% reported increased skills in working in teams. GP's also reported to have developed competencies in "setting direction" (60%), "managing services" (59%), and "service improvement" (56%) but found these competencies difficult to transfer back to an NHS setting due to a lack of leadership options upon return. It is interesting to consider 'what' leadership means and if there is a universal definition of leadership. Whilst Young et al. (44) consider the above skills to be components of leadership, the definition of leadership may vary between individuals (44). These reported competencies are at a very general level, providing useful statistics. However, more research is needed to detail 'what' leadership develops on international placements. It is suggested that 82% of GPs that worked internationally developed 'personal qualities', which is at a relevant level of specificity for that particular study and uses an NHS Framework as a point of reference. But, it is not detailed enough to evidence PPD benefits or be used in psychometric research.

NHS policy documents highlight the importance of finding novel or improving existing ways of developing leadership skills in healthcare professionals. But, what is missing from the literature is a clear breakdown of what leadership actually means and the specific components of leadership thought to develop in international environments. Furthermore, a clear distinction is needed between what are ‘core’ leadership skills and which skills might facilitate effective leadership, without explicitly being a core component of leadership. For example, decision-making and taking initiative fall into leadership, but also could arguably fall into personal and miscellaneous categories (24). Finally, a theoretical exploration of how leadership skills are developed in an international health provision context is missing, many of the authors make assumptions that the opportunities in the LMIC environment invariably produce learning, but there is no theoretical background in these assumptions or exploration of factors that could affect the likelihood of leadership skill acquisition.

2.3.2. Communication skills

Communication is another key theme to emerge from the reviewed literature. Much of the literature describes how individuals develop communication skills as a result of international placements, that they perhaps would not in a typical NHS environment (24). This argument centres around the development of skills to communicate with people from a different culture/country: such as overcoming language barriers, developing non-verbal communication and communicating in a cultural sensitive manner (22,79). Much of the literature describes the necessity for professionals to adapt their existing skills to succeed in the new environment and effectively communicate with patients from a different cultural background (80).

The development of a generic ‘communication’ skill set is stated throughout many of the articles found in the systematic search (13,22,24,81). In many, improvements in communication skills, as a general term, is a reported outcome (13,24,81,82). They report communication skills as whole entity, without outlining neither the components of communication that are relevant or important, nor the way an international context facilitates this development. Within the literature a small number of more specific skills have been described. Many of these include communicating with those from other cultures, for example, developing ‘interpersonal skills to live and work together with people of all nationalities and cultures’ (22). Other skills described include negotiation (83), ability to liaise between different groups (38) and establishing formal and informal

communication systems (29). Hence, similarly to leadership, specific components of communication are reported, but these are not tested empirically, analysed or evaluated.

One component of communication that is mentioned frequently in the wider international literature is the development of non-verbal communication techniques. In a comparison of student nurse experiences on international placements each of the 14 participants reported improved communication skills and the development of non-verbal techniques, regardless of the country it took place in (79). The participants originated from the USA and the three host countries were Dominican Republic, Nicaragua and the Netherlands, so there would have been variations in levels of English spoken. Despite this each participant reported the development of non-verbal communication techniques. The results of the study would suggest that developing non-verbal techniques happens invariably on all international placements. The development of non-verbal communication skills has been echoed in articles focused on British qualified professionals, for example occupational therapists (84).

Another study suggested that respondents believed that their communication skills were better than their peers as a result of their international experience (24). This was echoed in a study regarding numerous non-healthcare volunteers that compared written experiences of learning between a control group and a group of international volunteers (33). Thirteen percent of learning outcomes reported were categorised as high level communication, in comparison to only six percent of those reported by the control group. The authors used the following examples of high level communication ‘persuading, negotiating, questioning, consulting, greater communicative flexibility’. Whilst the paper begins to explore ‘what’ is learnt on international placements, ‘how’ non-verbal communication development is facilitated in an international context remains largely unanswered in the literature.

Not all of the literature agrees the international context is facilitative to the development of communication skills. One study suggests that some participants reported a decrease in ability to communicate (24). This was argued to be due to the use of an interpreter and trying to keep things simple; which resulted in a reliance on closed rather than open questions (24). Despite literature suggesting open questions are considered most effective in patient examination (24). However, I question whether using simplistic closed questions

is negative, as an ability to communicate simplistically could still be considered a development of a communication skill.

Much of the literature reviewed explores placements in former British colonies, where English is spoken to some degree (41,68,85). But how communication development is facilitated in an international placement remains unverified. The above results from Kiernan et al. (24) could provide preliminary evidence for an optimal level of communication difficulty that best facilitates learning, with 'too difficult' (reliance on an interpreter and no spoken English) at one end of the spectrum (24), then placements in a high income English speaking country with no communication difficulties, on the other end (not challenging enough for effective communication development). It also may support a hypothesis that learning is dependent on the activity and decisions of each individual. Whether being placed in a difficult communication scenario encourages participants to develop novel communication techniques, as argued in one study (80) , or whether the individual chooses the simpler strategy and as a consequence reports less 'learning' (e.g. closed questions and an interpreter) (24).

The suggestion that communication skills are developed through the opportunity to experience communication difficulties is alluded to throughout much of health professional international placement (HPIP) literature. Literature suggests that the experience of communication difficulties directly results in the development of communication skills. It is reported that the experience of living in a foreign culture is the most valuable aspect of student placements in regards to learning (80). Duffy et al. (80) suggests that being in a foreign culture alone is enough to facilitate learning and this experience is the most important facilitator of learning in an international environment. Yet, this hypothesis is not grounded in a theory of learning nor does it describe how the LMIC environment is conducive of learning. This proposal fails to account for individual differences in techniques nor the severity of the communication difficulties. This inexplicit description of learning indicates a reductionist cause and effect relationship, whereby opportunities to experience communication difficulties invariably result in an increase in such skills. This may be the case in some straight forward learning episodes, but the complex learning process is likely to be moderated or mediated by other factors. A similar mechanism for international placement learning informally described in the literature is the opportunity to challenge existing communication skills (86). Clampin (86) argues that being in another environment forces individuals to reconsider their existing methods of

communication; which results in the learning of novel approaches (86). Therefore, literature proposes skills develop as a result of being immersed into an environment where communication is difficult, and skills are acquired due to the necessity to communicate effectively. However, neither paper explicitly states the theoretical learning process.

From a policy perspective, the ability to communicate is a vital skill for all NHS staff. NMC (Nursing and Midwifery Council) guidance on professional conduct advises that 'poor communication skills' is a common area of concern in regards to fitness to practice (87). "Tomorrows Doctors" advises that medical graduates should be able to communicate appropriately in different circumstances and effectively in various roles (51). The HCPC (Health and Care Professions Council) suggests physiotherapists and psychologists should be able to communicate effectively, and discusses how verbal and nonverbal communication can be affected by factors such as culture (63). Communication is also one of the "6C's", an NHS initiative to ensure they have 'the right staff, with the right skills in the right place' (88). This document focuses on the centrality of communication in care, specifically that decisions should not be made about the patient without their consent; it also has a focus on the importance of listening (88). If communication is a well-evidenced outcome of international placements, HPIPs may well provide a vehicle for developing such skills.

In summary, what is currently known is that effective communication is an important skill across all NHS professions. Furthermore, it is frequently reported in the literature that British healthcare professionals generally develop skills within the 'communication' remit on HPIPs. Within the health professional literature there is also some description of what the specific components of communication might be, (e.g. nonverbal communication, negotiation) but these assumptions have not been empirically tested. There has been some empirical work to suggest that in comparison to domestic work environments (in Australia and the UK) international placements facilitate greater communication skill development, but this needs further study (33). There is also a suggestion that not all international environments facilitate the development of communication skills, as some participants have reported poorer communication. Finally the mechanism through which the development happens has been implied in an informal way in many of the British health professional documents, describing the acquisition of communication skills as a result of communication difficulties. Others describe a trigger event that contrasts with ones existing knowledge (33). But, what is not evidenced in the literature to a sufficient level is

how communication skills develop on international placements and why they sometimes do not. Further exploration of the relevant components of communication is necessary.

2.3.4. Cultural knowledge, skills and attitudes

The third emerging theme concerns the development of cultural knowledge, skills and attitudes, often referred to as cultural sensitivity, cultural awareness or cultural competence. Literature suggests that British professionals who work with patients in other cultures develop skills, knowledge and attitudes related to culture. For example, sensitivity and respect towards cultural beliefs, understanding of cultural differences and similarities and awareness of the effect of culture on health (21–23,86,89,90). It is argued that this experience makes British healthcare professionals more able to attend to Britain's culturally diverse society (18). This subsection will address how the development of these knowledge, skills and attitudes is facilitated in an international environment and what cultural learning is thought to happen.

Outcomes that can be categorised loosely within 'culture' take numerous forms. Of the papers searched systematically, a number used the word cultural in the title: in the form of cultural sensitivity, cultural awareness and cultural competence (21,22,46). Interestingly, all three are papers in the nursing and midwifery fields. Unlike communication and leadership; which have been described in vague terms, the noun that follows cultural is often more specific (e.g. sensitivity, competence and awareness). Some papers describe the concept of cultural sensitivity: respect for cultures and traditions (21). Whilst others describe cultural competency: a set a behaviours, attitudes and policies that allow professionals to work effectively in cross-cultural situations (90,91). Cultural awareness is described as the exploration of one's own cultural and professional background, including recognising one's biases, prejudices and assumptions about individuals who are different (22).

It is argued that those who work internationally develop skills, knowledge and attitudes to better equip them to work with the UK migrant population. It is also argued that cultural awareness is directly applicable to a UK migrant population (16). Working overseas may, for example, provide staff with experience of working with novel diseases, that migrants or travellers may carry to the UK, those staff would then be equipped to manage these conditions (28). Furthermore, literature proposes that staff with international experience

have a greater understanding of migrants needs and empathy for the population (38). Within the broad remit of culture authors also report: developing culturally appropriate practice (90), increased respect for other cultures (84) and changed assumptions of culture (46).

One study assessed cultural sensitivity in midwifery students pre and post elective placements using a questionnaire design (21). It asked numerous questions regarding different aspects of cultural sensitivity and many of participants reported no change longitudinally. Any reported change was typically in a progressive upward direction, (greater post placement). As they assess different components of cultural competence within the questionnaire ('Do you respond appropriately to the needs of clients who are not from your own cultural background?' and 'Do you feel confident when caring for clients whose culture differs from your own?'), it suggests that authors either believe there are different constituent components to cultural sensitivity or that they are aiming to assess a single underlying trait using numerous questions. It could also indicate that authors believe the components could develop independently, as they as being assessed as two separate items within a questionnaire. The paper concluded that international placements raised awareness about international midwifery, but a change over time was not reported in all participants. However, this study had a small sample size of 17 midwifery students. This is one of the few studies reviewed that looked to measure a specific skill using a cohort design (pre and post placement) and therefore provides a great empirical foundation upon which to build. However, it does not control for the effect of the destination, participants were placed in both high and low-income countries, some with cultures similar to the UK (USA and Canada); which may be the reason the authors reported no change over time in a number of participants.

Not all of the literature agrees that cultural skill development is an inevitable outcome of HPIPs. It is argued, despite providing an opportunity to attempt to understand and experience other cultures, merely working within another culture does not make one culturally competent nor sensitive (21). Briscoe (21) suggests that merely being immersed in a new culture, does not result in the inevitable development of 'cultural' skills. She argued something more must happen in order for learning or development to occur. She argued that a desire to become culturally sensitive could be one such facilitative factor (92). Yet NMC documents argue that all professionals should provide culturally sensitive

care, hence, from a professional standpoint it should not be a choice, but an essential value (65). Other papers argue that cultural sensitivity develops out of self-awareness and an ability to critically reflect (21,93). By combining the suggestions and findings in the existing research it seems that being in an international context may encourage internal processes (self-awareness, critical thinking, and desire to become culturally sensitive) that may result in the development of cultural sensitivity. However, there is no explicit description of the process in the literature.

Much of the literature argues that a single international placement can develop skills such as increased knowledge and appreciation of other cultures (13). However, in theory, visiting a single country would presumably only develop explicit knowledge about that one particular culture. There is an underlying assumption in the literature that skills concerning culture are flexible and can be adapted, so the cultural development that occurred from a placement in Uganda could be easily transferred to an environment in Cambodia. This is difficult to evidence, as knowledge about how to behave in one country, may not easily transfer to another. Yet there seems to be an unarticulated assumption in the literature that tacit knowledge, skills, attitudes or processes that underlie the development of country-specific explicit knowledge acquisition may improve ones ability to work in any other culture, or with diverse populations in the UK. It could be that international placements are a catalyst for understanding cultural differences, resulting in future attempt to understand each patient's culture. Some peripheral knowledge and skills or processes such as adaptability or flexibility, could be important in assuring the cultural knowledge and skills can be transferred to another environment. Much of the literature argues that adaptability develops on international placements but how adaptability affects the development of other skills (such as cultural knowledge) is not discussed explicitly (24,46).

Ample literature argues the development of knowledge of global issues, global awareness or becoming a global citizen is an important outcome (16,84,94). However, again there seems to be an unarticulated assumption that being placed in one country, triggers behaviours that would make one a global citizen, or a have an understanding of global issues, rather than an assumption that individuals develop explicit knowledge applicable to all global issues. Hypothetically, does a week in Malawi develops awareness of global issues (current international affairs, politics in many countries) or an awareness of the

specific issues Malawi faces? Perhaps, authors consider understanding the country-specific issues as an increase in global awareness compared to their baseline pre-departure global awareness level. However, there is no explicit description of what this knowledge is or how it is acquired internationally.

In an increasingly diverse British society, much of the literature stresses the burgeoning importance of adapting to the needs of individuals from other cultures. Between 1993 and 2014 the number of foreign-born individuals living the UK almost doubled from 7% to 13%, suggesting there is an increasing need for NHS staff to be able to best serve the needs of migrant populations (95). It is argued that international placements provide an excellent economic opportunity for staff to experience another culture and develop cultural awareness (29). NHS policy documents suggest how important these skills are, the General Medical Council's (GMC's) *Tomorrow's Doctors* expects that doctors should be able to explain the sociological factors that contribute to illness, course of disease and treatment success, including the effect of poverty (51). In the Royal College of General practitioner's (RCGP's), the 2022 GP document, there is focus on providing individualistic whole person care: understanding all aspects of a patient's life, including cultural background (64). The Royal College of Surgeons *good surgical practice* (96), suggests that encounters with patients and colleagues should be culturally sensitive and non-discriminatory. The Nursing and Midwifery Council (NMC) code suggests that nurses and midwives should consider cultural sensitivities, to better understand and respond to people's personal and health needs (65). The Health and Care Professionals Council's (HCPC) standards of proficiency propose that physiotherapists and radiographers should be able to adapt practice to meet the needs of different groups and to take account of the cultural needs of individuals and understand how culture affects verbal and nonverbal communication (63). Standards of proficiency suggest clinical psychologists should understand how to apply psychological models to individuals from a range of social and cultural backgrounds (97). Furthermore, counselling psychologists should understand the spiritual and cultural traditions relevant to practice (97). Therefore, within all NHS professions an ability to have cultural knowledge, skills and attitudes is extremely important.

In summary, cultural learning is an increasingly necessary skill required by the NHS. It is a commonly reported outcome of international placements, yet the way that it is reported

differs in terms language used (awareness, sensitivity, and competence). There are numerous examples of the types of cultural learning described but it is not known exactly which components of this knowledge develop as a result of international placements. Furthermore, the mechanism through which cultural learning is attained is not explicit, literature suggests that it happens as a result of being immersed in a culture. But it is also argued that this alone is not enough. What is needed is an exploration of exactly what cultural learning happens and how this happens on international placements.

2.3.5. Personal development

A considerable proportion of the PPD outcomes could be categorised as personal. For example, professionals report a change in attitudes and perspectives that are not solely professional (13,17). This personal development can take many forms. For example it is sometimes reported as personal satisfaction (13), a reassessed outlook on life (94), life changing (42) and character development (98). This personal development is not overtly beneficial to the NHS, but it could be the personal rather than professional changes that make individuals well-rounded and therefore well-equipped to perform.

One of the personal development outcomes described in the literature is empathy. Literature suggests that professionals that work internationally relate to patients with greater empathy and respect (23). It has also been reported that international placements make individuals more sensitive to injustice and issues of equality and diversity (46). Furthermore, in regards to care, one study suggested that returned students that had travelled to low-resource environments, developed an appreciation that care is the essence of nursing (94). However, it must also be considered whether international placements and the health professions in general, attract people with high levels of compassion and empathy.

The way these personal qualities are categorised and described differs across papers, disciplines and cultures. For example, in the development of a tool to measure the outcomes of international volunteering placements designed for non-clinical American professionals, many of these personal qualities have been reported to be categorised under the psychometric factor of open-mindedness (35). Open-mindedness in this study is characterised by flexibility of thinking, seeing other perspectives, willingness to try new things and appreciating other cultures. This concept is reiterated in the British health

professional literature, suggesting individuals develop an openness to new experiences and ideas (13,16).

Other evidence suggests that personal development happens within the remit of attitudinal changes, for example, development of a non-judgemental attitude (21) or a complete change in general perspectives or outlooks (42,94). Literature suggests professionals develop a resilience or an ability to cope (24), patience (82) and self-awareness (13,21,23). Literature also suggests that on HPIPs individuals acquire skills that facilitate relationships, such as building a global network (16,83), or building productive ongoing relationships with local staff (13,90). Personal qualities that could facilitate other types learning such as flexibility, adaptability or innovation, may also fall within this category (13,24,38).

Evidence to support the development of personal outcomes is often in the form of self-report measures and post-placement reports. All of the evidence above is based on the accounts of professionals that have worked internationally. People often describe the experience using terms like ‘life-changing’; which do not have a universal meaning (and are context specific). Although some measures, such as adaptability, can be measured using standardised psychological tests, for example, trail making (where the participant has to switch from one task to another) (99). The domain of adaptability that is measured in this test is not necessarily identical or comparable to ‘adaptability’ that people report on HPIPs. Hence, the concept of adaptability must first be understood in the context of LMIC HPIPs.

From a policy perspective, personal development does not seem overtly beneficial to the NHS, however personal qualities underlie/ align with some of the qualities the future NHS seeks. The 6 Cs were established to ensure the high quality of nursing/midwifery practice is upheld after revelation of bad practice on a large scale within a midlands trust (100). The 6 Cs comprise of care, compassion, competence, courage, commitment and communication. As a result of the Francis report and the introduction of the 6C’s, care and compassion, personal qualities have equal value to the NHS as clinical skills (100). The Health Education England (HEE) Framework 15 suggests the future workforce will deliver knowledge and skills when care and compassion matter most (52). It also acknowledges that although many things will change in the next 15 years, the need for care and compassion will remain the same. There is also a great focus on providing ‘whole person

care'. The 6Cs document (88) state that care is a core defining feature and that patient's should expect relevant care at any stage. Compassion is described as how care is delivered through relationships based on empathy, respect and dignity.

Understanding how these personal developments happen is challenging. Firstly, there is such a range of personal and attitudinal developments that it is difficult to assume that they all develop equally, in the same manner. Also, many of these skills are already possessed, so establishing a baseline in measures would be essential. Many are also skills or qualities that are facilitative to the development of other skills (i.e. adaptability, flexibility or open-mindedness). Separating personal outcomes into single, tangible outcomes, may be difficult as there are likely inter-related concepts. For example, much of the literature reports such skills in relation to another skill, i.e. being adaptable in teaching (98). Also transformational changes are difficult to explore in a comparative way, such as changes in life perspective. It would be difficult to compare experiences in LMIC with NHS workplaces, unless they have undertaken/recently experienced something out of the ordinary.

In summary, what is currently known is that personal development, in numerous ways, is believed to happen as a result of some LMIC placements. There is a breadth of evidence to suggest potential constituent components of 'personal development'. However, this evidence is based largely on individual accounts of personal experiences and little empirical research has been conducted. Understanding how this learning happens poses greater challenges as it is such a broad topic including concepts that are open to individual interpretations.

2.4. Additional important themes that are discussed less frequently

2.4.1. Financial awareness

The NHS 5 year forward view suggests innovative ideas for cost saving are important and that these should be implemented more quickly in the future (62). Literature suggests that undertaking international placements results in increased financial awareness, particularly knowledge of the cost of healthcare and innovation to save money in healthcare (24,29). It is argued that exposure to a varied case load experienced overseas is what results in the cost conscious approach to healthcare (29). Whilst the literature suggests that individuals develop these skills, the literature is quite sparse in terms of what skills and knowledge actually

develop and how this development happens. It seems that a varied case load alone would not necessarily result in increased financial knowledge and more exploration of how knowledge develops in this context is needed in the future.

2.4.2. Problem solving and working with limited resources

The phrase ‘problem-solving’ is used throughout the reviewed literature to describe a skill set (16,24,25,84). All of the above papers state that problem solving improves as a result of international experience, but none explain how or why this happens, or what problem-solving entails. One aspect of problem solving described in the literature is adapting to work with limited resources, or finding solutions despite limited resources (13,44,75). Resourcefulness is proposed to develop through witnessing the limitations; which encourages a change in behaviour (18). Another hypothesis is that the learning is a result of necessity to function in an environment with limited resources (25). Hence, the literature suggests that problem solving skills develop on international placements, but the exact skills that develop and why they develop in an international context are based on speculation and professional/academic opinion, rather than empirical tests.

2.4.3. Multi-disciplinary team work

NHS policy documents argue that the future NHS workforce should consist of effective multi-disciplinary teams. The NHS 5 year forward view has a focus on dissolving the traditional boundaries and working in integrated patient focused teams (62). Whilst the HEE framework 15, proposes a focus on co-ordinated care delivered by multi-disciplinary teams (52). Literature suggests that working in low income countries provides health professionals with an opportunity to work in a multi-disciplinary way, on a different level than in the UK/NHS (24). It is suggested that international placements offer new knowledge about multi-disciplinary teams, that individuals have the opportunity to work with people from other professions that they would not in the UK, and an opportunity to thoroughly experience working in a multi-disciplinary team (24). Yet, on the other hand some international placements result in knowledge about the importance of multi-disciplinary team work through experiencing a lack of it. Hence, it is suggested that placements provide an understanding of the need for a multi-disciplinary team (21). Arguments exist for both sides. Understanding how different environments affect different outcomes will be crucial in understanding the learning on international placements. Whilst current literature provides an initial exploration of ideas, further evidence is needed to understand how and why this learning happens.

2.4.4. Clinical guidance

Literature focuses on the importance of staff understanding and adhering to policy and guidance. For example, the Trainee Doctor (GMC) suggests trainee doctors should keep accurate clear clinical records and understand the principles and practice of infection control (101). Working in low and middle-income countries, likely does not expose professionals to exemplar record keeping and administrative guidance. It is frequently reported to show the opposite, an opportunity to experience an environment without such guidance/governance (90). It can be argued that working overseas provides individuals with an understanding of the necessity of clinical and administrative guidance, as many may have previously considered this laborious or unnecessary. It is argued that working overseas provides nurses with a greater understanding of why it is necessary, for example gaining a child's consent by experiencing the negative effects of an environment where such procedures do not happen (90). Furthermore, it is argued that nurses on international placements become critical observers of the difference in the implementation of safety procedures such as infection control (23). Some returned professionals reported that experiencing a world without NHS standards, allowed them to appreciate the importance of governance, guidance and policy (46). Hence, the literature indicates that learning the importance of clinical guidelines happens through the experience of the opposite, by providing 'a platform for comparison'.

2.4.5. Teaching and academic skills

Some of the literature reports teaching and academic skills as an outcome of international placements (38,85). However this learning is placement-specific as it depends on the opportunities to teach and the focus of the project/placement, as some placements do not include teaching or academic work. It is worth noting that this is a relatively substantial theme that emerges from the literature, but it is not necessarily universal. Much of the literature regarding development of teaching skills suggests the skills concern adapting existing skills to a new environment (98), or having the opportunity to practice teaching skills (13). Therefore, it is reported that on some placements teaching/training skills are developed, as some may not provide an opportunity for this. However, it is not known whether the adaptation of teaching skills is similar to the adaptation of other skills sets. The existence of opportunities to teach should be examined, whether a placement providing students with an opportunity to teach routinely results in a development of skills, or whether it can be facilitated or impeded by other factors. A similar challenge is posed

with regards to academic skills, it is argued that international placements provide opportunities to research unusual areas, undertake collaborative research and an for learning how to apply for grants (13). However, such opportunities are not available in all placements.

2.4.6 Negative outcomes/costs

In addition to the many benefits, literature indicates numerous costs. The costs proposed in the literature can be personal, professional or organisational. On an organisational level, a few outcomes are proposed to have a negative effect on the NHS, trust or employer of the professionals undertaking the placements. Costs can be financial, but the label ‘costs’ is used throughout this thesis in a broad, non-financial sense. For example, a financial cost proposed, is the cost of backfilling a staff member whilst they are overseas (29). However, this also has a non-financial element embodied in the human resource difficulties of finding cover for trained staff that temporarily or permanently leave posts (13).

From a professional perspective, a few decades ago international work was considered ‘career suicide’, deciding not to follow the prescribed training pathway (102). However, it seems this viewpoint may still be relevant, particularly for medics that describe difficulties with professional revalidation or getting a permanent job upon return (19,44). An element of de-skilling is sometimes reported with professionals reporting a loss of confidence, communication skills, knowledge and confidence of NHS systems like referrals, policy and good practice (21,24). There are also reports of developing bad habits or redundant skills that are not applicable to the UK or ones career stage (28,44). The most commonly reported negative outcomes in the literature review were a lack of recognition or accreditation for the work done (38,81,82,102). Other professional costs included pressure to work outside ones competence, ethical dilemmas, lengthening of training and bureaucratic barriers (4,6,44,46).

Costs were also reported in the literature from a personal perspective, including the tangible financial cost of undertaking an international placement (16,41,44). The financial cost can also be a distal outcome, with professionals reporting effects on pensions, entitlements or loss of earnings (41,48). Travelling to a LMIC environment can also have health consequences, with many professionals reporting outcomes ranging from animal bites, to road traffic accidents, sexually transmitted diseases and stress (103,104). Other more emotional and psychological costs were reported including loneliness, missing

family and frustration (13,46,103). The most frequently reported personal negative outcome in the 55 papers was culture shock (76,98,103). Others include being involved in crime (as perpetrator or victim), physical risk (e.g. dangerous environments and extreme nationalism) (4,21,45).

2.4.7 Section summary

In the 55 papers found through the systematic search 23 contained empirical results, whilst 22 of them did not. In both the opinion pieces and the empirical work there are numerous ideas and informal proposals about what the PPD/learning might be and how it might materialise. But there is no specificity or precision of learning outcomes when people talk about ‘leadership’ or ‘communication’ in terms of knowledge, skills, attitudes and behaviours.

In regards to how learning happens, not one of the 55 papers in the systematic review present a theoretical perspective of how PPD happens on international placements. However, a number report personal opinions of the opportunities, environments or individual differences that may facilitate this learning, this will be discussed in the next subsection.

2.7. Contextual factors

Throughout the literature authors allude to the contextual components of an international environment that might facilitate learning in a different way to a UK environment. These variables are generally presented in two ways: factors that make LMICs a unique learning environment or behaviours/attitudes/thoughts exhibited within the individuals.

The first group of variables were logistical, e.g. where the placement was and how long for. For example, one hypothesis is that the more divergent the culture is from one’s own, the more learning that happens (23) and that cultural divergence, from one’s own culture, or that the intensity of learning experience were more important than the participant’s length of stay (79,94). Conversely, some authors argue, that length of stay is an important variable, with longer placements having a greater impact on the participant than shorter (105,106). These two examples exemplify the lack of consensus amongst stakeholders regarding the factors that affect learning and also difficulty of measuring the direct effect of variables in such an environment. Hence, there is currently little empirical evidence that analyses the effect of moderating or mediating variables on health professional learning on international placements.

It has also been suggested that there are behaviours that people exhibit, attitudes that people exemplify or techniques that individual's practice that may influence PPD on HPIPs. For example, several papers consider reflection critical for learning on international placements (85,107). This could indicate that those who reflect more, learn more. However, one can't automatically simply assume a linear correlational relationship, there are different types of reflection reported on international placements including formal and informal, self-reflection, critical reflection etc. (4,85,98,107). To my knowledge, there is no full exploration of the impact of reflection (or any other behaviour, attitude or technique) on learning during health professional international placements. Therefore, it's currently not reported how the behaviours that health professional's exhibit in LMICs affect PPD.

Understandably, as it's a complex phenomenon, where variables that might affect learning are presented in literature, there is often no discussion of how the variables result in learning, particularly in relation to theories of education. There are some notable exceptions, largely concerning student learning on international placements, as opposed to professional learning. Thompson et al., suggested that those visiting developing countries gain more in terms of international perspectives and personal and intellectual development because the vast differences between the host country and the participants own country stimulated a reevaluation, by providing a platform for comparison (94). Hence, it argued that being in another environment elicits an internal process of comparison between the host environment and the home environment; which is thought to elicit PPD, depending on context. In exploring how length of stay might impact on learning, one study found that longer placements 12-16 weeks (as opposed to less than 4 weeks) allowed for greater immersion in the host culture and this immersion was responsible for the development of a greater international perspective and personal awareness (108). This result was replicated in a study that found that those who acclimatised to the host culture reported positive international experiences (106).

Educational theory literature suggests there are activities undertaken, that enhance experiential learning (learning from experiences), yet this is rarely discussed in relation to HPIPs specifically. Transformational learning theory is one theory that has been preliminarily addressed in regards to international placements, in the context of a variety of Australian professionals (33). Transformational learning is the process of learning and personal development that happens when an incident triggers a need or desire to learn.

This is proposed to happen when an individual notices the disequilibrium between existing knowledge, values and understanding and the experience that caused the trigger (33). This is proposed to happen is through attempting to make sense of the new environment, then accommodating new experiences into one's own view of reality (33,109). This results in a significant change of opinion or perspective (33). This is in line with the change in perspective, or development of a new perspective is that is often reported in the literature as an outcome of international placements (13,24).

Throughout the literature there is an assumption that British professionals learn in a different way on international placements than they would in the UK. In the UK students on placements are expected to acquire knowledge from more senior staff, through observation, interaction and experiential learning 'learning by doing' (110). However, in many LMIC's, early career British professionals or students report being the most clinically superior in the facility, professionals also report a lack of local support (26,111); which likely indicates that learning on international placements may happen differently than in the UK. It seems unlikely that all learning happens through modelling and copying more senior staff. There are many other components of the LMIC environment that are reported to differ from the UK and therefore influence learning. For example, in addition to being the most clinically superior, many British professionals report opportunities for leadership or responsibility that would not happen in the UK (16,24,29). It is also reported that staff interact with a greater breadth and depth of patients and conditions (24,48,68,76).

2.7.1. A platform for comparison and systems knowledge

One mechanism of learning described in the literature for PPD in LMICs is that the host country provides a platform for comparison. The host country is often described to provide a platform for comparison to the UK/NHS environment (46,91). It is believed that this opportunity to compare environments results in learning. It is argued that the new environment challenges individuals to consider advantages and disadvantages of different systems (91). The outcome of this comparison is reported to be a changed perspective and an understanding of how both systems function (46,91). Whilst both papers report the comparison as the mechanism of learning, neither describe the process of comparison. Whether reflection is required in order for this learning to happen, or whether being placed into a new environment is enough to elicit comparison and a subsequent change of perspective. It would seem that something additional must be present for this learning to

happen and there may be a different process for systems knowledge outcomes as opposed to a change in perspective

I will now describe some theories of education that have not (or have rarely) been applied to health professional PPD in LMICs. By understanding how people learn more generally, I hope that I can identify the contextual factors of an LMIC and processes that individuals use to navigate that environment and how this affect different cadres of PPD outcomes.

2.8. Review of existing educational theories that have been applied to international learning

The literature proposes that there are a great number of learning outcomes from international placements (13,14,24,44). Some literature also proposes contextual factors that may facilitate or impede PPD in LMIC, i.e. a lack of resources (112). Others propose mechanisms individuals use on international placements, i.e. reflection (46). However, there is a lack of explicit theoretical underpinning to the ideas reported (13). Whilst there is a general consensus in the literature that more empirical evidence is needed, there is no mention of the need for a theoretical underpinning to the findings; which I propose may provide greater insight (13,49,113). The specific PPD that happens on international placements may be difficult to address from a theoretical standpoint, but how an international environment facilitates this learning may be understood through consultation of general theories of learning.

2.8.1. Moderating and mediating variables

In educational literature there has been discussion for decades about contextual factors that may influence learning outcomes (114). In an oversimplified example I will present my research aim as an algebraic hypothesis. I want to explore the effect of International Experience (X: the independent variable) on PPD (Y: the independent variable). In the previous subsection I discussed the various contextual factors that are inexplicitly proposed in the literature to influence this relationship (i.e. low resources, reflection). I want to theoretically explore the effect of such factors on the relationship between X and Y (international experience and PPD). Figure 2 visually depicts the relationship in question with some contextual examples.

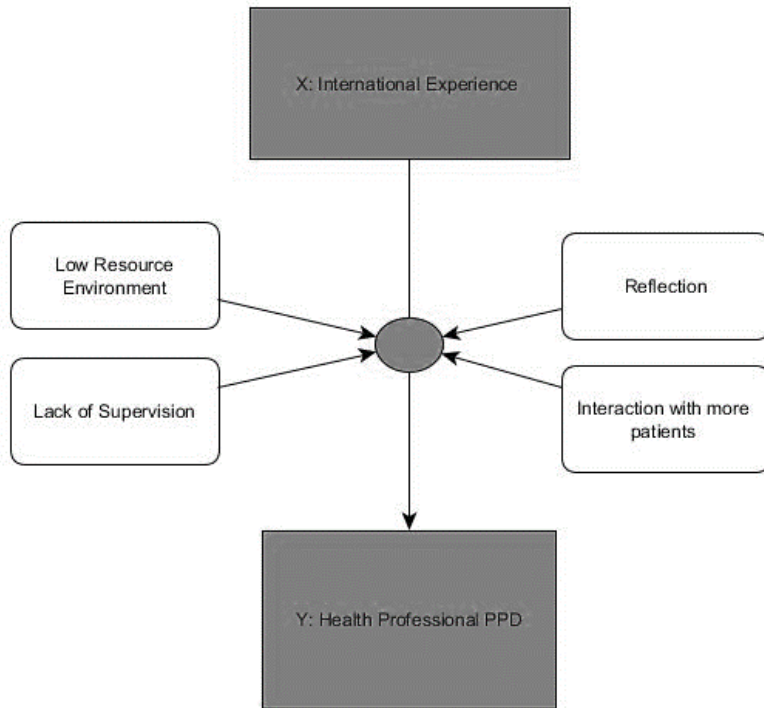


Figure 2 Hypothetical model to show the effect of contextual variables on PPD in LMICs

These contextual factors could be labelled moderator and mediator variables. These are variables that are associated with the relationship between the independent variable (IV) and the dependant variable (DV) (114), in this case international placements and PPD. Moderator variables influence the strength of the relationship between the two, for example it could be hypothesised that the less resources in the international environment the greater the PPD, or it could be that the more somebody critically reflects in the international placement, the greater the PPD (115). Mediator variables, on the other hand, explain the relationship between the IV and DV, so it could be the novelty of the working environment (115). So if I were to hypothetically measure the novelty of the working environment, for a contextual factor to be a mediator variable it would correlate (positively or negatively) with PPD. So those working in a similar health system, for example Ireland, would have smaller increases in PPD than those in a completely novel system, for example Mozambique. In summary, moderator variables influence the strength/direction of a relationship whilst mediator variables account for the relationship. Moderator variables specify something external to the relationship that influences it, whilst mediator variables explain how or why events occur (115). Figure 3 visually depicts the difference between moderator and mediator variables.

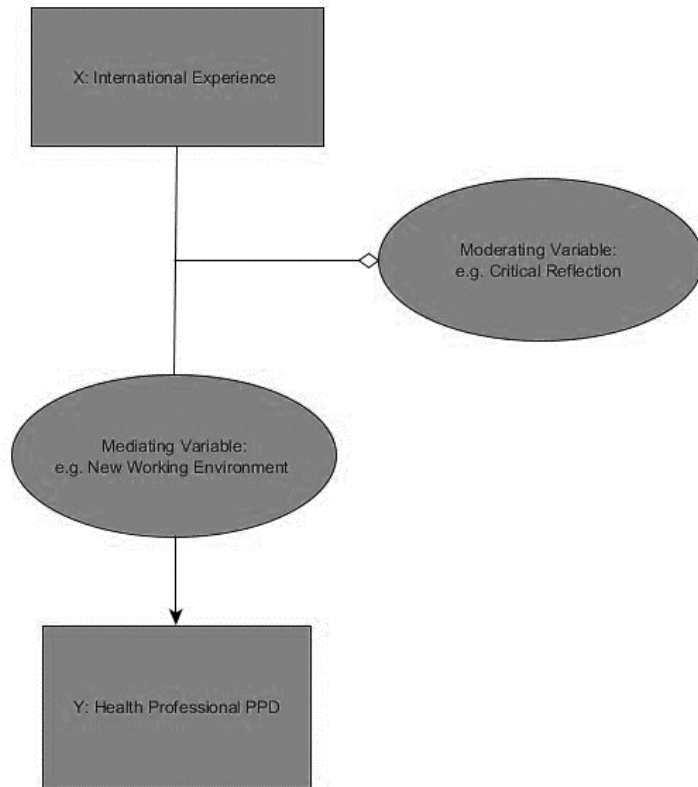


Figure 3: A model of moderating and mediating variables

Moderator and mediator variables provide a framework for analysing and understanding the different variables proposed in the text. Understanding what the moderating and mediating variables are and how they affect learning would be useful for all stakeholders, policy makers, educators and health professionals themselves. I will now explore the literature surrounding cognitive, organisational and social processes that relate to learning on international placements.

There have only been a small number of papers that describe learning on international placements from a theoretical perspective, however none explicitly describe a sample of British healthcare professionals. The papers I identified describe learning in a generic manner (33,116). Whilst this provides important insight into how learning happens internationally, it fails to acknowledge the contextual differences that may be present in learning environments for healthcare professionals. For example, health professionals work largely in patient facing roles, engage with patients frequently and work within complex national systems, the professional development that happens during these social interactions is likely to be different to the PPD encountered by a web-designer in a small

business office. Existing theoretical models are also not specific to British healthcare professionals, this thesis focuses on the British healthcare professional population.

2.8.1.1. Effect of destination country

Whilst I don't propose that learning mechanisms vary greatly between countries, this thesis is based on the idea that culture has an effect on PPD. Research argues that different host countries provide different outcomes for learners, for example Thompson proposes that the more divergent a culture from one's own the more learning (94). Therefore, it cannot be assumed that there is no effect of the origin country on learning, especially given the differences in health systems across HICs. There may be some subtle differences in moderating and mediating variables that affect learning due to the country of origin. For example, most British professionals work in a large national socialised healthcare provider organisation, this is a different platform to compare the international experience to than those used to working in a different system in another high income country, such as the USA. This is exemplified by the PPD outcomes described in some of the reviewed literature concerning appreciation of free universal healthcare or an understanding the costs of healthcare (13,90). It is unlikely that professionals originating from the USA would develop an appreciation of free universal healthcare as this is not a current system in their home country. Hence, such differences need to be accounted for in order to understand the learning of intended population, British healthcare professionals.

2.8.2. Learning environments

Learning environments have been considered an important influence on the learning process through all sectors and their importance is recognised from as early as primary school education (117,118). A substantial amount of literature has been published about the importance of learning environments, but much less has been published about what a learning environment consists of and how they affect learning (118). The word environment is generally used to describe physical space, for example surroundings, settings, even stretching to more abstract components like weather. It also has a second meaning concerning ambiance, atmosphere; which consists of more abstract entities like emotions and behaviours. A learning environment encompasses both of these factors, the physical setting and the feelings, behaviours and social interactions that happen within that space. Isba and Boor (118) argue that the term learning environment is often criticised for being all-encompassing, it can be used solely to describe physical space (i.e. number of

computers, size of teaching rooms) and at the opposite end of the spectrum it can be used on a macro-level to describe the whole department campus, and maybe even country (118).

Learning environments can be categorised into formal and informal, the former consists of universities, schools and principally structured classes or learning activities, whilst the latter, at least for healthcare professionals, relates to learning in healthcare facilities (hospitals, surgeries etc.). Isba and Boor argue that what differentiates the two is the aim, formal learning environments focus first and foremost on ‘learning’, whilst informal learning environments (from a health professional/student perspective) focus on ‘working’ (118). Although most health professionals acknowledge the importance of learning by doing, a tension is often described between service delivery and education (118–120).

Much of the literature about learning environments concerns individuals with ‘learner’ status: undergraduate and post-graduate students, school students or apprentices. In fact, most of the sources used to support this subsection are written regarding student populations (118,121,122). This presents a concern when using this research to inform theory about professionals with a primary aim in a ‘learning environment’ to ‘work’, due to having already qualified. Continued professional development is often seen as a something that happens in addition to day-to-day work, for example attending external or internal training courses or completing e-learning modules online. Therefore, it’s difficult to find research or literature regarding CPD within a learning environment, as they are presented as a place of work rather than study.

Similarly, LMIC facilities that British Health Professionals work within rarely present themselves as a learning environment, but rather as a vehicle for service delivery to less fortunate individuals. In much of the literature learning is presented as unintended side effect (31,43). But as countless PPD is reported to happen within such environments, by conceptualising them in this way, it may be possible to better understand them and the influence LMIC learning environments may exert upon HPs working within them.

When conceptualising the learning environments of undergraduate and postgraduate students, Isba and Boor (118) present 4 components: material, social, intra-psychological and measurement. It is interesting to consider the final ‘aspect’ of measurement as this is a similarly an important part of this thesis, therefore acknowledging the effect of measuring the learning environment on subsequent learning, further highlights the importance of the research output (a psychometric tool). Not only as a way of measuring, comparing and

contrasting, but as a way of improving, adapting and changing learning environments and ultimately, improving learning outcomes. In more expansive work, Isba described some additional categories (123). Amongst which is ‘opportunities’; I think this is particularly important for international placements as opportunities are described so frequently, so I will also discuss this category in addition to the original four.



Figure 4: A visual depiction of Isba and Boors description of four components of medical student learning environments. Developed from the book chapter ‘Creating a Learning Environment’ with the addition of opportunity from previous work (118,123).

I used Isba and Boor’s conceptualisation of the components of medical student learning environments as the basis of my exploration of theories of learning and learning environments. I will combine the components of the learning environments, described by Isba and Boor (118) with the contextual components of an LMIC learning environment that arose from the systematic search and educational theory that may be relevant this relationship. Hence, I will describe the components of the LMIC environment that differ from the UK and theories that may describe how individuals learn in such environments.

2.8.3. Component 1: Material

‘Material’ relates to the facilities that exist and the organisations they exist within. Then, from a UK student perspective primarily, how can materials be improved to improve learning, for example buying more computers or better medical devices (118). The idea that the material components of an environment effects learning has been described historically outside of education literature, for example in Maslows hierarchy of needs (124). The idea that a person cannot strive for achievement until their physiological needs (food, shelter, water) and safety needs (security) and belonging needs (relationships, friends) are met (124).

This effect of materials is further exemplified in relation to LMICs as they are generally considerably different to an NHS or HIC health facility. LMICs are generally reported to

have less resources, outdated or non-existent medical devices and poor infrastructure. However, traditional literature suggests improving these to improve learning. This seems in direct opposition to the frequent reports in the literature of learning to innovate within low-resource environments. Interestingly, when thinking about physiological needs in a LMIC, it is likely that the British professionals will be in a position to pursue achievement having met basic needs, security and relationships, but it is likely that their colleagues or patients may not be equally fortunate. There may also be issues with security as many papers report a lack of security in LMICs, be it ethical, infrastructural, criminal or health related (4,45,104). Understanding the effects of all of these factors on learning would be beneficial.

Material components of a LMIC learning environment are at odds with the literature that focuses on HIC student learning. The notion that improving the material components of an environment improves learning should be questioned, as individual reports in the literature argue that this is not the case (11,26,42,98). Understanding the effect of lower level needs (in Maslow's hierarchy) of not only the health professionals but their colleagues and patients provides unique perspective to consider.

2.8.3.1. Organisational

Organisational factors sit within the material component of Isba and Boors model (118); which proposes that organisations exert a strong influence on the learning environment. They proposed, for example that an organisation that values good teaching, will provide learning environments that reflect such values. It is also acknowledged that organisational effects can be at different levels, for example institutional or departmental, each subject to different pressures and therefore potential conflict can arise between the different levels (118). They also describe the influence exerted by people at varying levels, the head of nursing on one ward, is likely to have great influence over decisions made on that ward level, but much less about decisions made on a national level.

Interestingly, when considering placements in LMICs the ideas presented from a HIC perspective, become disoriented. The head of a ward in the UK could travel to an LMIC and within days be involved in meetings on an organisational level, or even a national level, meaning the organisational restraints are often reported are lifted. There are also different competing macro-level influences in LMICs, professionals are less likely to work within a national publically funded service, divided into trusts like the NHS, but to experience completely new systems and new definitions of public and private care.

Simultaneously there is a potential national effect influencing the organisation, many professionals report the effects of national and local corruption and political influences that affect their everyday work in LMICs (112). Finally, Isba and Boor use the example of organisations valuing good teaching providing learning environments that reflect such values. It could therefore be argued that exposure to practice in LMIC an environment could instil bad practice values.

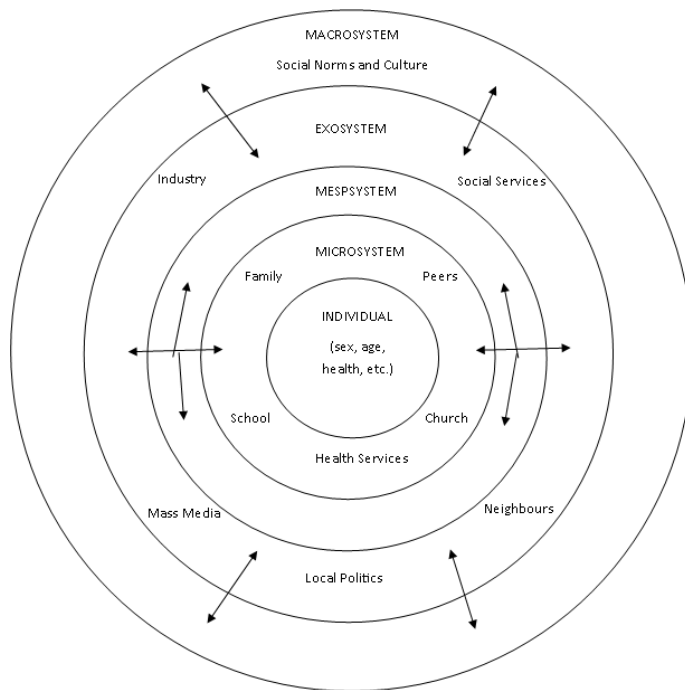


Figure 5: A Diagram to visually depict the systems described in the theory of Ecological Systems. Source: (Adapted From) <https://voices.no/index.php/voices/article/view/829/685>

2.8.3.2. Experiencing an unfamiliar environment and culture

Within the organizational remit, there are a number of educational theories that account for culture in an unfamiliar environment, one is the experience of ‘being a foreigner.

Greatrex-White argues that the experience of being a ‘foreigner’ is underrated, and that this ‘disturbance’ affects cultural knowledge and perspectives (46). The notion that being placed in an unfamiliar cultural environment elicits development is common in a number of learning theories. For example, experiential learning theory suggests that individuals learn as a result of novel experiences (116)

One educational theory that encompasses the effects of a new environment, organisation and culture on international placements is the ecological systems theory (125). This developmental theory has numerous iterative phrases and has developed considerably from its initial application to child development (126). This theory concerns how the individual develops (as opposed to learns) within numerous ‘systems’, such as the

macrosystem (which accounts for the impact of wider society) and the microsystem (which accounts for family peers and colleagues). This theory is often depicted in a figure (see figure 5).

It could be argued that being immersed in a new culture or organisation affects almost all of the systems depicted in figure 5. For example, it is likely that the professional will experience social norms and culture (macrosystem), mass media and industry (exosystem) and peers (microsystem) that are considerably different from the home context. This model, unlike many other educational models, specifically accounts for culture; which is particularly applicable to international placements. When working/living in a foreign country, many of the systems surrounding the individual will undergo enormous immediate changes. A typical British health professional may well have spent the majority of their life in the UK surrounded by British social norms and culture (which is arguably characterised to some extent by cultural diversity), when moved to an LMIC the macro-system may then become a more prominent indicator of development than it was in the UK.

2.8.4. Component 2: Social

2.8.4.1. Participation

The second component of learning environments is social. Isba and Boor categorise social learning in three ways: participation, teacher-learner relationships and teaching as a feature of learning (118). In regards to participation they describe Lave and Wenger's situated learning theory (127). Wenger and Lave propose a model of situated learning, whereby individuals learn socially within Communities of Practice (CoP's) (127). Hence, when newcomers become involved in daily practice, they learn 'just' through participation (118). It is based upon the notion that newcomers (primarily apprentices) surpass boundaries and eventually become full participants. CoP's are formed by people who engage in a process of collective learning in a shared domain of human endeavor (128). They consist of groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. CoPs are not confined by location they can be within a physical location but also global, online or face-to-face and formal or informal (129).

As CoPs can be informal they allow for, but do not assume, intentionality: hence individuals may be part of a community of practice without explicitly knowing it (130). Additionally, not every community is a community of practice, for example a

neighbourhood is not a community of practice. In order for a community to be classified as a community of practice by Lave and Wenger the following three characteristics are needed in parallel: domain (shared interest), community (engagement in joint activities) and practice (shared practice) (127). The concept of CoPs was coined by Lave and Wegner when studying apprenticeships. The researchers then noticed CoP's everywhere and extended their theory beyond novices, many large organizations now have some sort of CoP initiative.

On an international placement individuals may become part of different communities of practice depending on placement location and dynamics. They may also remain part of existing communities of practice in the UK or globally that they may choose to continue to engage with virtually/remotely. If communities of practice facilitate learning and knowledge sharing/creation, then it could be that the geography and structure of a placement is particularly important factor that affects learning. An individual placed in a city hospital with a good infrastructure, communication system and support network should therefore facilitate greater learning than a rural placement limited networks. However, some research suggests it is in fact the lack of these support networks that facilitate learning of certain skills sets such as problem solving and innovation (24,75). So greater understanding of how communities function in an international context and how this affects learning is needed. Also whether individuals consult the British community of practice during placements is a factor that may affect learning and development and should also be considered. The work of Lave and Wenger, suggests that individuals aim to surpass boundaries and become a full member of the CoP. However, this is difficult to apply to short term temporary placements. Furthermore, if learning happens when a person integrates fully into a community conforming to existing social norms, then professionals should be encouraged to respect and adapt to the local environment

2.8.4.2. Teacher-learner relationship/teaching as a feature of learning environments

It is difficult to apply the concept of teacher-learner relationships to health professional learning in LMICs for three reasons 1) there are no named teachers 2) many of the professionals do not identify as learners, rather service deliverers 3) it is a working environment rather than teaching, so teaching is not a deliberate feature. However the concept of social support and supervision is in contrast to a UK environment.

As stated earlier, many authors argue that the level of support and supervision available to British individuals on individual placements differs greatly from that in the UK. Ackers argues that British professionals sometimes report lone working in an LMIC environment with little support or supervision and that local staff may leave when the professional arrives (seeing them as a replacement) (26). Other papers describe British students being left in LMIC health facilities without adequate supervision (12). This would suggest that on numerous international placements in low resource international contexts, British professionals experience a lower level of support and supervision than they would in the UK. However it cannot be assumed that this supervision difference exists in all placements, in high income countries the supervision and support may be different, but not necessarily less.

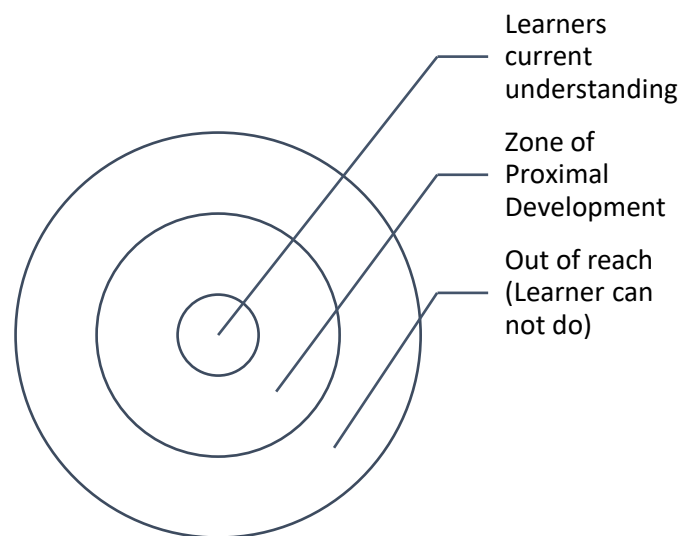


Figure 6: A diagram to explain the Zone of Proximal Development. Source: (Adapted From): <http://www.cuppacocoa.com/the-zone-of-proximal-development/>

One theoretical account of how support and supervision affect learning is proposed by Vygotsky. He argues that individuals have a zone of proximal development (121). He proposes three theoretical learning zones, the zone of current development (what the individual already knows), and the zone of proximal development (the ideal zone for learning to occur) and a zone that is out of reach, where learning does not happen as it is too challenging. He argues that with the help of a more knowledgeable other (MKO), learners can move from the zone of current development to the zone of proximal development, an ideal theoretical environment for learning (121). A more knowledgeable other is considered anyone with a greater knowledge of a particular subject, as this was initially a theory of children's learning, traditionally this was a teacher or peer.

This theory raises many questions in regards to international placements. If the presence of a MKO in a learning environment facilitates development, then presumably individuals on a project with more support from more knowledgeable peers/supervisors will exhibit greater development. However, there are many practicalities surrounding this.

Considerable literature argues that individuals learn problem solving skills due to navigating an unorganised (under-staffed, over-burdened) environment, where they have to make decisions without the archetypal UK support hierarchy (24,75). If this were evidenced, it would support the opposite: learning despite a lack of support and/or structure.

The concept of a MKO (more knowledgeable other) also raises further questions when applied to international placements. If somebody should be in the presence of a MKO to learn, then a consultant may not have many opportunities to learn clinical skills as the majority of the workforce may be less knowledgeable about that subject. It would therefore suggest students or early career professionals would have more opportunities to learn clinical skills. Yet, when considering more subtle skills such as the cultural norms of the host country, the British consultant may have just as much to learn as the British student. All local staff would presumably have greater knowledge of their cultural norms than the British professionals and therefore be considered MKOs.

The idea of a MKO and ZPD (Zone of Proximal Development) suggest that learning is somewhat progressive and prescriptive and that explicit knowledge (and arguably tacit knowledge) is shared uni-directionally from the MKO to the less knowledgeable other. It does not account for reciprocity and mutual learning, something Crisp suggests is imperative to successful international projects (14). It also does not account for innovation or problem solving skills explicitly; which the current literature often describe result from lack of organisation (24,75). If the only learning that happens in international placements happens as a result of explicit knowledge transfer from MKOs then it would not particularly differ from a UK placement, particularly in regards to clinical skills. But as explored in the literature review, professionals experience great development in terms of non-clinical skills (communication, leadership) and it does not seem that they report learning these skills by copying excellent examples they see overseas (24,75). Although it could be argued that there is potentially an element of mimicking the problem solving and innovation skills displayed by local staff. Much of the literature suggests professionals

learn or recognise the importance of many skills through the exposure to bad practice and a renewed appreciation of the NHS (25,90).

Another educational theory which accounts for differences in support and supervision is deliberate practice theory. It suggests that individuals acquire skills through practice. That the only difference between 'normal' and 'expert' performance is relative to a 'life-long period of deliberate practice' (131). Deliberate practice theories lie in two fields, behavioural and cognitive. Behavioral theory argues that practice is facilitated by feedback from an expert that results in successful approximation of the target skill development. Feedback from an expert can minimize errors and reduce the frustration associated with trial-and-error techniques. In contrast, cognitive theory of deliberate practice argues that excellent performance happens when complex tasks are practiced that produce errors. It is argued that these errors present the learner with robust feedback that can act as scaffolding in the future (without expert feedback) (132). Research has highlighted deliberate practice as the most powerful predictor of performance in some clinical skills. Wayne et al. used a simulator to assess baseline proficiency in ACLS (Advanced Cardio Life Support Skills) scenario (133). After deliberate practice on the simulator, performance improved significantly and each participant exceeded mastery standards.

The main elements of deliberate practice theory are repetition and supervision. In an ideal situation, this theory suggests learning happens when skills are practised repeatedly under correct supervision. However, the supervision is often reported to be significantly lower on international placements, with many reporting a lack of local supervision, lone working or working outside of professional capacity with little supervision (12,75). The cognitive theory of deliberate practice suggests errors in practice alone provide sufficient feedback. If practice is the predominant factor that affects learning, differences in feedback or supervision surrounding international practice would not affect learning outcomes. Without effective feedback a student or early career professional may practice clinical procedures incorrectly and continue doing so; which may be not only dangerous, but also counterproductive. The individual would have practiced, but done so incorrectly. If this were to happen in an international environment, presumably this would not be an effective skill that would transfer to a UK environment, and if it did, it may jeopardise patient safety in both countries. Consequently, literature is more in line with the behavioural theory and suggests supervision from a local professional is beneficial to British healthcare professionals and students (16,89). This would suggest that a professional with more

knowledge should be present on international placements to ensure that any learning (particularly of clinical skills) is correct.

The necessity of a more knowledgeable person, supervision or support is contested throughout the theories of learning. Whilst some consider it imperative (behavioural, deliberate practice) (121,131) others argue that it is not necessary for experiential learning (134,135). In order to bridge the knowledge gap, future research needs to address whether there is a relationship between the level of supervision and support and the learning that happens on international placements.

2.8.5. Component 3: Intra-psychological

The third category proposed by Isba and Boor is the intra-psychological component (elements that happen within the individual) consisting of emotions, behaviours and practical competencies (118). Qualitative research has found that learning environments influence learner's behaviour and emotional well-being (118,136). There is an emotional element to learning environments with students and teachers using words like 'safe' and 'feel', for example staff felt it was important to make students feel welcome (118,136). There is an emerging literature base about the effect of emotion in learning; which could have great implications for medical education (118). There is also research to suggest that participation in learning had an influence on emotion and was influenced by emotion (137). There is also some organisational literature to suggest there is a relationship between environments and intra-psychological changes, for example organisational climate and job performance (118,138,139).

The literature also suggests that on international placements, certain behavioural (or intra-psychological) techniques may have an effect on learning. For example, literature argues that pre-placement meetings, briefings and contact can inform individuals of the best way to optimize benefits of the placements (98). The one most frequently described is reflection, literature argues how important reflection is, for learning from international contexts and translation of knowledge to future situations, but also for personal reasons (21,86).

One educational theory that includes reflection as a component of learning is Kolb's experiential learning theory, described in detail in section 2.8.9. (135). 'Reflective observation' is one component of the 4 style cycle of learning. Reflective Observation (RO) is the stage whereby the learner listens and watches, considers issues from diverse

points of view, and ascertains meaning from the learning experience (135). International placement literature argues that this is important throughout the process, but particularly important upon return from the host country (6). It is also argued that this reflection sometimes happens best when back in a familiar environment (4).

When applying experiential learning theory to international placements, Ng, Dyne and Ang conceptualise learning as a process as opposed to a cognitive or behavioural outcome and a holistic process of adapting to the world (116). It is suggested that it requires integrative functioning of the whole person, including thoughts, feelings, behaviours and interactions with the environment. Individuals undertaking international placements are required to manage multiple demands and cues from the new environment. It is a continuous process whereby new knowledge and perspectives integrate with old. The relative safety and bureaucracy of the British system may mean there are less opportunities for such experiences as more knowledgeable others are often around, or a protocol is in place.

Reflection seems apparent in numerous theories as a facilitator of learning.

Transformational learning theory (as described in section 2.8.8.) considers time to consolidate the new experience into existing schemas, an important aspect of learning from international placements (33). Whilst, Vygotsky's theory suggests that critical reflection is important (121). Therefore, understanding the role of reflection in learning on international placements is imperative.

2.8.5.1. Level of challenge experienced by learner

Another intra-psychological factor could be the level of challenge felt by the professional. Many individuals on international placements report that the level of challenge experienced in work on international placements differs from that of the UK. In most cases they report an international environment that presents numerous challenges; which they subsequently believe results in problem-solving, decision making and coping skills (18,24,25). A number of theories account for the level of challenge and how this affects learning.

Vygotsky's theory of proximal development, earlier described, presents three learning zones. If the conditions are easy, repetitive or boring, learning is considered to be in the zone of current development, hence there is no progression in learning (121). If conditions are considered too challenging or difficult and 'out of reach', this is thought to end in

frustration and again result in no learning or progression (121). However, if a situation is in the zone of proximal development and the work is challenging but achievable with help, greater learning occurs (121). The challenges described in much of the literature may suggest that many international learning contexts sit within the zone of proximal development; which means optimal learning occurs. However, this is dependant on whether there is a more knowledgeable other to facilitate this learning.

Interestingly, one of the key themes to emerge from the literature review may suggest that international placements may span all three conditions. Much of the literature argues that international placements improve communication (13,22,24). However, one participant in one study suggested no improvement in communication, as there was no English spoken, he was reliant on a translator (24). It could be that this situation would lie outside of the zone of proximal development, being too challenging and resulting in frustration. With further research there may also be a distinction between those who visit English speaking countries and non-English speaking countries. It could be hypothesised that some forms of communication may not develop as optimally in an English speaking country as it is less challenging and easier, meaning learning may fall into the zone of current development.

2.8.6. Concept 4: Measurement

The fourth is measurement, this will be discussed in greater detail later in the chapter, but as a contextual component, Isba and Boor (118) argue that measurement forms the start of a quality cycle to improve future teaching and learning (118). It is important to quantify learning environments to determine strengths and weaknesses and therefore foster improvement (118). It also allows for comparison between environments (118). When considering LMIC environments for this thesis measurement for quality improvement is difficult for two reasons 1) the primary purpose of the environment is not learning, 2) I want to consider learning across all professions all over the world, therefore quality improvement may prove difficult to implement.

2.8.7. Concept 5: Opportunities

An additional category I chose to discuss which was highlighted in Isba's earlier work was opportunities. I felt it was important to include this as it is presented in a large proportion of the literature describing the contextual differences between the NHS and LMIC

environments. Opportunities include opportunities to lead, teach, research, collaborate, engage with senior people, policy makers and people from another culture (13). Earlier in this chapter I described how individuals often travel to LMICs to develop clinical skills as they assume there will be a greater opportunity to practice certain clinical skills than in a UK environment (43). This opportunity to practice is often characterised by an opportunity to work with novel diseases and procedures and generally see more patients. Many papers report that professionals working in LMIC's frequently treat considerably more patients per unit of time than they would in the UK (48,68), and that this develops their professional skills. They also report engagement with a greater spectrum of pathologies than the UK or using different procedures than the UK (12,30,84).

Deliberate practice was outlined above and focuses on the skills developing from repeated practice (131). The main elements of deliberate practice theory are repetition and supervision. In an ideal situation, this theory suggests learning happens when skills are practised repeatedly under correct supervision. In regards to international placements in low resource settings, the repetition component is probably higher than in the UK, many professionals report exposure to a greater number of patients than in the UK and an opportunity to 'practice' skills (19,68). Duvivier et al. reassembled the concept of deliberate practice to better fit clinical skill acquisition (140). They defined the process of deliberate practice as repetitive performance of intended skills (cognitive or physical) followed by a rigorous skills assessment. This is followed by feedback that incorporates specific information, all of which should result in better skills performance. Duvivier et al. also described soft skills that facilitate the various stages of successful clinical skill development (140). For example planning, concentration, repetition and revision (a tendency to practice), study style and reflection (a tendency to self-regulate learning).

If factors exist to facilitate learning through deliberate practice, (as suggested by Duviver et al. (140)) then it could be argued that professionals with existing high levels of such skills will gain more from deliberate practice than those with lower levels. A service delivery focus on international placements involves professionals purely delivering a clinical service (a high opportunity for practice), as opposed to capacity building which has a focus predominantly on knowledge transfer. In which case, some individuals may thrive in service delivery focused environments particularly if they want/need to develop a particular clinical skill. Furthermore, according to this theory projects should train or recruit professionals that have higher levels of these potentially facilitative skills that are

thought to maximize the outcomes (planning, concentration, tendency to practice, reflection), (140). This is acknowledged as a major criticism of this theory that although deliberate practice may be necessary it is not alone sufficient (141).

Another prominent difference between international placements is the professional's length of stay in the host country. Much of the literature argues that longer stays are better for both parties (hosts and British professionals) than shorter stays of a few weeks, however there is also literature to suggest the opposite (41,69,76,112). According to deliberate practice theory, it could be proposed that longer stays would provide greater opportunity to practice, and consequently greater learning. However, could there also be an optimum period when a skill (or set of skills) is/are mastered, so further practice would not be necessary. Furthermore, many of those on short visits return frequently, Smith et al., found that 33% of Doctors on visits of less than a month had returned at least five times, so it must be considered how this affects learning (48). Yet still, if learning on international placements can be attributed to deliberate practice theory, then length of stay should roughly correlate with breadth/depth of learning outcomes. All of this is dependent upon the skill intended to be mastered and the existing skill levels. It would seem from much of the literature that the skills developed are not easily pinpointed, and that a range of skills often develop simultaneously that are dependent on one-another. This is evident in the reporting of generalised, ambiguous outcomes such as 'communication', 'life-changing' or 'leadership' (24,42,81).

Furthermore, practice of many clinical (and arguably some non-clinical skills) often differs from the UK. If practice of skills is the only factor involved in international learning, a fast-paced UK environment may be equally beneficial (perhaps an A&E department), and skills may be more transferable (e.g. using UK standard procedures and technology). Perhaps a LMIC provides more opportunities to practice the skills that individual's would not necessarily have an opportunity to practice in the UK e.g. by working with a wide variety of patients and illnesses. Much of the literature states that the breadth and depth of patients/illnesses seen in LMICs provides an opportunity to practice (24,69). For example seeing such a variety of illness is argued to allow doctors to 'tap into a wider range of diagnosis' (24).

Deliberate practice theory fails to account for the environments in which practice happens, (e.g. the social context). If there was a direct relationship between practice and learning, a

direct correlation between hours practiced and learning would exist. But this seems not to be the case in academic education, Plant et al., found that time studying has a very weak correlation with academic performance (142). Further, if practice is the only factor that moderates international learning, providing professionals ‘practice’ on the same number of patients each day, learning should not differ between a UK and international context. Deliberate practice theory would argue that it is only the opportunity for exposure that makes international placements unique, disregarding any social and environmental factors.

On the contrary many theories of learning do not advocate a continuous collective experience that differentiates LMIC PPD from a UK context. But rather a number of poignant trigger events that change perspectives (33). It cannot be assumed that all of the development that happens as a result of international placements is facilitated by an international context in the same way. It could be that deliberate practice of skills that are not common in the UK, such as treating ruptured uteruses, are developed through the opportunity to practice. But the changes in perspective, or development of new attitudes could happen due to other aspects of the international environment.

In summary, using Isba and Boor’s (118) work to model the contextual components of a learning environment shows the distinct differences between an NHS environment with a primary aim of fostering learning and an LMIC service delivery environment. This model was not developed to be applied to LMICs or qualified professionals but nonetheless provides an expedient framework for assessing LMIC learning environments. Using this model to explore this phenomenon highlights precise differences between the two environments to be addressed and explored, figure 7 provides a visual summary of the work in this sub-section.

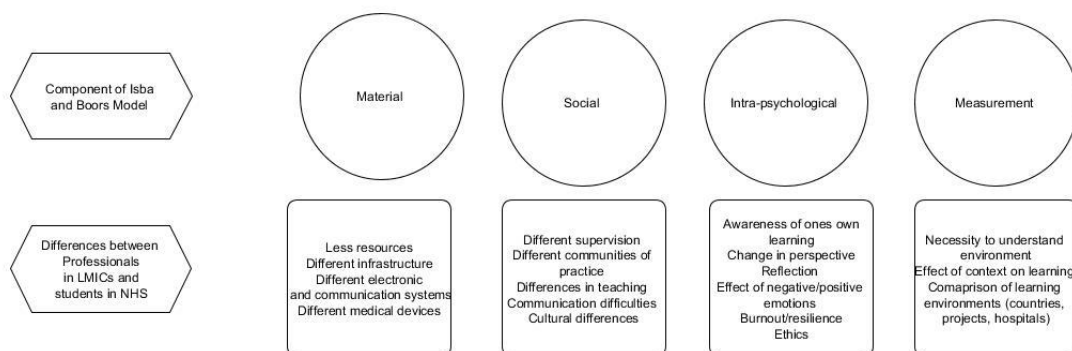


Figure 7: A hypothetical model to outline the differences between an LMIC and HIC environment

2.8.8. Transformational learning theory: A theoretical explanation of learning on international placements

One noteworthy paper presents a theoretical framework of learning from international placements, concerning various professions in international contexts (33). The authors contextualise learning on international placements as a social, non-linear process, punctuated by a number of triggers that cause evolutionary and revolutionary change. Transformational learning happens infrequently and usually results from a dilemma, crisis or life transition (109). Transformational learning is predominantly characterised by learning episodes which can be presented visually below, see figure 8.

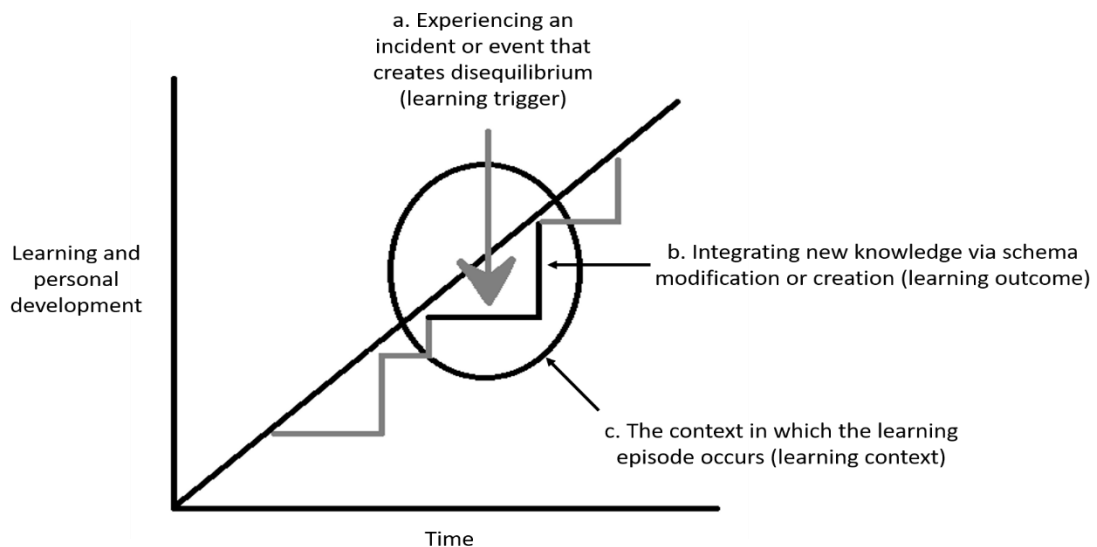


Figure 8: A Graph to depict transformational learning on international placements.
Source: (Adapted from) Fee, A., & Gray, S. J. (2013) (28) .

Figure 8 outlines the process of learning and personal development that happens when an incident triggers a need or desire to learn. This is proposed to happen when an individual notices the disequilibrium between existing knowledge, values and understanding and the experience that caused the trigger (33). Such existing knowledge and understanding are described as cognitive schemas. Schemas can be described as an organised pattern of behaviours and thoughts that organise groups of information and the relationships between them (143). It is believed that transformational learning occurs when the individual integrates the new knowledge into existing schemas or internal cognitive structures. This can be done by adding to schemas, adjusting them or in extreme cases re-designing them to achieve ‘balance’ (step b in Figure 8). It has been proposed situations that strongly

contrast with ones existing ‘bank of experiences’ result in the most significant change (144). Lastly, the context in which the learning episode happens (step c) influences each stage of the learning process ‘from how the learner will understand the situation, to what is learned, what solutions are available, and how the existing resources will be used’ (145). In summary, as the result of a learning trigger (an incident or event that creates disequilibrium), a learning outcome will occur when the individual integrates the new knowledge and the context in which this happens has an influence.

Fee and Gray argue that they are the first authors to apply this theory to an international learning context and argue that the framework provides a basis for examining individual learning in new contexts (33). They also state that it emphasises the socio-cultural context of learning from international placements. Transformational learning is not typically incremental like many other forms of learning, transformational learning is thought to be a fundamental change to cognitive structures that prompts the learner to question existing assumptions (146). This is very much in line with the platform for comparison argument presented earlier.

2.8.8.1 Transformational Learning of Healthcare professionals in LMICs

In regards to health professionals specifically it seems that this theory could account for much of the learning that happens in an international context. Mezirow argues that this learning often happens during a life transition (109). Working and living in a new environment/country could be considered by many, a major life transition.

Transformational learning commonly happens when experiences differ from an individual’s schema (109). This is important to consider regarding healthcare work in LMICs, as it is likely that many components of an international placement would differ significantly from the NHS workplace schema. For example in the NHS patients are prioritised based on clinical need, through processes such as triage, so staff may have an understanding of how patients are prioritised based on past experience in the NHS. In a low resource country they may find patients are instead assessed based on financial contribution or corruption (26). This would probably cause the British professional to question their existing ‘schema’ regarding patient’s prioritisation. Hence, there is a case that transformational learning may account for some of the learning that happens internationally, particularly individual professionals having to make sense of a new context

or environment. Professionals questioning their existing views of reality or the NHS is often reported in the current literature (23).

2.8.9. Experiential learning on international placements

Another theoretical viewpoint of PPD on international placements that is presented in the literature, but again not specifically in regards to British health professionals is the theory of experiential learning. It is proposed that individuals learn global leadership skills on international assignments as a result of experiential learning (116). Experiential learning could sit alongside transformational learning, in the sense that it is be described as learning from experience and sometimes described as learning through reflection on doing (147). Kolb argues that experiential learning involves integrating experience with concept and linking observations to actions (135). A four stage model highlights the process of experiential learning model (ELM) which is usually depicted in a figure (see figure 9) (135). In the concrete experience phase an individual learns through experience and doing an action. This then provides a platform to reflect (reflective observation) and conceptualise how to improve (abstract conceptualisation). Each subsequent attempt at improvement follows the same cycle. Kolb argues that experiential learning can exist without a teacher, it relates only to an individual's attempt to try and make meaning of an experience (135). However, Kolb argues that the occurrence of genuine knowledge gain is

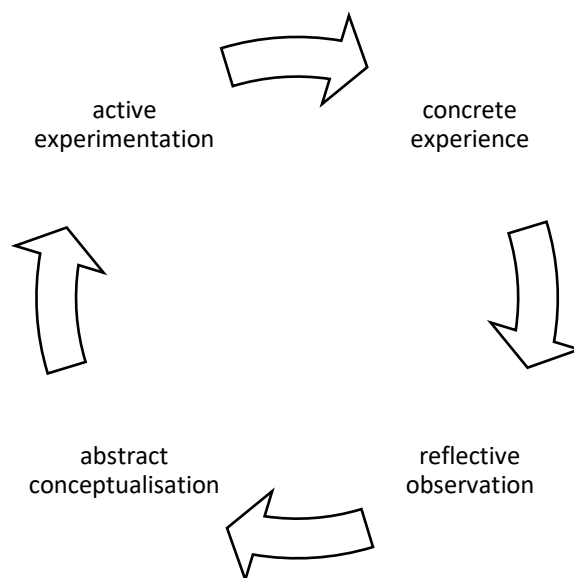


Figure 9: A visualisation of the 4 stage process of experiential learning. Source: (Adapted From) <http://www.simplypsychology.org/learning-kolb.html>

dependent upon learner's abilities (148). For example active involvement in the experience and ability to engage in reflection increase the likelihood of learning occurring.

Furthermore, analytical skills for conceptualisation are important, as are problem solving skills and ability to act on analysis of experience.

Unlike transformational learning, researchers argue that learning is a process as opposed to an outcome (116). However, like transformational learning, it considers learning a holistic process of adapting to the world that involves thinking, feeling, perceiving and behaviour. It is argued that the holistic nature of experiential learning theory fits well with the complex international learning environment. It also considers learning a continual process where new knowledge, ideas and perspectives are continuously integrated. Ng, Dyne & Ang argue that this theory provides an insight into why people do not learn equally from the same environment (116). The authors propose that those who learn the most from international experience are those who engage with the complete cycle. They also propose individual differences that affect ability to learn on international placements, such as cognitive abilities, self-esteem, personality traits (openness and consciousness) and competencies (e.g. seeking and using feedback). It is also argued that cultural intelligence affects the way people learn from international experience, with high levels of cultural intelligence predicting higher levels of learning. Interestingly, Ng, Dyne & Ang suggest that learning is either a process (experiential learning) or an outcome (transformational learning) and that the two concepts are not compatible (116). However, the experiential learning process could result in a transformational outcome (a change in perspective). After observing and reflecting upon an experience and individual may well have an outcome of a changed perspective. For this reason I argue that each theory of learning should not be compartmentalised but rather different theoretical perspectives should be considered holistically to try to understand international placements and the key components of the learning environment that facilitate PPD.

Both of the above theories attempt to provide a theoretical structure to the way learning happens in an international context. Both propose slightly different view- points but suggest learning happens when the new experience is integrated with existing knowledge, perspectives and beliefs. Both theories provide a foundation to understand the general learning that is reported on international placements, such as the development of a new- perspective (13,16). However, with many different learning outcomes reported in the

literature, a wider theoretical search should be undertaken to fully understand the greater experience that encompasses many more skills, knowledge and attitudes. The following discussion considers the components of an international context that may affect learning and how these fit with other theoretical perspectives of learning that have not to my knowledge been examined in regards to British health professional learning on international placements.

2.9. Theoretical hypothesis and summary of contextual factors

One theme that seems poignant throughout the literature is that the learning that happens in an international context is informal by nature, hence not taught in typical academic ways (transfer of secondary explicit knowledge) (11,14). It has a much greater reliance on tacit knowledge transfer (knowledge that is difficult to verbalise or write down); which makes it difficult to measure. Marsick & Volpe argue that informal learning can be characterised in the following ways: integrated with daily routines, triggered by internal or external jolts, not highly conscious, haphazard, an inductive process of reflection and action and linked to the learning of others (149). This categorisation of informal learning seems to match the majority of the learning reviewed in this review.

After reviewing many of the key components of an international context and how different theories believe these components influence learning, it is clear that no one theory of learning that can be used invariably. It seems that different components of international contexts may facilitate the learning of different skills. This will result in a cumulative professional and personal development that is different for each individual. Whilst some aspects of the experience may result in transformational learning (and a change in perspective), it may be that some skill and knowledge development happens in line with other theories. For example, it could be that deliberate practice theory accounts for some of the clinical skill acquisition. Whilst Bronfenbrenner's theory may be applicable to some of the cultural learning. Learning of problem-solving, decision-making and innovation learning may happen as a result of experiencing challenges; which could be theorised to happen as a result of experiential learning, or learning within the zone of proximal development. Finally, some of the social learning that is reported could happen as a result of being immersed in a new community.

The theories may not be so compartmentalised, there are parallels to be drawn between theories and it could be that the effect of being in an international context facilitates learning in numerous ways, for example cultural knowledge could be developed through experience within a new community of practice. However, the learning that may happen whilst in the community could be experiential and the greatest learning could happen when an individual engages with the 4 components of the experiential learning cycle and reflects on the novel situation. Similarly clinical skill acquisition in regards to a rare procedure could develop through a combination of deliberately practising a skill, experientially practising alongside others and also through being in the zone of proximal development with the help of a more knowledgeable other.

There is not enough compelling evidence in the existing literature to provide a substantial argument that centres on one specific theory, therefore I hope that the results of the research allow for greater exploration and for theoretical conclusions to be made later in the thesis. Hence, an exploratory series of studies will be undertaken in future chapters.

2.10. Existing measures of healthcare professional learning/PPD on international placements

The beginning of this chapter discussed ‘what’ learning is believed to happen as a result of international placements. The preceding section then explores ‘how’ this might happen. This subsection will address the current measures that exist to assess this learning on international placements. A key focus of this thesis is whether the concept of learning or PPD on international placements is amenable to empirical quantification. More simply: can experiences of learning on international placements be reduced and quantified in a meaningful way?

Through my systematic search, grey literature search, conference and global health meeting attendance I identified a number of measures that currently exist to assess the learning on international placements, however none of them seem to be a perfect fit for purpose. I intended to measure non-clinical learning of all health professional cadres in the NHS. I was looking for a quantitative measure that will produce the metrics required by the funder (HEE). I was also looking for a validated/reliable measure that tests the domains discussed in this literature review. Table 1 displays the existing measures that I found and how they relate to each of my requirements: quantitative, all professional cadres, NHS/British staff, valid/reliable and thematic domains.

2.10.1. Requirement 1: Quantitative/Qualitative

As I stated in the introductory chapter, I needed a quantitative measure that will allow for large scale metrics, pooling and comparison of data. This is necessary to allow policy makers, trusts and professionals to evidence learning in LMICs. Most of the measures reviewed in table 1 are quantitative, with the exception of Longstaff and Kiernan (24,150). The Longstaff (150) toolkit has a primary focus of encouraging self-reflection in regards to learning, hence is proposed to be used as a tool for individuals to measure and monitor learning as opposed to generation of large-scale metrics. Kiernan (24) proposed a structured qualitative interview; which again is not an effective way of generating large-scale metrics. The Jones et al. (13) systematic review article provides a framework of domains that are present, rather than a measure, so does not have utility as a measure of learning (13). The other measures produce quantitative data with the potential to generate large scale metrics.

2.10.2. Requirement 2: Population

All of measures, with the exception of one (151), are intended for use by, or used on healthcare professionals. However, two measures are specific to General Practitioners (GPs), one is even more precise and focuses on Trainee GPs (24,44). On the contrary, the International Volunteer Impact Survey (IVIS) was designed not be profession specific, this is not restricted to healthcare professionals and can be used to measure any professional learning on international placements (151). The DREEM and D-RECT are intended to be used by residents and consider the ‘learner’; which is likely different to a qualified professional, with no deliberate intention to learn.

2.10.3. Requirement 3: Country

All of the measures, with the exception of one (151), are intended to be used by NHS staff from the UK. The IVIS was developed in the USA and was not specific to British or NHS staff (151). The DREEM and D-RECT are primarily used for HIC environments and may not capture what makes an LMIC different (152,153).

2.10.4. Requirement 4: Validity/Reliability

To my knowledge only a few of the measures were tested for reliability and validity, the IVIS (151) is the only one that concerns volunteers. THE DREEM and D-RECT have been tested for validity and reliability but not on a qualified professional population (152,153).

2.10.5. Requirement 5: Domains

All measures besides one look to explore numerous domains, (Young et al., (44) assess only the leadership domain). Of the four themes outlined earlier in this chapter, communication is a specific domain in two measures (13,150), leadership is explicitly in two (13,150), cultural learning is not specified anywhere and personal development appears in 2 (13,150). However, leadership (for example) could be labelled in numerous ways so it could be included within a domain or weaved through multiple domains, as such skill sets likely aren't isolated. Only two measures include domains concerning contextual components of learning environments (DREEM and D-RECT) however these do not account for learning outcomes too (152,153).

2.10.6. Summary

When considering all five requirements there is not one measure that meets all of my pre-determined requirements. For example. the Jones et al., (13) framework does not contain an explicit measure so it has no utility without adaptation (13). The Young et al., (44) measure only looks at one domain, so is too specific. Whilst the IVIS meets requirements in terms of quantitative utility and reliability/validity, (151) it does not focus neither on Healthcare professionals nor British/NHS staff. On the other hand, the Longstaff toolkit focuses on the relevant population, but is not valid or reliable (150). Finally, the Kiernan et al. (24) measure focuses on NHS professionals, however it is too specific and is developed only for one professional cadre, GPs (24). Therefore, there is not a quantitative tool which assesses learning, is developed in a valid way for UK health professionals, of various cadres regarding learning on international placements.

Table 1: Existing measures or frameworks that have relevance to this research

Name of Measure /Paper and Author	Qual/ Quant	Population	Cou ntry	Reliability/ Validity	Domains included	Description
Toolkit for the collection of evidence of knowledge and skills gained through participation in an international health project- Longstaff (150)	Qual and Quant	All NHS Staff	UK	Not tested	Communication, Personal and People Development, Equality and Diversity, Service Improvement, Project Management, Developing Leadership Skills	Reflection Tool and section with pre and post scores out of 10 (retrospectively)
Measuring Volunteer Outcomes Development of the International Volunteer Impacts Survey Measuring Volunteer Outcomes: Development of the International Volunteer Impacts Survey – Lough et al., (151)	Quant	All volunteers-any profession	USA	Cronbach’s Alpha	Motivation, international contacts, intercultural relations, open-mindedness, global identity, international understanding, civic activism, community engagement, media attentiveness, financial contributions. Social skills, second language ability, internationally related life plans	90-item validated questionnaire
International work and leadership in UK general practice- Young et al., (44)	Quant	NHS GPs	UK	Not tested	Leadership	Cross-sectional Survey about leadership development using MLCF
Evaluation of effect on skills of GP trainees taking time out of	Qual	NHS Trainee GPs	UK	Not tested	Confidence/independence, Use of resources, Better at	Structured Interviews mapped against

programme (OOP) in developing countries. Kiernan et al., (24)					teamwork/partnership/community/resources/multidisciplinary Team, Understanding of different healthcare Systems, More of an understanding/appreciation of health promotion, More mature approach to practice, Holistic exposure whilst working in different country allows holistic practice back in the UK	RCGP trainee e-portfolio
'Do health partnerships with organisations in lower income countries benefit the UK partner?' Jones et al.,(13)	Not a measure	All NHS Staff	UK	N/A	Clinical Skills, Management Skills, Communication and Teamwork, Patient Experience and Dignity, Policy, Academic Skills, Personal Satisfaction and Interest	Framework to categorise benefits of NHS health partnerships
DREEM for Residents. Filhol et al (152)	Quant	Residents		Cronbach's Alpha, other test-retest measures	Measures of the learning environment for surgical residents. Subscales: students perception of learning, students perception of teachers, students academic self-perceptions, students perception of atmosphere, students social self-perception	50 items, 5 subscales
D-RECT (Dutch Residency Educational Climate Test) Boor (153)	Quant	Medical Residents		Cronbach Alpha, Generalisability Analysis	Educational atmosphere, teamwork, role of speciality tutor, coaching and assessment, formal education, resident peer collaboration, work is adapted to residents competence, accessibility of supervisors, patient sign out	50 items, 11 subscales

2.10.7. The necessity for metrics

Chapter one described how international placements are rarely recognised as professional development activity and is often seen solely as a means of helping those in poorer economies (14). However, almost unanimously papers reporting on international placements describe an element of resulting PPD (13,17,19,82,154). As a result of the lack of recognition, many professionals find it difficult to obtain support to volunteer and report lack of recognition upon return (48). Furthermore, health professionals that volunteer abroad predominantly do so using annual leave, rather than recognised study leave for continued professional development (13,41). Hence, this experience is rarely recognised as professional development and there is currently no standardised way of recording, measuring or assessing this learning; which could make it easier for professionals to validate their experience. Therefore, generating metrics about the elements of PPD and the variables that affect this PPD would generate evidence that could be used by policy makers, trusts and professionals themselves to evidence the worth of LMIC international placements for PPD.

2.10.8. Problems with measuring broad outcomes

The beginning of this chapter describes the large body of predominantly qualitative literature exploring ‘what’ and ‘how’ healthcare professionals learn from temporarily working or volunteering in a low-resource setting and how this might be different to their learning in the UK. However, this literature focuses on broad areas of personal and professional development, with leadership, communication and cultural awareness being frequently reported (13,22,44,47). Existing literature tends to focus on one of these skill sets in depth or to report lists of outcomes using broad labels such as communication or leadership (13,71).

The literature reporting thematic PPD outcomes has been useful, in providing support and evidence for the benefits on international placements. However, such outcomes are not amenable to psychometric measurement. Researchers have found that self-assessment of general or broad character traits and skill is not closely linked to objective performance in tasks that typically indicate those traits and skills (155). Self-assessment literature suggests that individuals find it difficult to accurately assess themselves in relation to ambiguous or ill-defined traits, (156,157). For example, individuals tend to exhibit an ‘above average effect’ in terms of identifying themselves as sophisticated or idealistic, as opposed to traits that are more constrained in meaning such as athleticism or punctuality. Therefore, in

order to measure these PPD outcomes, they need to be re-presented at a much more granular level.

When using self-assessment to measure skill, it is important that measured items are unambiguous and clear (158,159). If items are unclear discrepancies may arise between individual perceptions of each item (159). Communication for example, may be interpreted or perceived slightly differently by each respondent. Asking a returned professional whether their communication skills improved as a result of an international placement is open to each individual's perception of what exactly 'communication' encompasses. A questionnaire that asks whether the international placement has improved ability to 'communicate difficult ideas with senior people' is less likely to be open to individual perception discrepancies than 'communication'. Therefore, understanding and outlining the low-level, high specificity components that make up the broadly categorised benefits of international placements will allow for the development of a more accurate self-assessment tool. Literature argues that it's essential that items presented in a self-assessment tool are relatively constrained in meaning (155,157,160).

To explore further the problem of describing benefits using complex, general terms, I will use the example of 'leadership'. The lack of precision in the definition of 'leadership' was first pointed out over 40 years ago (161). Since then many attempts have been made to classify leadership into its constituent components (162,163). Yet still, the domain of leadership is largely referred in its entirety in much of the international placement literature, (16,41). For example, stating 'staff develop leadership skills', would suggest that all components of leadership are equal, existing in equal levels and increasing/decreasing at the same rate. However, the complex construct of leadership is open to pre-existing ideas within each individual. It was traditionally argued that leadership comprises six factors: technical competence, planning, organisation and execution of policy, work habits, adjustment to the job and co-ordination and integration of activities (164). By only referring to leadership as a single domain in the HPIP literature, authors suggest that someone who is technically competent is equally competent at planning. The items extracted from the meta-synthesis in the previous chapter, shows 'ability to plan and organise', 'ability to be professionally competent' and 'flexibility and adaptability' may be separate, individual domains, as opposed to a single domain of leadership.

To highlight this further take the similar complex domain of ‘clinical skills’. It would never be argued that one placement overseas would develop every clinical skill. Presumably, as clinical skills (e.g. stitching or inserting a catheter) are much better defined, easily assessed and less open to interpretation. Whilst certain domains may develop that underpin all components of leadership, and some items may be related, it cannot be assumed that international placements develop all components of the complex skill set. By disentangling these generalised complex terms and extracting outcomes at constituent component level, I can explore exactly which components develop as a result of international placements, and which do not.

2.11. Summary

2.11.1. Understanding the PPD outcomes of international placements

Within the literature described above, I found four key thematic outcomes of international placements: leadership, communication, cultural and personal. However, within each of these there are concrete examples in the literature of potential specific outcomes.

Therefore, literature presents items a high level (e.g. communication) or a level specific to individuals (e.g. ability to engage with senior midwives).

2.11.2. Understanding the negative outcomes

In addition to the many benefits, literature has proposed numerous costs. For example many professionals have to take locum, bank or agency positions upon return/before departure. Literature so far has discussed the costs, but there has to my knowledge been no collective data set, that describes the frequency and extent of such costs.

2.11.3. Understanding the contextual differences between an international and UK learning environment

At the start of this chapter I describe some of the learning reported in the literature and proposed reasons why authors suggest this happens. At the end of this chapter I discussed the contextual components of an international environment and how this related to theories of education. To my knowledge, there is no theoretical exploration of PPD outcomes for health professionals in LMICs. I described the application of transformational learning to international volunteering (proposed by Fee and Gray (33)) however, the theoretical understanding of health professional learning is very much in its infancy. There is no defined list of the contextual differences between LMIC and UK environments and how

this may affect learning. More exploration of the theories that may underpin this learning phenomenon is needed.

2.11.4. The necessity for an agreed upon set of outcomes/measurement tool

I have described how the literature presented broad thematic outcomes; which are not amenable to self-assessment measurement. I have also shown how there are lower level granular outcomes reported in the literature but that these have not been synthesised or analysed. Therefore there is no agreed upon set of outcomes that could be measured consistently when looking at learning on international placements. The existing tool have different purposes and none meet the objectives of my research.

2.12. Conclusion

Whilst there is lots of academic and non-academic research, literature and reports about the outcomes of international placements, little is empirically based. Even some academic publications are individuals stories and involve little or no empirical research (41,68).

Whilst this is useful as it provides insightful accounts and individual's opinions, it is difficult to collate, compare or analyse learning outcomes.

There is a considerable interest in systematically exploring the learning outcomes to answer questions about what experiences result in what type of outcome(s). This would assist in the recognition of these activities as educational development as opposed to a corporate social responsibility activity, a holiday or for personal gratification (13,48). Understanding 'what' is gained would be crucial to generate specific intended learning outcomes for training and continuing professional development. Understanding 'how' it is gained (under what circumstances) would result in an understanding of how to maximise the gain. Furthermore, a tension often exists between UK healthcare professionals and local international staff, as the intentions or role of healthcare professionals and students is often not explicit (28–30). Understanding what is gained, and how, could help make these 'contracts' more explicit.

This chapter has discussed what the learning outcomes might be, how they might develop in LMIC learning environments and existing measures. The next chapter describes how research can be used to answer the questions raised in this chapter and the methodological approaches I used.

3. Methodology

3.1. Introduction

In chapter 2, I discussed the personal and professional development (PPD) outcomes of international placements reported in the literature and how an international context might facilitate learning. I reiterated the need to answer the research questions of ‘what’ specific learning happens and how an international context facilitates health professional learning. In this chapter I outline the methodological and theoretical underpinnings of the thesis. I discuss the ontology, epistemology and research paradigms used. I discuss the reasons for choosing my methodological approach. I conclude the chapter with a discussion of psychometrics and item response theory; two methodological positions which underpin the methods used throughout this research.

3.2. Ontology, epistemology and research paradigms of inquiry

Methods of inquiry regarding any particular subject are based upon assumptions about the nature of reality being studied, how reality can be ‘known’ and therefore which methods are most appropriate to build knowledge of this reality (165). These major assumptions make up what is sometimes named an inquiry ‘paradigm’, paradigm issues are generally philosophical (165). Essentially the paradigm is a way of looking at the world and considering how enquiry should be conducted.

These inquiry paradigms address three fundamental questions: what is the nature of reality (ontology)? What is the theory of knowledge and how can truth claims be made (epistemology)? Finally, what methods can be used for studying reality in the social world (method/ology) (165)? Methodology is the theory underpinning methods, whilst methods are the specific steps that the researcher chooses to conduct inquiry of a particular topic.

Whilst this thesis will not provide an in depth theoretical exploration of epistemology, I will clarify my position to explain how it underpins my methodological approaches. Epistemological approaches can be split loosely into two broad approaches (ways of conducting research), known as objective and subjective epistemological approaches (166). The difference between the two approaches is the concept of the nature of claims of truth or how knowledge is gained about the world (166). Early research in social science was often aligned with positivist, objectivist epistemologies due to the influence of natural

science (167). This approach is often described as a way of limiting understanding of the social world to what is measurable or observable (168). When epistemological approaches can be considered a continuum as opposed to absolute positions, the other half of the epistemological spectrum (subjective epistemologies) would be characterised by constructionist, interpretivist and hermeneutic perspectives with postmodernist deconstruction approaches at the extreme end (169). This side of the spectrum considers the social world as constructed to varying degrees.

Positivist epistemologies assume everything in the world can be accounted for objectively and science is used to describe and explain the phenomenon (170). Objectivity is a research ideal, where the researcher is removed from the ‘body of knowledge’ and ontological objectivity is often related to the existence of an objective truth that can be measured and observed (171). Within the positivist epistemological spectrum lies post-positivism. This is similar to positivism, but accepts that the researcher can influence what is observed (172). So it acknowledges that the researchers shapes the process and they are not edited out. It therefore accepts that some knowledge is constructed to a degree. Whilst post-positivism sits at the objectivist end of the metaphorical spectrum, it is not as objectivist as positivism. It allows for some acknowledgement that the social world is constructed to a degree.

3.3. My position: post-positivism

The epistemological position that I chose to underpin this thesis is post-positivism. Ontologically, post-positivists hold beliefs, like positivists and that a ‘reality’ exists, though they argue that it can only be known in an imperfect manner. Epistemologically, post-positivists believe that knowledge is not based on indisputable, definite foundations, but rather upon human conjectures (estimations/guesses) (173). Post positivism is not a form of relativism, and generally supports the concept of objective truth. Relativism, on the other hand, is the notion that points of view have no absolute truth, but rather are subjective, relative and dependent on differences in perception (174).

Post-positivism challenges the notion that the observed and the observer (researcher and participant) are independent. It assumes researchers are actively constructing scientific knowledge rather than passively observing the natural world. Yet like positivists, post-positivists pursue objectivity by identifying the existence of biases. While positivists consider the researcher and the researched to be independent of one another, post

positivists accept that background, knowledge, theories and values of the researcher can affect what is observed and how findings are generated. The idea of post-positivism began with a natural scientist: Heisenberg's critical principle (175). It was based on the idea that it is impossible to determine the position and momentum of a subatomic particle, therefore future states cannot be predicted. If it is impossible to predict the future state of a subatomic particle then human behaviour and social interactions should be equally as troublesome to predict.

In this regard, interpretivists have a similar view of reality to post-positivists, for example they believe there is a material reality and the difference is how we interpret it (176). I chose post-positivism, as the epistemological approach underpinning/guiding this research; because I attempted to measure learning on international placements, something that is often considered complex and constructed. My choice to use measurement techniques and therefore 'subscribe' to the idea that human experiences can be measured and reduced to numbers very much reflects the positivist world view, that a single reality can be observed and measured (170). This series of studies will involve reducing social situations and human experiences into something quantifiable. Whilst other epistemological stances may also argue that reality can or cannot be measured, my research attempts to understand whether this reality is amenable to quantification using self-assessment measures (or which components of it are). The purpose of this thesis is to essentially reduce and capture the learning that happens on international placements and in order for this to be successful a less-problematized view of reality must be assumed; which is associated with post-positivist epistemology. I recognise that a purely positivist epistemology, that disregards individual constructions of reality, may encounter numerous criticisms and may not lend itself well to measurement of human experiences. I also recognise that this approach is largely in line with non-human, non-social phenomenon that is used in physical sciences (167). So instead I adopt the post-positivist view to accept that individual views of reality may influence learning as a social phenomenon, but still hold an epistemological stance that allows for a degree of reductionism and is less problematized and therefore allows for measurement. The reasons for the methodological choices are to follow, as well as an outline of the specific methods of inquiry used in this thesis.

3.4. Qualitative and quantitative Methodologies

As previously stated methodology refers to the methodological choices made to best answer the research question, or theory underpinning the methods. There should be a logical connection between the research question and the chosen data collection method (165). In today's research environment, where quantitative and qualitative methods are used alongside each other, the match between question and methods is even more important. This methodological distinction usually begins with the type of data produced in the research inquiry.

There are two main methodological approaches, quantitative and qualitative. Quantitative approaches to social science were derived from the scientific methods used in physical sciences (167). It is often described as objective, formal and systematic and uses numerical data (167). It uses a process of deductive knowledge attainment (177). A deductive approach to research usually involves testing an existing theory or hypothesis.

Quantitative methodologies typically test theory deductively using inferences from existing knowledge by developing hypothesis and testing them (167). Whilst qualitative research is largely inductive, this involves a bottom-up approach whereby a new theory is often generated from the emerging data. It is often guided by ideas and perspectives regarding the topic area. There is no immediate intention to quantify or measure statistically, but they are described instead using language (167).

There has been an historical bias towards quantitative research methods, especially in the medical field (167). It has been argued that historically quantitative methods produced 'hard data' and scientific answers. Qualitative methods were sometimes described in the past as inadequate in providing answers and this data were frequently labelled 'soft' (178). It has been argued that even the difference in the labels 'hard' and 'soft' suggests a superiority of quantitative methods (179). Historically qualitative methods were used for the discovery of concepts to be tested later (quantitatively) or for post quantitative explanatory work (180). Qualitative work has historically been considered an important exploratory technique, which is why it often only precedes or is conducted after a quantitative study; which was historically believed to produce 'hard data' (178). Bockmon & Riemen argue that this made publishing qualitative research in traditional nursing journals before the 1980s difficult (181).

As time has progressed the traditional quantitative approach to social science research has been questioned. This was accompanied by the growth of qualitative research. This resulted in a split in the field, often described as a quantitative-qualitative debate (165). In the early stages this was often characterised by an either/or approach (165,182). Yet in the last few decades there have been moves towards a more combined approach, mixed methods research (182). Whilst the debate is more complicated than qualitative-quantitative these are the main two data categories for social science research. In the past qualitative research was considered somewhat marginalised, yet with its recent development, many new and different paradigms have been exposed (165,180).

Both quantitative and qualitative research methodologies have strengths and potential limitations; and consequently each serves different purposes. Parahoo (183) identifies three types of quantitative research: descriptive, correlational and causal; causal/experimental (184). Experimental research is often regarded as the ‘best’ quantitative method for generating reliable findings regarding the effectiveness of a treatment of medical intervention (185–188). Within this category lies the Randomised Controlled Trial; which is often regarded as the ‘gold standard’ of evidence for healthcare related findings and subsequent decisions (189). The literature seems to suggest that the reason that experimental research holds this superior status may be related to the control used. Experimental research has strict applications of standard procedures that are thought to reduce bias and remove erroneous conclusions (control) (190,191). Control can be applied in one or many ways, examples of this could be: random sampling, inclusion and exclusion criteria, using a control group, matching participants across conditions, intentional manipulation of the independent variable or single/double blind procedures. If every component of the research environment were fully controlled, the strength of quantitative research is often determined by the researchers ability to state with confidence that the outcomes can be attributed to the effects of the experiment (177,192). Therefore, in environments that can/must be controlled or manipulated quantitative research is fit for purpose, for example drug trials. However, when exploring social phenomena, a purely quantitative approach may not be as appropriate. Theoretically there is no definitive consensus in regards to how individuals learn (33,121,135), so trying to control all of the variables that may affect learning would prove difficult. It may be that accounting for these variables is necessary, but the level of control needed to ensure the outcomes can be

attributed to the effects would prove difficult until more is understood about learning on international placements.

Quantitative research, despite its uses, also has many limitations. It could be argued that quantitative research is not fit for an in-depth exploratory analysis. One major argument against quantitative methodologies is that it is reductionist (192). This does not fit well with explorative research questions, such as those proposed in this thesis. As experimental research relies heavily on removal or control of extraneous variables, this can also be problematic. In striving to achieve reliability and internal validity (reduction of bias), the research environment runs risk of becoming so false that it loses external validity (generalisability) (193). For example, in order to control variables many studies use inclusion and exclusion criteria, for example a study of end of life care concluded that results could not be generalised to families that failed to meet the criteria (194). It has been argued that this reductionist approach is incongruent with humanistic philosophy generally adopted by nursing and other health professionals (193). Using a purely experimental, reductionist approach could therefore lose 'buy-in' for research, as a large number of stakeholders are nurses and health professionals, who may have a humanistic philosophy. It has also been argued that quantitative methods cannot be applied easily to some of the topics studied in the nursing and health professional fields such as patient care; which is often described as difficult to measure or manipulate (179,184,187,193). Therefore, it may also not be the best fit for studying learning on international placements. Hence, quantitative research does not fit well to environments that cannot be controlled or manipulated or for describing social phenomena with too many variables to control.

Qualitative research is also not without flaws. Unlike in quantitative research, the skills of the experimenter are much more influential, as are their biases (195). Epistemologically, qualitative research lends itself to much more constructionist epistemologies with notions of multiple truths. It is argued, that by disclosing rather than concealing the researcher's personal involvement and by analysing interpretations according to their impact, qualitative research alters the goal of quality control from revealing the objective truth to understanding individuals (196). Whilst the premise of quantitative research rests on the researcher's ability to control extraneous variables (192), this is much more difficult in qualitative research. It could even be argued that extraneous variables could provide critical elements of context, making them difficult to identify. This element of context is important for one research question in this thesis, how an international context facilitates

learning. Qualitative research is often criticised for having a lack of rigour or control; which is difficult to maintain and assess (195). Literature argues that although there are examples of fine qualitative research, there is little explicit discussion of how it can be made rigorous without losing value (197). Qualitative research is often criticised for failing to make explicit guidelines regarding reliability, validity, and objectivity criteria that are adequate for scientific research (197). It is important in my study that the methods chosen have a level of reliability, validity and objectivity as the output will likely be used by policy makers. Furthermore, it is often argued that qualitative research lacks external validity, as it is often gathered from a small number of individuals, it is difficult to generalise the findings to others (195). This is also problematic for my study, as it looks to influence policy by using a large sample size that is generalisable. Therefore, qualitative research may not be the best fit for research that is to be applied to a wider population; and may be much more suited to describing individual experiences. But, it may also be more suited to situations in which variables are difficult to control and context is important; which is the case in this study.

In summary, in regards to my research questions a purely quantitative or qualitative methodology, may result in limitations that would compromise the effectiveness of the study. Both have numerous strengths and limitations. Using a combination of the two methodologies may alleviate the limitations and allow me to capitalise on the strengths that each have to explore the concept of learning on international placements.

3.4.1. Mixed methods methodology: The best fit

As the above discussion highlights, both qualitative and quantitative methodologies have strengths and weaknesses making them more or less appropriate for different research questions. My thesis looks to capitalise on the best uses of each whilst minimising the effects of the limitations of each. The field of mixed methodology is about 25 years old (182). It has a core assumption that combining statistical trends (quantitative data) with personal experiences (qualitative data) results in a collective strength that delivers a better understanding than either method alone in the correct circumstances (182). This fits my research as it is important not only to gather existing qualitative data regarding the outcomes of international placements, but to reduce these into a measurable format to present statistics to encourage policy change.

Three types of mixed methods research exists (182), firstly, convergent: to collect quantitative and qualitative data sets at the same time, analyse both and merge the results.

Secondly, explanatory sequential design: to first gather quantitative data, then to use qualitative methods to help explain the quantitative results. Finally, exploratory sequential design: which begins with an initial qualitative exploration. The researcher then builds a second quantitative phase of the project. This often involves designing an instrument to measure variables.

A deductive approach to research would not adequately answer the research question, as little is published about the learning outcomes of international healthcare placements (13). So, it would be impossible to develop a hypothesis grounded in published literature and theory. This means that an inductive approach to the research question was chosen as a way of initially developing a body of knowledge regarding the research question. Once this inductive approach has taken place a deductive approach can be used later to test whether the data generated inductively is generalizable across the wider population (all healthcare professionals). My thesis will use an exploratory sequential design, an initial qualitative exploration, followed by a secondary quantitative phase of the project, testing what has been discovered inductively on the population. Literature argues this methodology is the best fit for exploratory research questions (182). The methodology fits with post-positivist epistemology in the sense that it gathers data from individuals with the view that it is not truth nor indisputable.

Mixed methodology is particularly useful for my research as it allows for exploration of a topic that has little empirical findings (13). It is also useful for my research as it spans academic and disciplinary boundaries, the participants in the study and those intended to use the output/ utilise the results of the study will be from various disciplinary backgrounds. Whilst medical professionals have a history of using and favouring and quantitative approaches, nursing and midwifery staff are becoming more accustomed to the benefits of qualitative research (185–188,198). Hence using a mixed methodology approach makes the research accessible to all health professionals. This is important as buy-in from these healthcare professionals is essential for the success of the final MOVE project output.

3.5. The psychometric/psychological assessment approach

Psychological testing originates from the efforts of European psychologists to measure intelligence during the late nineteenth century (199). Psychological testing is a relatively

modern science, having only been discovered just over 100 years by Cattell and Galton, Cattell proclaimed the modern testing agenda in his paper entitled 'Mental tests and Measurements' his rationale being that psychology cannot reach the certainty and exactness of the physical sciences unless it rests on an experimental and measurement foundation (200). He continued to proclaim that 'perhaps' tests would be useful in training, mode of life or indication of disease; which is argued to be one of the most prophetic understatement of all time (199). Such tests are now used globally for testing, selection, counselling and used in variety of settings such as schools, universities, medical clinics, industry, civil service (199). This thesis has an educational focus as its look to understand personal and professional development. Psychological assessment and education have had a long standing relationship, beginning with the use of early army tests developed by Yerkes that began the notion of paper-and-pencil intelligence tests (201,202). Therefore, psychometrics and psychological assessment has been used to assess intelligence, aptitude and components of education for the past century.

A test is defined as a standardised procedure for sampling behaviour and describing it using scores or categories (199). Most tests have norms or standards that the results can be used to predict other more important behaviours. Whilst tests can be considerably varied in both format and application, Gregory (199) proposes five defining features: standardised procedure, behaviour sample, scores/categories, norms/standards and prediction of non-test behaviour. In this thesis I developed a psychological test that is standardised by nature, and aimed to capture and sample behaviour (PPD). It did this using scores on a Likert scale (see chapter 7 for a full discussion). How the tests uses norms and predicted non-test behaviour will be discussed in relation to the underpinning Item Response Theory (see next subsection).

In-fitting with the post-positivist psychometric approach, I chose to use a psychometric theoretical and methodological underpinning throughout this thesis. This involves attempting to measure and quantify something that is not always amenable to measurement. The definition of measurement in the social sciences has a long history. A current widespread definition, proposed by Stanley Smith Stevens, is that measurement is "the assignment of numerals to objects or events according to some rule." (203). Hence, this thesis looked to develop a way assigning numbers to the phenomenon of health professional learning on international placements in LMICs.

3.5.1. Latent traits and item response theory

There are a number of paradigms for the design, analysis, and scoring of tests, questionnaires, and similar instruments within the psychometric approach (201). Two of the most common are classical test theory and item response theory. Classical test theory encompasses a group of related psychometric theory that predicts outcomes of psychological testing, for example the difficulty of items or the ability of examinees (204). It assumes that a test will only produce an observed score; which is a sum of the true score plus error. Hence, each person has a true score; which would be their score if there were no errors in measurement (204). Unfortunately, psychometricians never observe a true score, only an observed score; which is subject to error (199). Therefore, the aim of classical test theory is to understand and improve the reliability of psychological tests, but items must be assumed to be exchangeable, so each question is of equal weighting. There is also an assumption that more items create a better measure.

Item response theory (IRT, also known as latent trait theory), on the other hand, looks to model the relationship between latent traits and responses to test items (205). It is a theory of testing based on the relationship between performances on a test item and the test takers' levels of performance on an overall measure of the particular ability that item was designed to measure (206). It is a way to analyse responses to tests or questionnaires with the goal of improving measurement accuracy and reliability.

The word latent, in latent trait, emphasizes that discrete item responses are taken to be observable manifestations of hypothesized traits, constructs, or attributes, not directly observed, but which must be inferred from the responses (205). Trait theory is situated within psychology/psychometrics and is primarily concerned with the measurement of *traits*, which can be defined as habitual patterns of behaviour, thought, and emotion. In line with this perspective, traits are components of personality that are relatively stable over time yet different across individuals (e.g. some people are outgoing, others are not), relatively consistent across situations, and influence behaviour. States are in contrast to traits and are more transitory dispositions (207). Therefore, a latent trait is an unobservable ability or trait, for example intelligence or extroversion (206). However, one aim of this thesis is quantification. So using latent trait theory to underpin my psychological assessment raises the question of how to measure something that is unobservable. Latent trait theory addresses this by using 'indicators', it looks to measure these unobservable traits by measuring things representing such traits, like observed behaviours or responses

to questionnaire (208). For example, you cannot measure someone's social anxiety as it is an unobservable entity, but you could look to see how they interact with others at a party, how they describe their attitudes towards public speaking or how often they attend large gatherings to give an indication of levels of social anxiety.

Item response theory/latent trait theory will underpin the methods used in this thesis; which will attempt to measure the effects that international placements have on the latent traits of British healthcare professionals. I will first look to identify and extract specific behaviours, attitudes, knowledge and skills that could be labelled 'indicators' of the underlying latent traits described thematically in the peer-reviewed literature such as 'communication, leadership and cultural knowledge'. As there has been no identification of the latent traits that develop during international placements these will not be pre-defined but will emerge as a result of the research process. In later chapters I describe how I use statistical models and methods based on IRT to see which 'indicators' best measure the latent traits and develop a final measure that has psychometric utility to assess a list of latent traits believed to be associated with learning in LMICs.

3.6. Research questions

At this stage in the thesis, I have outlined the literature concerning PPD on international placements. I have also outlined my methodological position. Considering all of the information presented so far, I present the following four research questions for this thesis:

- 1. What personal and professional development happens on international placements?*
- 2. What are the negative outcomes of international placements*
- 3. Can personal and professional development on international placements be measured and which components are most amenable to quantification?*
- 4. How do international contexts facilitate learning that is of benefit?*

3.7. Summary

In summary, after analysing the epistemological and ontological perspectives, a post-positivist approach was chosen. Then, after discussing the different purposes that qualitative and quantitative research serve, it was decided that a mixed-methods, exploratory sequential design approach would be the best fit. I described psychometric assessment, in particular item response theory/latent trait theory. I then described how item response theory underpins the methods chosen. I presented the four research questions;

which will guide the following chapter. In the next chapter I discuss the specific methods chosen and rationale for these choices.

4. Methods

4.1. Introduction

In the previous chapters I reviewed literature describing the personal and professional development (PPD) outcomes that happen as a result of international placements. However these outcomes were described and categorised in broad terms. They are also complex, and this complexity makes it difficult to measure quantitatively (this is discussed in more detail in chapters 2 and 5). This subsequently meant that understanding how the contextual components of an international environment affect learning was equally difficult to measure. Whilst the literature reviewed provides lots of support for the beneficial effects of international placements in terms of personal and professional outcomes, the following questions still remain:

- What specifically are the PPD outcomes of international placements for healthcare professionals?
- Do stakeholders agree upon these PPD outcomes?
 - Are there any that are do not happen frequently?
 - Are there any that are specific for certain cadres of staff, locations, environments etc.?
- What are the contextual variables that affect these outcomes?
 - Which components of an international environment produce different learning outcomes than an NHS environment?
 - What contextual variables differ between low and middle income (LMIC) environments and what effect does this have on learning?
- Are there any negative outcomes of international placements?
- Is it possible to define the outcomes in such a way that they are amenable to quantification?

In order to answer these questions, I decided to produce a number of policy-relevant outputs. Figure 10 outlines the outputs I hoped to achieve.

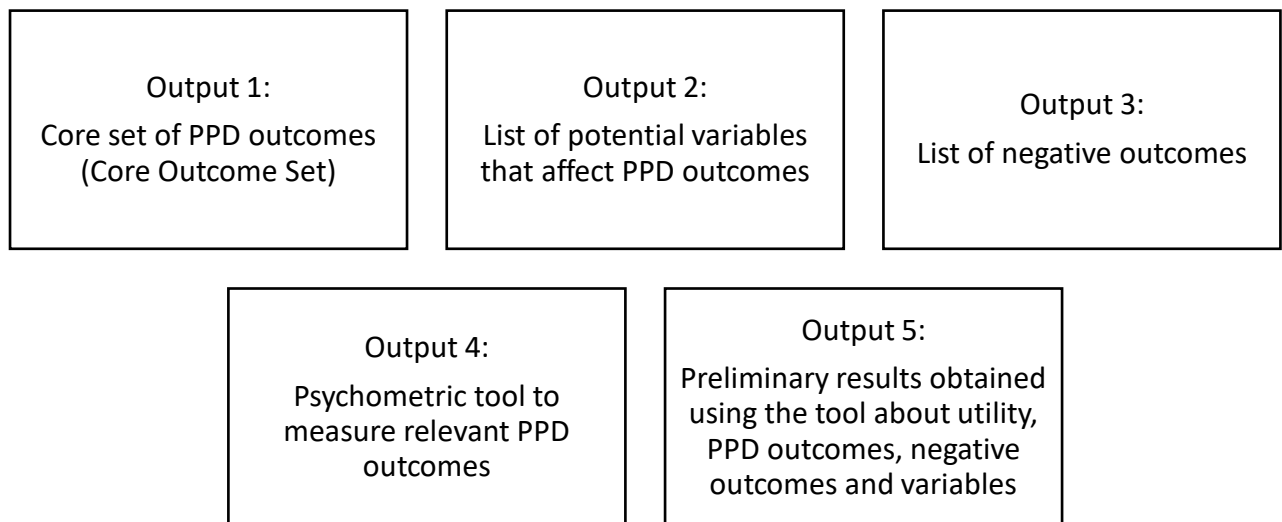


Figure 10: Outputs of this thesis

In order to generate the outputs in figure 10, I selected the methods I thought were the best fit. Figure 11 describes my research aims, the methods I chose to address those aims and the resulting outputs. The remainder of this chapter will describe the rationale for choosing each method and how each output leads to the next methodological decision.

At this stage, it is important to reiterate that the three initial outputs are incremental steps towards the development of a final output: a psychometric self-assessment tool. The purpose of the study was the creation of a tool for Health Education England to assess the potential to generate large scale metrics to inform future policy and develop understanding of PPD.

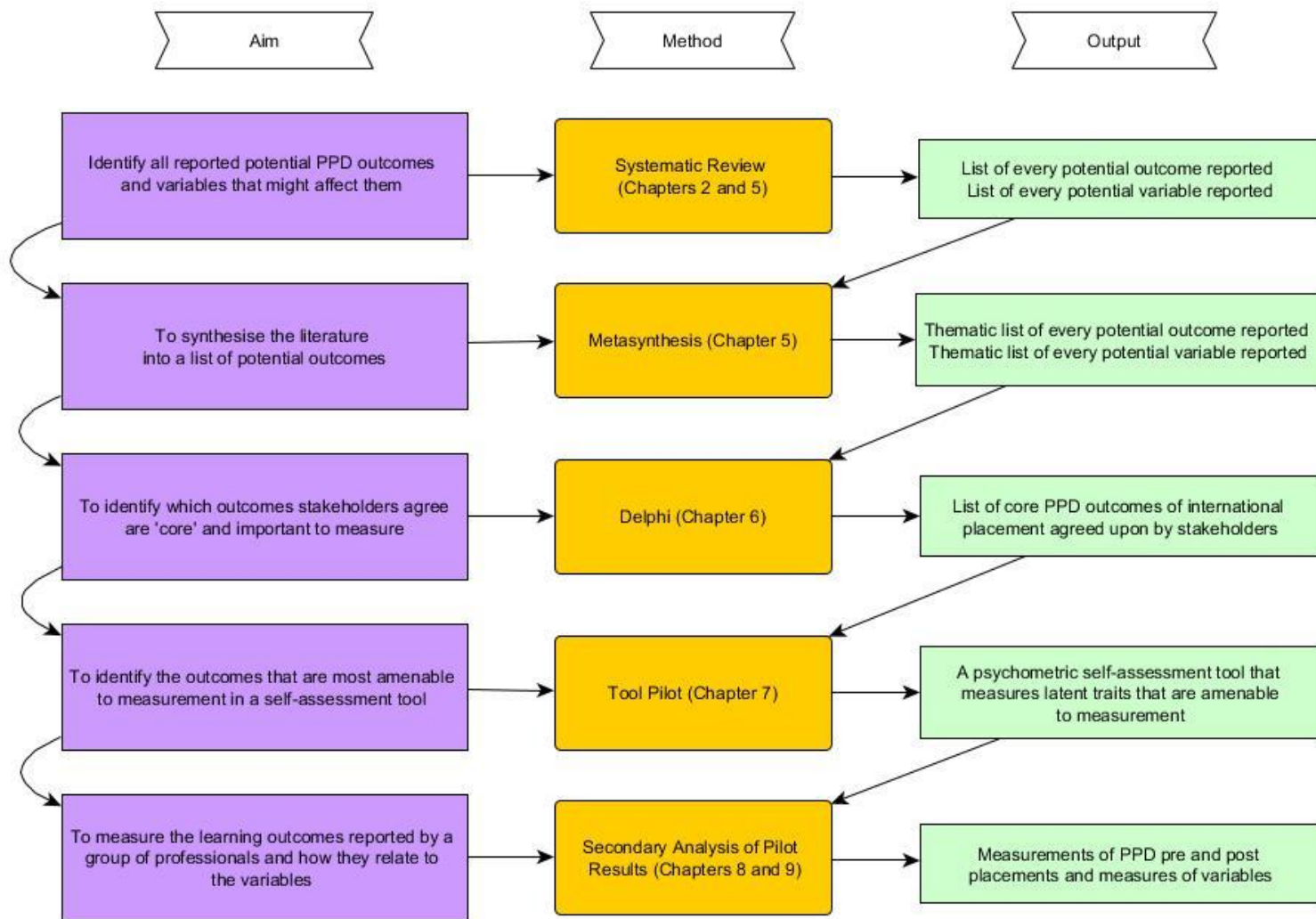


Figure 11: A visual depiction of the interaction between the aims, methods and outputs

4.2. Core outcome sets

I chose to develop a core outcome set as it was apparent from the peer-reviewed literature that there was no comprehensive agreed set of PPD outcomes of international placements in LMICs. Authors either described their own experiences using either personal descriptions of their own specific learning or tried to categorise the learning of participant groups thematically. The result of this was on the one hand, many anecdotal personalised accounts that are profession/gender/age/experience. On the other hand more empirical but vague categories of learning such as communication, leadership and cultural skills; which are ill-defined in meaning. Both sets of outcomes are somewhat immeasurable according to self-assessment literature (155,157,157). Figure 12 highlights the contrasting levels of detail frequently reported in the current peer-reviewed literature.

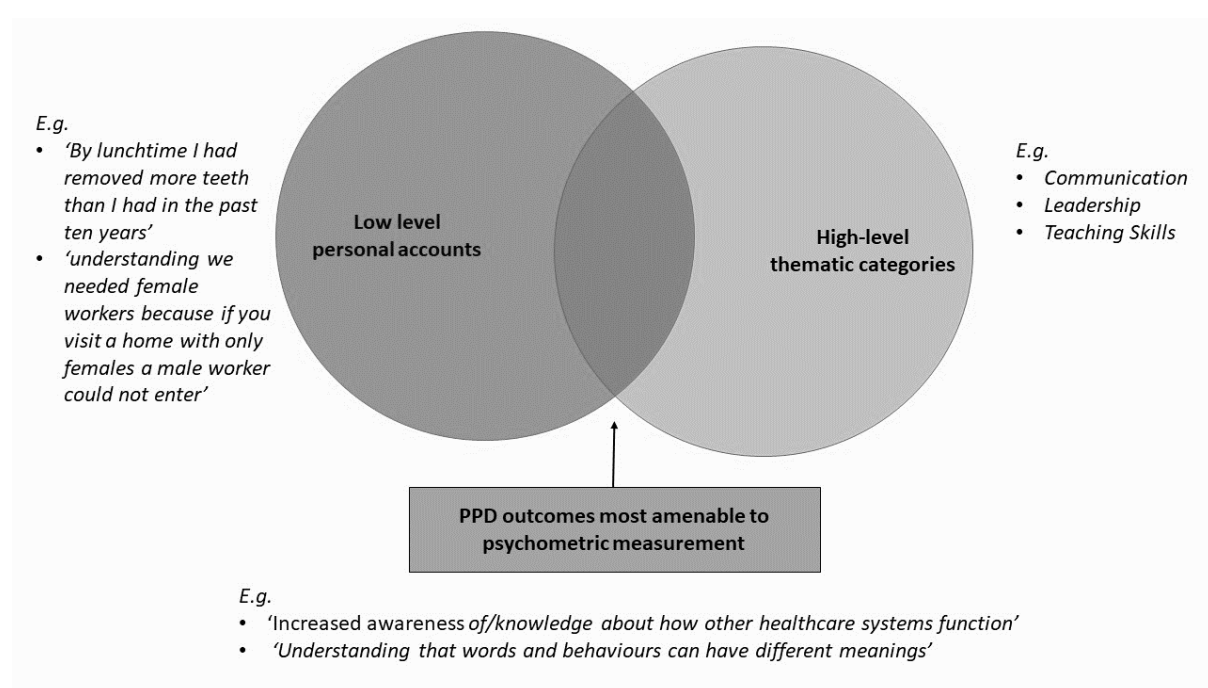


Figure 12: Levels of specificity in the outcomes presented in the literature

4.2.1. Outlining core outcome sets

Core outcome sets are a research output with associated process to combat the difficulties caused by heterogeneity in outcome measurement, that are particularly problematic for systematic reviewers. For example, the five most accessed and the top cited Cochrane Reviews in 2009 all reported problems related to outcomes in eligible trials (209). Core outcome sets propose a solution to the problem of outcome heterogeneity with the development and application of agreed standardised sets of outcomes. The development of

a core outcome set is important for future research to reduce heterogeneity between trials, lead to research that is more likely to have measured relevant outcomes, and be of potential value for use in metrics and audit (210).

Core outcome sets (COS) are a list of outcomes that should be measured when examining a specific phenomenon (for example a clinical intervention or an illness). The COMET (Core Outcome Measures in Effectiveness Trials) initiative describes core outcomes as standardised sets of outcomes that ‘represent the minimum that should be measured and reported in all clinical trials of a specific condition, and are also suitable for use in clinical audit or research other than randomised trials’ (211). Core outcome sets are developed and used by researchers to measure and report similar outcomes (210). Thus enabling comparisons between different conditions or interventions. Generation of a core outcome set requires that people who know about the context of interest (typically patients, healthcare professionals, academics, policy makers and those knowledgeable about the topic) come to a consensus about what is important in terms of outcome.

COS provide a way of addressing heterogeneity in outcomes by combining and presenting this knowledge in a standardised way that can be used in future research. Outcome heterogeneity was evident in the literature I reviewed. Papers either considered one professional group, one particular skill, or a variety of both. For example, Young et al., (44) focus only on leadership outcomes whilst Lough et al., (151) and Briscoe (21) focus specifically on cultural competence (21,44,212). This made comparing and contrasting existing research challenging. Reporting of different outcomes made direct comparison impossible. Synthesis of the peer-reviewed articles highlighted the necessity for a standardised set of PPD outcomes. In order to meet the requirement of policy makers for metrics and evidence regarding the benefits of international placements as PPD activity described in chapter 1, a standard set of reported outcomes was imperative.

A final reason I chose to develop a core outcome set was because the concept of a core outcome set is understood by and familiar to many medical professionals, policy makers and health researchers and are used increasingly in a wide range of research, making it more accessible to the target audience (211).

In summary, core outcome sets are a well-evidenced way of systematically categorising research outcomes into a list of measurable items that are agreed upon by stakeholders to be common, important and applicable across a wide range of settings. COS focus on

combining outcomes that are presented in numerous ways about different things into a parsimonious, measurable list. A final reason for choosing this output is that core outcome sets are also familiar to healthcare professionals, policy makers and researchers so provided an accessible format to present the research.

4.2.2. Methods to develop a core outcome set

The most notable work to date concerning standardisation of outcomes was conducted by the OMERACT collaboration; which advocates the use of core outcome sets, designed using consensus techniques, in clinical trials in Rheumatology (213). Most of the research conducted to date regarding COS development has been concerned with more clinical data sets and randomised controlled trials. I acknowledge that developing an outcome set of measures of learning is not directly comparable to that measuring standardised clinical outcomes such as heart rate, blood pressure or oxygen saturation. But, most COS also contain outcomes concerning patient impact, such as quality of life; which is equally less amenable to classical numeric measurement (214). In fact, advocates of COS recommend them as a way of addressing outcomes that are difficult to measure (210). These notable COS studies propose a series of methods that result in the development of a COS: 1) literature searches and 2) iterative consensus process (surveys and group meetings) of stakeholders. Stakeholders often include patients, health professionals, and methodologists within and outside the subject of interest (213). There are multiple options for both methods and I will now discuss which specific methods I chose and the reasoning for those choices.

4.3. Literature search: exploration of approaches to literature search

As stated previously, the concept of COS emerged from the necessity to combine, compare and measure the heterogeneous outcomes of systematic reviews. Systematic reviews are increasingly replacing traditional literature reviews in many of positivist research as a way of consolidating and summarising research evidence (215). They are increasingly necessary in order to keep up to date with current literature. It is thought that over 2 million articles are published each year in nursing, medicine and allied health professional fields (215). Systematic reviews are one way to allow this research to be summarised.

Systematic reviews can review both quantitative and qualitative data, but when both are reviewed together it is described as mixed methods systematic review (215).

The rationale behind systematic reviews is to use the same amount of rigour in the review of the literature, as is expected in the research being reviewed (215). In order for a review to gain the adjective 'systematic' it must have 'a clearly formulated question, identify relevant studies, appraise their quality and summarize the evidence by use of explicit methodology' (216). It is argued that it is the systematic and explicit approach that distinguishes the systematic review from a traditional research review (216).

I chose a systematic review for numerous reasons. Firstly, systematic reviewing was the reason why COS were developed, so it felt a logical methodological decision based on my chosen output. Secondly, many advocates would argue that it adds rigour to the searching process (215). With this level of rigour, including the forward and backward citation searching technique, I could ensure that I covered most peer-reviewed articles concerning my chosen phenomenon; which was important as I wanted to explore every reported PPD outcome before synthesising. I acknowledge that systematic reviews tend to exclude grey literature, anecdotal accounts and sometimes qualitative methods, however in order to retain some degree of quality to the data being reviewed and extracted, I felt a systematic review would provide a manageable way of refining the data. Although, I did chose to accompany the review with data from specially designed participant workshops and notes from recent conferences to cover any recent findings and stakeholder responses to the specific research question (see chapter 5).

I only extracted qualitative data. There was very little quantitative data reported and what was reported was vastly different in scope. There was no empirical purpose to extract quantitative data that measure different outcomes, often on different populations and in regards to various specific skill sets (13,24,44). This lack of homogeneity was my initial rationale for COS development. Qualitative systematic reviews are becoming increasingly popular and involve a different method of meta-synthesis than traditional synthesis of outcomes from a randomised controlled trial (RCT) (217).

4.3.1. Exploration of synthesis

Most systematic reviews are synthesised in some way. This typically involves the synthesis of numerical quantitative findings, or conversion of qualitative evidence into quantitative data. There is a need to effectively synthesise a range of evidence including

qualitative research, particularly when evidence is needed for policy-makers (217). Qualitative Meta-synthesis is described as an approach to analysing data across qualitative studies (218). It allows the researcher to find specific qualitative evidence that addresses the research question and to synthesize (group together findings from) existing data (218).

4.3.2. Rationale for choosing meta-synthesis

In this study it was beneficial to extract outcomes of every reported study, as there has been relatively little published about PPD outcomes of health professionals. It was imperative to extract a large amount of personal/low-level/specific data; which could be thematically analysed and synthesised. The quality of the data extracted was less important than it would be in an RCT. I was not developing an interpretive conclusion based on the results, but rather creating a set of potential outcomes from the literature that can be presented to Delphi stakeholders later in the process to critique and refine. The stakeholders in the next research phase filtered out anything the majority believe to be untrue, so this provided a layer of quality filter for any data extracted. There are numerous approaches to qualitative data synthesis from systematic reviews, one being a narrative analysis; which is an approach to synthesis of findings from multiple studies that relies primarily on the use of words to summarise and explain the findings of the synthesis (219). As I did not want to interpret the extracted data at this stage, I chose not to use the narrative synthesis approach.

There are other ways of synthesising qualitative data, such as meta-study, meta-ethnography and qualitative comparative analysis (217). None of these fit well with my research question or the data set I expected, for example a meta-ethnography would not be possible with mixed-methods studies. After exploration of potential options, I chose a thematic synthesis approach (as described in Thomas & Harden (220)). The thematic synthesis approach consists of three stages: line-by-line coding of text; development of descriptive themes and generation of analytical themes. For the purpose of this study, I decided that only the first two stages of this process would be necessary. The third stage is the most criticised for being open to the judgement of the researcher (220,221). Due to the nature of extracting constituent components of key categorical outcomes, it was not necessary to generate analytical themes at this stage in the project, as the purpose was the opposite: to comprehend the granular components of themes. However, ensuring that the judgements of the researchers were not imposed was an additional benefit of using only the first two stages. It is also argued that stage 1 and 2 generate a synthesis that is very

close to the original findings reported in the paper (220). This was of particular significance, as I wanted data extracted to be representative of the source to ensure further synthesis is meaningful and characteristic of the original intent. Thematic synthesis was also preferable as it allowed for organised and structured ways of dealing with the literature within each theme (217).

The systematic review and meta-synthesis also resulted in the development of output 2 and 3 in figure 10: A list of potential variables and potential negative outcomes. However, in order to develop output 1 from a list of potential PPD outcomes, to refine a core outcome set, a consensus methodology was needed. There are numerous consensus methodologies, my research decisions and rationales are presented in the next subsection.

4.4. Consensus methods: exploration of consensus methods

When there is little, insufficient or too much information regarding a particular research topic, consensus methods are a means of dealing with conflicting scientific evidence or understudied topics (222). Consensus methods determine the degree to which experts or the general public concur in regards to a specified issue (222). Consensus methods are often concerned with measures of agreement. This takes two forms, firstly the extent to which the individual agrees with the issue specified. Secondly, the extent to which each individual agrees with one-another (222).

I decided that a consensus method would be used to develop a core outcome set, as this has been used successfully in that way for numerous past empirical studies (211,223–225). As described previously, COMET suggests this is the ‘gold standard’ method for development of a core outcome set (210). This was important, as the sources of data were not judged for quality, so agreement was needed in the two respects described above, agreement with the proposed core outcomes and agreement within the group. To reiterate, stakeholder agreement (consensus) regarding the proposed PPD outcomes was essential, as the proposed outcomes were extracted from numerous sources that may not be valid, true or representative of all placements. The stakeholder consensus provided a filter to remove anything that is not relevant or agreed upon.

4.4.1. Rationale for choosing Delphi methodology

I made a decision to use the Delphi method over the available alternatives. The first alternatives were traditional data collection techniques such as questionnaires or interviews. However, whilst a questionnaire or interview provides a range of opinions or judgement on an issue, none of these attempt to gain consensus. A small number of consensus methods exist, namely Delphi, focus groups, round tables or nominal group technique (222,226). Nominal group technique generally involves one or two questions sent to the group in advance of a face-to-face meeting (227). They then spend time independently reflecting on their own ideas before a facilitator asks each individual to state a single idea in a round robin fashion. It has been recommended that there are no more than 7 participants in a group (228). Whilst this method is more suitable than a questionnaire or interview, as there is a consensus focus, it did not meet the needs of my project. Firstly the small group size of 7 was not feasible for the multiple stakeholder groups I wanted to include. Secondly, the face-to-face element was difficult considering the most significant stakeholders would likely be engaged in international work at the time of the research, so face-to-face meetings may exclude important stakeholders.

I chose the Delphi technique, as it met the needs my research needs in terms of group size and online dissemination. Delphi methodology was first used by the Rand Corporation in USA in the 1950s; in defense research (229). It has since been used in numerous fields, such as business, health and education. The Delphi is a widely used and accepted method of gaining consensus of judgments on a particular issue. It is a controlled process involving a series of questionnaires often named 'rounds' to collect opinions until consensus is reached (211). Researchers use Delphi to explore levels of agreement and disagreement amongst experts. Each stage is focused on improving the results gathered in the last stage based on the comments and median score of the previous 'round' (230). The Delphi method is an iterative method that uses numerous rounds to collect data and condense individual opinions into a group consensus (231). It involves a series of questionnaires that record participant agreement with statements concerning a particular topic. It has become a way of generating consensus amongst key stakeholders regarding core outcomes in healthcare (211).

It is argued that Delphi has greater advantages in terms of generating a core outcome set than round table discussions or focus groups, (230). For example, participants do not

actually interact with each other, so it is less likely that group situations may be dominated by one individual. This method aims to overcome some of the problems associated with decision making in groups, i.e. the dominance of one or two individuals or those with vested interests (222). Also the decision to change an opinion is not dominated by the social variables, such as the desire to be seen to agree (225). This is particularly important in regards to my research, as whilst lots of literature exists regarding the outcomes and benefits of international placements, I needed to ensure that those people with knowledge and experience of international placements agreed with them. As there is no agreed outcome set, seeking the opinions of those in the field provided a way of ensuring the proposed set is valid and agreed upon.

The method works well for a research question that is not well answered by precise analytical techniques, but could benefit from collective subjective judgements (232). The question of learning on international placements does not well lend itself to precise analytical techniques; collecting subjective judgment's seemed to be the most logical way to gather this data in the timescale of this thesis.

Since its introduction in the 1950's there have been various types of Delphi studies. The Delphi technique has evolved through time and with technology (229). The classic Delphi study involved a questionnaire sent by post to Delphi participants (229). Since, an E-Delphi has been developed to incorporate the same methodology into modern technology, so the survey is administered via email or an online web survey (233). There are many variations in the way a Delphi is conducted. The 'modified' Delphi replaces the first round with a focus group, face-to-face interviews or literature review (233). There is also a real-time Delphi where experts are physically in the same room. Delphi is a methodology particularly used with policy makers; hence a policy Delphi is a way of reaching consensus on a future policy.

I chose to use a modified E-Delphi. It was modified as the first stage was a systematic review, stakeholder workshop and meta-synthesis. I chose to administer it in an online manner (E-Delphi), as opposed to postal, as it was easier, quicker and allowed me to include participants that were not currently in the UK. Choosing to use online Delphi software allowed for more efficient collation of responses and reporting back to participants. One criticism of online administration is the effect of software malfunctions;

however the benefits of this method outweighed the negatives in this instance (cost, administration to those overseas, time). I decided to use a modified Delphi as if I had not included a literature review ahead of the Delphi, the data provided by stakeholders alone may have been too general for this purpose and benefits/costs may have been missed. Throughout the literature, stakeholders describe learning using generalised broad terms (13). I needed concrete, specific outcomes to use in measurement tool, so chose to search for these within the literature. A modified Delphi process (a systematic review in the first round) is appropriate and common if basic information concerning the target issue is usable and available (234).

4.5. Tool development

At the end of the Delphi process, I developed outputs 1, 2 and 3 in figure 10: a list of all potential variables, a list of all reported negative outcomes and a COS agreed upon by stakeholders. The next stage was to convert this information into a self-assessment tool. The primary component of the measure was the COS, however negative outcomes and variables were also used within the tool. Figure 13 shows the process of reducing the 1000s of variables originally extracted into a short self-assessment tool.

4.5.1. Exploration of measures of learning

There are many ways researchers and other professionals look to measure learning. The British academic system is built upon measurement of learning using formative and summative assessment measures. Summative assessment measures look to assess a learner's knowledge at the conclusion of course. This is typical assessment for British school qualifications such as GCSEs or the end of a medical education program (235). This is opposed to summative assessment; which involves the ongoing assessment of learning, typically characterised by observations or understanding what students know through group discussion and less formal assessment measures (235). As I was looking to assess learning of a varied group of professionals located across the world at different career stages, ages, genders, professional cadres and levels of knowledge, skills and attitudes it would be difficult to develop a summative assessment similar to that used at the conclusion of module. In addition, there are no predefined learning outcomes, placements are rarely developed explicitly as a vehicle for professional learning (but rather a means of helping those in need) or perceived by those in the UK as a means of PPD and the activities undertaken on international placement vary greatly for each individual (13,41).

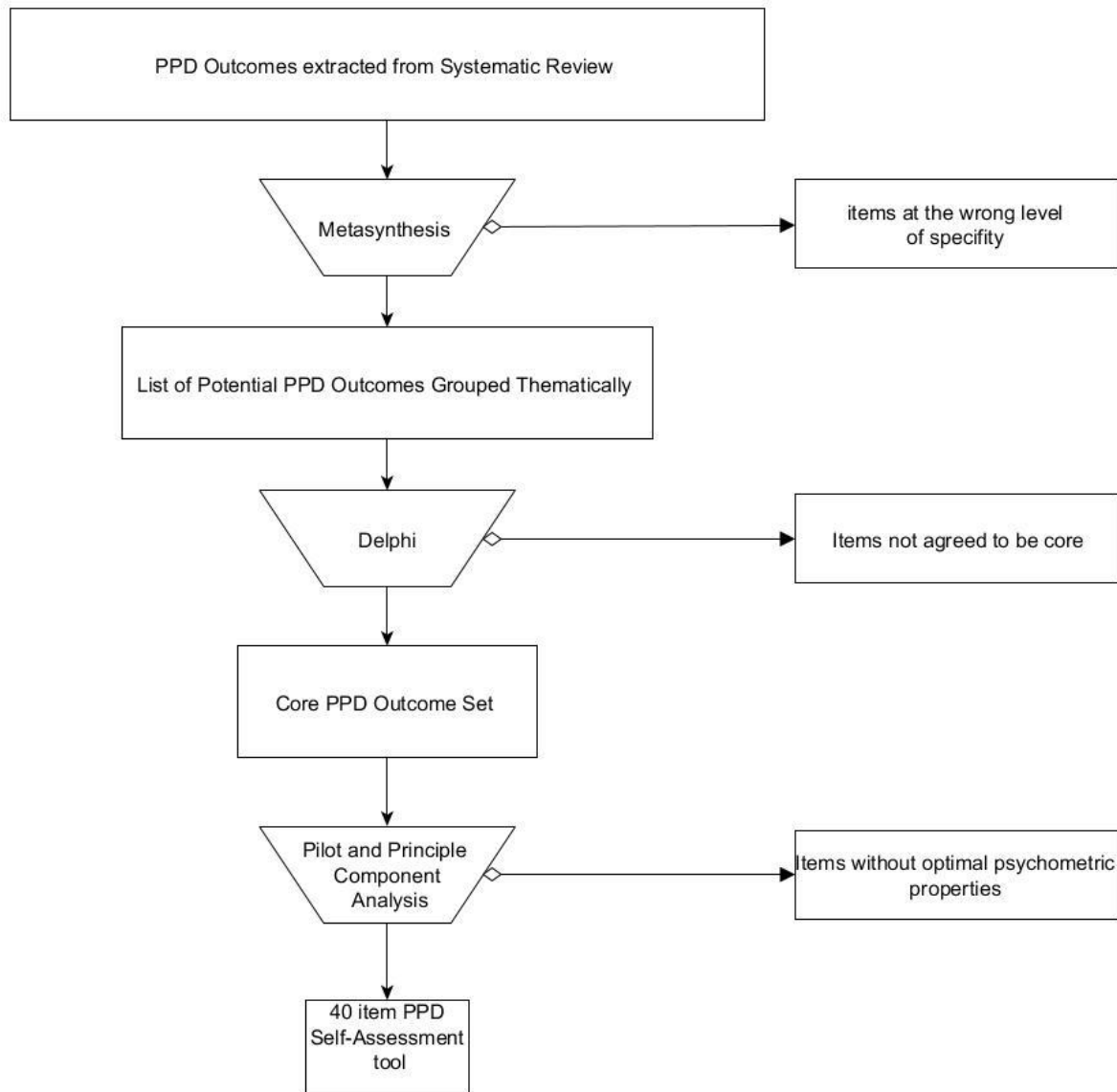


Figure 13: A visual depiction of item reduction at each stage of the step-wise research process

When deciding which method would best fit this project many instruments for measurement of the core outcome set were considered. For example, using multi-source feedback (a combination of feedback from peers, patients, co-workers etc.) or feedback from supervisors/seniors. However, these data collection methods would be difficult on a large, global scale. Literature suggests that levels of supervision on international placements vary considerably, so this would not be feasible in an international context (4,26). It would also be difficult to administer and control on a global scale. A self-report

questionnaire, on the other hand, can be easily administered to large populations and allow comparisons on a large scale.

Self-report data has been used in many research fields for diverse purposes (236). But despite widespread use many researchers hold the opinion that any data gathered in this method may lack validity and make inferences from the data difficult (236). It is often argued that even researchers themselves acknowledge the limitations of the self-report measures in the discussion section of papers (236). It is commonly recognised that questionnaires can be fallible sources of data. In any event (objective or subjective) human beings are generally not considered to be highly accurate observers of themselves (237).

One reason for the numerous limitations of self-report questionnaires may be that they are often used incorrectly to assess questions they cannot answer (238). This is perhaps why it sometimes has negative perceptions. The term self-report can be used to describe any data obtained by using questionnaires or surveys where individuals are asked to report something about themselves and encompasses well-designed psychometrically valid, reliable tools assessments tools, but also questionnaires or surveys developed by amateurs with no psychometric training (or intention to measure psychometrics) (236). In addition the questions or items used in self-report measures vary considerably, including demographic variables, personality traits, attitudes, behaviours, values or beliefs (236). Podsakoff (1986) suggests 6 uses for self-report data:

1. 'Obtaining demographic or otherwise factual data' (e.g. age, gender, place of residence)
2. 'Assessing the effectiveness of experimental manipulations'
3. 'Gathering personality data' (e.g. trait anxiety, locus of control)
4. 'Obtaining descriptions of a respondent's past or characteristic behaviour'
5. 'Scaling the psychological states of respondents' (e.g. attitudes, motivations)
6. 'Soliciting respondents' perceptions of an external environmental variable' (e.g. another person's behaviour)

The first two data categories are arguably the least problematic, factual and demographic data is often verifiable by other sources. Research proposes that such erroneous data is reported so rarely that the potential problem is outweighed by the economy and convenience of self-report methodology (240). For category 2, researchers merely check that independent variable 'registered' (239).

On the contrary, categories 3 to 6 are more problematic, particularly as it is difficult to verify such information against other sources (239). There may be other methods of gathering this data, but there is no definitive way of cross-validating people's feelings, attitudes and perceptions (239). Except in some limited cases where such information can be gathered asking factual questions such as days absent from work or grievances filed, but even this is not an accurate measure of feelings. Hence, self-report questionnaires often attempt to measure something that cannot be verified in another way, meaning the data it yields is often considered subjective or unverifiable.

Despite the limitations, self-assessment still has many benefits. It allows for widespread data collection, not bound to face-to-face encounters, it's generally convenient and economical (239). Furthermore, whilst objective measures are often considered better for determining how 'good' an individual is at something (competence) (241). Self-report measures are also one of the few ways of assessing some of the opinion/attitude items that emerged from the core outcome set, such as satisfaction with life. Literature suggests that self-report questionnaires are suited for collecting opinions (242). They are arguably more ethical in giving a voice to respondents. Some researchers argue that although there is reason to be cautious about self-report methodologies, reasons to be cautious are just as important for other potential methodologies (238). For example, Research found that even physiological, objective methods of measuring stress in the workplace present numerous methodological problems (243). Similar methods of assessing skills of individuals can also be problematic. For example, literature has questioned the validity of measures in assessment centres (238,244). Therefore, self-report questionnaires have limitations, but advocates would argue that these limitations are equally present in other assessment and measurement methods. Self-report is widely accepted in the fields of psychology and assessment and there are certain strategies to maximise the fidelity of the methodology (237).

Self-report measures aligned well to my research, as the pre-defined outcome of this thesis was a measure to generate large-scale metrics globally, therefore convenience, economy and ease of dissemination were essential. The core outcome set developed included attitudes and opinions (which can be better assessed using a questionnaire) and competence (which is slightly more difficult). I describe in chapter 2, how and why humans are not particularly good at assessing how 'good' they are at something (155). So

the questionnaire was developed in line with strategies that best utilise the human ability to self-report in regards to competence.

There are a number of strategies that are proposed to maximise fidelity of self-assessment measurement. One of these strategies is to use personalised questions. For example historic research found that 36% of respondents thought that 'people' should object to reporting salary in the consensus, whilst only 22% personally objected to reporting their salary (245). Therefore, my research asked participants to agree with personal statements using first person pronouns for example 'I have confidence in my clinical ability'. Another of these strategies is the use of time-markers or frame of references. Leung suggests effective questionnaires ask precise questions using a frame of reference (246). Rather than asking 'do you loan library books often' instead ask 'in the last 6 months how many library books have you loaned'. This is less open to individual interpretation and gives the participant a frame of reference in which to consider the question. My tool had a component that focuses on a frame of reference 'Thinking about the last month'. Individuals are much more accurate at reporting whether or how frequently they did something, than whether they are good at something, so much of the questionnaire used this line of questioning. The content being assessed is also important, as described in chapter 2 research suggests individuals are less likely to accurately self-assess more general, ambiguous concepts such as leadership or communication (160). Therefore, in order to explore outcomes of international placements more effectively, the items measured will be constrained in meaning. The core outcomes were generated purposely to be constrained in meaning and describe constituent components of complex general terms.

A final reason for choosing this method is that it lends itself well to Item Response Theory. Developing a self-report tool allowed me to explore what learning happens. Then the proposed Principle Component Analysis and Multivariate Item Response Theory allowed me to understand how the PPD outcomes reported relate to each other and the underlying constructs/latent variables/domains that may underpin them. This is important in the current study as past literature has tried to group these skills into vague domains such as leadership and communication (13,44). Understanding how the constituent components of each interact allowed me to better label and describe the learning that happens.

4.5.2. Creating a self-report tool

After the Delphi study, I had developed a core outcome set of 116 items (see chapter 6 for a full description). The next stage in process was to understand which of these items best assesses learning in a self-report questionnaire. For example, ensuring that there is variability in the answers given to a particular question. To do this I converted each of the core outcomes into an item on a self-report scale (see chapter 7 for a full description) and tested the utility of each in a large scale pilot.

4.6. Pilot

I tested the utility of the core outcomes when used in a self-report scale by conducting a large scale pilot. I tested the 156 item self-report tool on over 400 healthcare professionals to assess the usefulness of each item. If an item produced a large ceiling effect, for example all participants strongly agreed with it, then it does not demonstrate variability. Or if an item had no relation to other items then it would also not be a useful measure.

The pilot served two purposes firstly to generate data to allow me to remove items that did not have optimal psychometric properties. This was the final stage in the reduction of outcomes: beginning with the thousands of the outcomes from the systematic review that were slowly funnelled into a 40-item self-assessment tool, as depicted in figure 13. The secondary purpose was to generate some preliminary data on how the tool works, for example the scores that participants got, the variability between different groups, the effect and interactions of any variables.

4.6.1. Rationale for using a statistical data reduction technique

Principal Component Analysis (PCA) is a dimension-reduction tool that can be used to reduce a large set of items to a small set that still contains most of the information in the large set (247). Principal component analysis (PCA) is a mathematical procedure that transforms a large number of (possibly) correlated items into a (smaller) number of uncorrelated variables called principal components (247). In relation to item response theory (IRT) (described in Chapter 3) it looks for items that seem to represent a latent variable and groups them together, so rather than having 100 items that measure lots of things, it creates a smaller groups items, that measure a few different things. The first principal component accounts for as much of the variability in the data as possible, and

each succeeding component accounts for as much of the remaining variability as possible (248).

Principal components analysis is similar to another multivariate procedure called Factor Analysis (FA) (247). Both are data reduction techniques, they capture the variance in variables within a smaller set of items. Using an oversimplified example, if I wanted to measure a participant's ability to solve calculations I could present 50 calculation questions and use total score as a measure of calculation ability. However, 50 questions would take considerable time and effort on behalf of the participants, PCA aims to reduce this. It uses computer modelling to search for the questions that convey the most about each individual's ability: the items with the best psychometric properties. For example, if almost everybody answers 20 questions correctly and 20 incorrectly, these 40 questions convey little about each individual's ability compared to the group (because everybody answered the same). However, in the 10 remaining questions the responses are spread: a few people answer correctly, a few incorrectly and a few show correct planning but arrive at the wrong answer. Presenting only these 10 questions to a new group of people would convey similar information about the individual's ability (as the original 50). It would allow me to make greater comparisons between individuals/groups, but reduce the cognitive load from 50 to 10. If I administered all 50 of the original questions there might be a small amount of extra information about each individual, however because the responses were largely the same, it's a lot of extra work for very little additional information.

Secondly, both PCA and FA are methods aligned to item response theory. Both are usually run in statistical software using the same procedure, and both methods produce similar outputs. Both methods involve similar steps, namely- extraction, interpretation, rotation, selecting the number of factors or components. Yet, despite the multiple similarities, there is a fundamental difference between them: PCA is a linear combination of variables; Factor Analysis is a measurement model of a latent variable. What this means is that PCA's approach to data reduction is to create one or more index variables from a larger set of measured variables. It does this using a linear combination (essentially a weighted average) of a set of variables. The created index variables are called components. The main rationale for PCA is to understand how to do this in an optimal way: the optimal number of components, the optimal choice of measured variables for each component, and the optimal weights. Factor Analysis approaches data reduction in a fundamentally different way. It is a model of the measurement of a latent variable. This latent variable

cannot be directly measured with a single variable (for example try to measure intelligence or social anxiety with just one question). Instead, it is seen through the relationships it causes in a set of variables. Comparing the two methods visually, one main conceptual difference is the way in which the arrows point. Factor analysis, see figure 14, is a model with the underlying assumption that a latent trait causes a person to answer in a particular way. An answer to any given questionnaire item is a sum of to the influence of the latent trait and the variance that is unexplained by the latent trait. Whereas principle component analysis, whilst still related to latent trait theory aims to find the items that best represent a component (which is a similar theoretical entity to a latent trait). In both models the answers are weighted (depicted by the 'w' in the figure) so some items are more representative than others. Put into perspective of my research using another oversimplified example, factor analysis would look to model how much a latent trait such as clinical confidence affects individual's answers to a set of questions. Whereas principle component analysis would look to find a model that interprets which questions best measures clinical confidence.

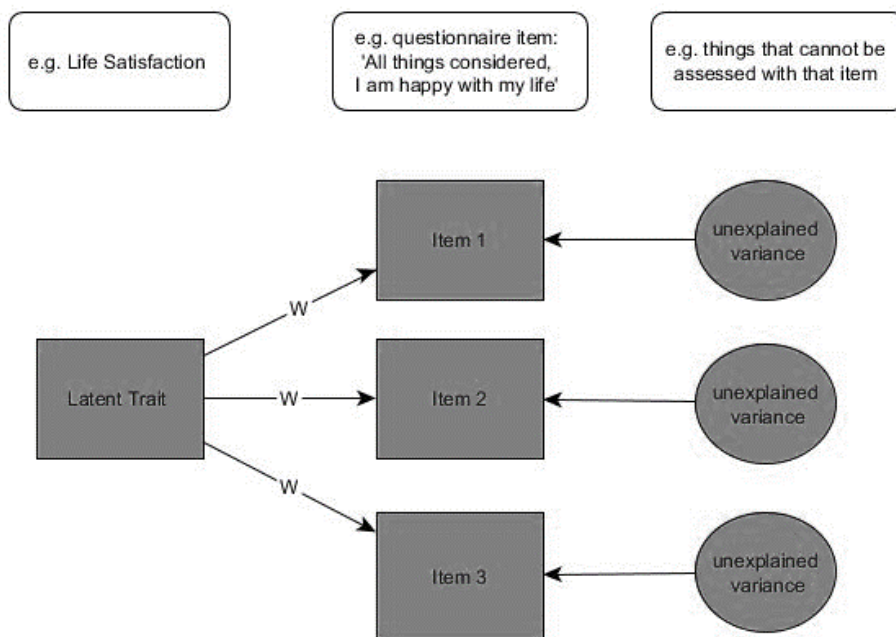


Figure 14: A visual depiction of Factor Analysis

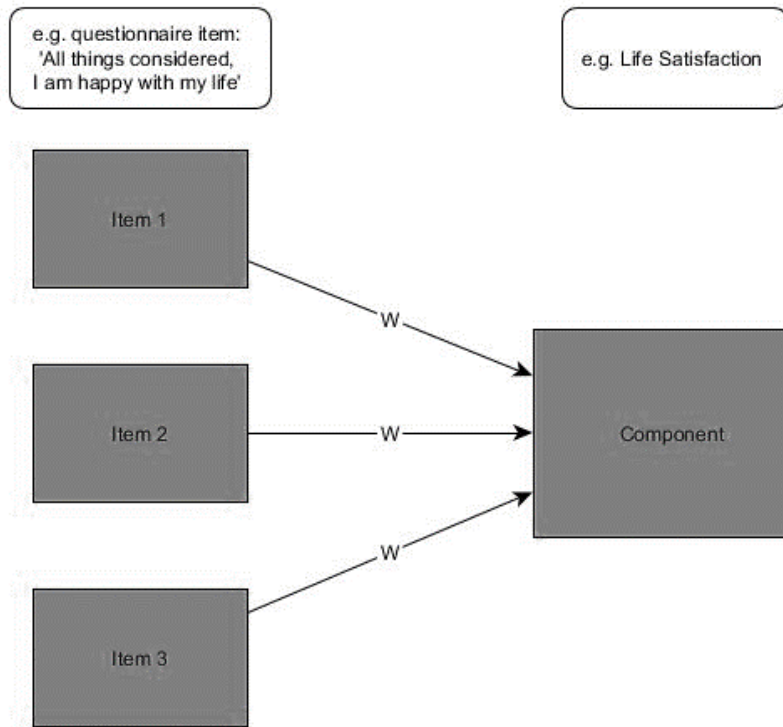


Figure 15: A visual depiction of Principle Component Analysis

4.6.2. Rationale for choosing principal component analysis

Advocates report that it is frequently possible to reduce the number of items considerably while still retaining much of the information in the original data set, when using PCA. PCA is probably the best known and most widely used psychometric reduction technique (247). I wanted to reduce the number of items assessed, whilst ensuring I retained the majority of the information that described health professional learning on international placements. I chose PCA over FA as it lends itself to Computer Adaptive Testing; which was a future direction I thought the self-assessment output could go (249). It provided me with more opportunities about where the output could go beyond PhD and provided more opportunities for the research to have impact. It would mean that individuals could answer questions on a computer and the next question answered would be generated based on the answer to the previous question, taking into account the weightings of each question (249).

The principle component analysis was performed by a colleague with expert statistical knowledge and training (see acknowledgments). Hence, this thesis does not describe the

statistical and mathematical basis of principle component analysis, but rather the conceptual reasons for choosing this method. For a detailed description of the mathematical principles that underpin PCA please see Richardson (248).

4.6.3. Multidimensional item response theory model

A multidimensional item response theory (MIRT) model was created based on the results of the best iteration of the principal component analysis. This is a model that shows how the items in the self-assessment relate to the latent traits and the correlational relationships between the traits and items. The multidimensional model shows which items are used to assess which latent traits, figure 16 is an example model, the actual model can be seen in chapter 7.

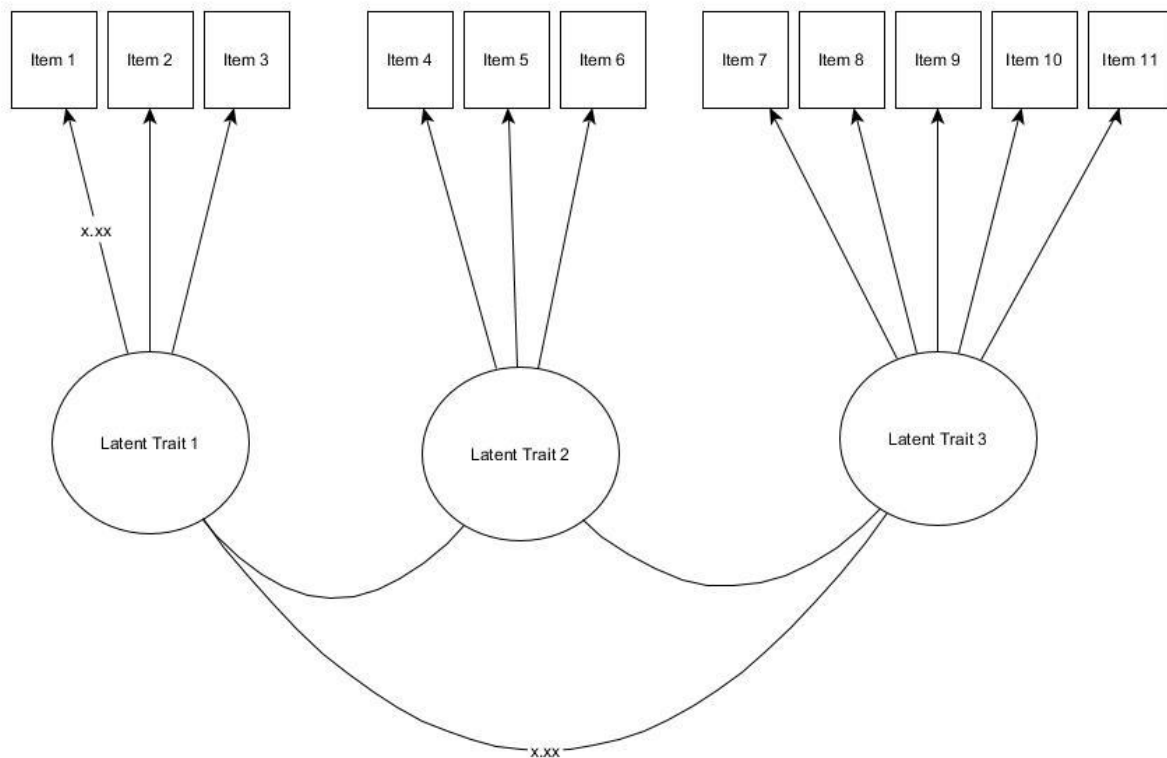


Figure 16: A visual depiction of Multidimensional Item Response Theory

4.7. Generating preliminary findings

The second purpose of the pilot was to generate preliminary findings. Whilst the sampling and design of the pilot were developed in order to conduct the principal component analysis, I was able to gather data about how the tool works in practice by performing a secondary analysis on the results.

4.7.1. Between-group comparisons

On the large pilot data set, I planned a between-group statistical analysis (Mann Whitney U tests) of the different groups that completed the tool. Hence, I was able to compare the scores of those with and without international experience to understand whether the tool is sensitive to differences between-groups. I was also able to compare across professions, age groups, career stage etc. to understand how individuals perform generally on each of the items.

4.7.2. Within-participant comparisons

Within the pilot I captured pre-departure data for professionals that were due to undertake an international placement in the coming months. Although it was only a small number of participants, it captured a baseline measure of levels of the skills, knowledge and attitudes. I was then able to recapture this data one year later and measure any change within the individuals after their international experience. I conducted Wilcoxon signed-ranks tests to statistically measure the difference in latent traits before and after the international placement.

4.7.3. Interaction between variables and PPD outcomes

Output 2, a list of potential variables that affect learning on international placements was generated earlier in the research process as a result of the systematic review and meta-synthesis. I created a list of all of the factors that were reported in the literature to potentially affect learning or PPD. I captured this data within the pilot and alongside the learning outcomes, by asking demographic questions, and questions about the contextual and environment components of international placements. Therefore I was able to look for patterns and trends that may give an indication about how certain contextual components of an international environment have a relationship with learning.

This secondary analysis was conducted on data of participants with past international experience as they were the only group able to provide the contextual data. I performed statistical analysis (Kruskal Wallis H tests) comparing those who experienced low, medium or high levels of a variable on their placement, with their scores on the PPD domains. This allowed me to look for patterns without attributing effect. For example, I

was able to assess whether those who reported high levels of interaction with patients, presented higher scores on the ‘adapting communication’ domain than those who saw less patients.

4.8. Summary

In this chapter I presented the numerous outputs I intended to generate and the various methods that I have used to generate each output. The research process was progressive and each output was a product of the previous output (readdress figure 11 for a visual depiction of the whole process). In summary, the first method used was a systematic review, this allowed me to extract every potential PPD outcome, negative outcome and variable that was reported in peer reviewed literature in regards to health professional international learning. The results of this were then meta-synthesised to reduce the number of potential outcomes and remove profession or individual specificity. The third method used was a Delphi study, I took the outcomes from the meta-synthesis and asked stakeholders to make judgements about their applicability to the research question. This resulted in the development of a core outcomes set (COS), an agreed upon set of PPD outcomes of learning on international placements. The fourth method was a pilot study, whereby I converted these outcomes into self-report items and presented them to health professionals to understand which of the items have the best psychometric properties. On the results of which I used Principal Component Analysis, a statistical technique that reduces large sets of data into its principal components (and items that provide the most psychometric information). Finally, I conducted secondary analysis of the results of the pilot to understand how the tool works, the scores that people get, the relationships between different groups, between individuals longitudinally and patterns and trends between variables (contextual factors) and PPD outcomes.

In the next chapters, I describe the background to each method in regards to academic literature, the precise method used in each of the components of the study and the results and discussion of each. Each of the next five chapters describe each progressive study. The first will describe the development of the core outcome set, the next the Delphi, then the piloting of the tool and principle component analysis and multivariate item response theory. Chapter 8 will discuss how the tool can be used to compare groups with and without international experience and differences in scores post placements. Chapter 9 will describe the secondary analysis of the pilot data, looking for relationships between

variables and outcomes. To see the visual summary of how the aims, methods and outputs interact as a whole entity see figure 11.

5. Meta-synthesis of personal and professional development reported in the literature

5.1. Introduction to empirical work

In the previous chapters I introduced the concept of learning and development on international placements and how it fits with current NHS policy. I then described how this learning is proposed to happen, theories that might be relevant and existing measures. The previous chapter highlighted the need to extract and synthesise the qualitative and anecdotal accounts of learning outcomes reported in the literature into something more amenable to quantification. It also highlighted the necessity to understand the contextual factors that might affect this and the need to extract and synthesise these. This chapter will describe the empirical methods used, the results and the discussion.

This chapter is the first of many chapters to describe the series of studies that are encompassed within this thesis. The research questions presented at the end of the methodology chapter concerned **what** learning happens, **how** an international context facilitates this and whether it is amenable to **quantification**, finally if there are any **negative outcomes**. The first stage in answering all of these questions was to extract, understand and synthesise the learning outcomes and variables that might affect these.

The empirical work in the coming chapters has two key aims: 1, to develop a core outcome set and 2, to transform the core outcome set into a self-assessment measurement tool. This chapter will discuss how the core outcome set was developed, using a systematic review and meta-synthesis of existing literature and the Delphi method. Chapter 5 will discuss how the tool was created, beginning with how the core outcomes were transformed into a measurement tool. Then how the developed tool was then piloted and subsequently refined. The empirical work and development of the self-assessment tool consists of 5 steps:

1. Systematic Review and Meta-synthesis of existing literature
2. Stakeholder Delphi
3. Development of self-assessment tool
4. Pilot of the self-assessment tool
5. Secondary analysis of the data from the self-assessment tool

5.2. Background

This study is first of two studies to develop a core outcome set (210). This is discussed in detail in the previous chapter but, in summary, is an agreed upon list of outcomes that could be measured in future studies looking at health professional learning in LMICs. I outline the steps taken and the results of a systematic review and qualitative meta-synthesis. The previous chapters outline the necessity to understand, extract and synthesise the reported personal and professional development (PPD) outcomes and variables that affect them.

Literature that explores ‘what’ and ‘how’ healthcare professionals learn from temporarily working or volunteering in a low-resource setting tends to report anecdotes or single reports, which provide a lower level of evidence, see chapter 2 (41,68). Furthermore, benefits are detailed in broad categories, with ‘leadership’, ‘communication’ and ‘cultural awareness’ being frequently reported (13,22,44,47). Existing literature tends to focus on one of these skill sets in depth or to report lists of outcomes using broad labels such as communication or leadership skills (13,250). The difficulty with these broad labels for describing learning outcomes is that it makes assessment of the learning outcomes difficult. Self-assessment of broad terms is not closely linked to objective performance (155) with individuals finding it difficult to accurately assess themselves in relation to ambiguous or ill-defined traits (156,157). For example, individuals tend to exhibit an ‘above average effect’ in terms of identifying themselves as sophisticated or idealistic, as opposed to traits that are more constrained in meaning such as athletic or punctual. There is a need, therefore, to define the outcomes of volunteering at a more granular level, if people are to be able to accurately report on their own learning to enable comparisons across learning experiences.

In a systematic review of the evidence of the benefits to the UK of health partnership work, Jones et al.,(13) reported 40 individual benefits grouped within 7 key domains (communication and teamwork, clinical skills, management skills, patient experience and dignity, policy, academic skills and personal satisfaction & interest). However, this review focused only on Health Partnerships, a link between the UK and a developing country and the findings were categorised broadly. In addition, although the review did not exclude any cadres of health professions, the only professions in their search terms were doctors and nurses. It also did not extract factors that may affect these outcomes. For the purpose of developing a core outcome set (COS), I needed to collate all existing literature, extracting potential outcomes at a granular, measurable level. I needed literature that included

international placements of all types, not just health partnerships. The COS needs also to be applicable across healthcare staff groups. I also wanted to gather insight into factors that may affect these outcomes. Therefore, whilst the previous review includes lots of important data, it does not encompass all of necessary information to develop a set of measurable outcomes and list of potential influencing variables.

As a systematic review or meta-synthesis that extracts low-level, multi-professional PPD outcomes does not exist. The study aimed to a) detail the personal and professional development outcomes of international work, both positive and negative, at the lowest generalizable level, to report on what is already known about the personal and professional outcomes for healthcare professionals abroad. Using this degree of granularity allows people to comment on each specific component of skill, to remove the tendency to group and summarise that happens in much of the literature. Then b) to detail the variables that may moderate or mediate these personal and professional development outcomes. I needed to identify what the outcomes were at low, measurable level and to identify potential variables that may influence this learning.

5.3. Methods

5.3.1. Study design and sample

The systematic search methodology is outlined in Chapter 2. The systematic search had two purposes a) to form the basis of the literature review b) to be used to provide an evidence base to extract potential outcomes for the core outcome set. Please refer to chapter 2 for a description of the systematic search upon which the data extraction and meta-synthesis took place. Box 1 shows the inclusion criteria.

Box 1: Inclusion Criteria

The inclusion criteria for the systematic review were peer-reviewed literature, where:

- 1) Individuals are either volunteers (i.e. not in receipt of full salary) or students on international placements
- 2) Activities have a health focus
- 3) The individuals must be from the UK travelling to a lower income or lower-middle income country
- 4) There is reference to (individual, institutional or national) benefits or costs or the variables that moderate/mediate outcomes
- 5) English Language only

5.3.2. Data extraction

I took a thematic synthesis approach to data extraction (as described in Thomas and Harden (220)). I took this approach because much of the data were qualitative and not amenable to traditional numerical meta-synthesis (217,220). The thematic synthesis approach consists of three stages: line-by-line coding of text; development of descriptive themes and generation of analytical themes. For the purpose of this meta-synthesis, I decided that I would conduct the first two stages of this process. I did not use the third stage in this study. Not only is it criticised for being open to the judgement of the researcher (220,221) but due to the nature of extracting low level items, there was no purpose in generating analytical themes. The high-level themes from the literature are however described in Chapter 2.

Each whole document that met the inclusion criteria was scanned and any text (related to variables or positive/negative outcomes, at an individual, national or institutional level) was coded according to meaning and content. Outcomes were defined as anything that happens as a result of volunteering/international placements (at an individual, national or institutional level) to UK parties. Variables were defined as any factors that may influence these outcomes; it was not necessary to explicitly state that the variables influence outcomes, but just acknowledge their existence.

Using Nvivo, a node was created at a ranked level for each component of descriptive theme. This began with very general outcomes and variables and progressively became more specific. Each node was entitled with a higher-order categorical theme (i.e., communication), and contained more specific themes (i.e., ability to overcome communication challenges), and finally specific but generalizable outcomes, (i.e., ability to engage senior people). I decided that the lowest level of specificity would be applicable to all/most professions and generalizable across situations, i.e. 'ability to engage senior midwives' would be too context/profession specific. As each paper was coded the 'bank' of nodes was adapted, developed and new nodes generated. I extracted all of the data, a second team member independently extracted data from a randomly selected 20% of the included papers (JC). This was then discussed in a meeting and any disagreements resolved.

5.4. Results



PRISMA 2009 Flow Diagram

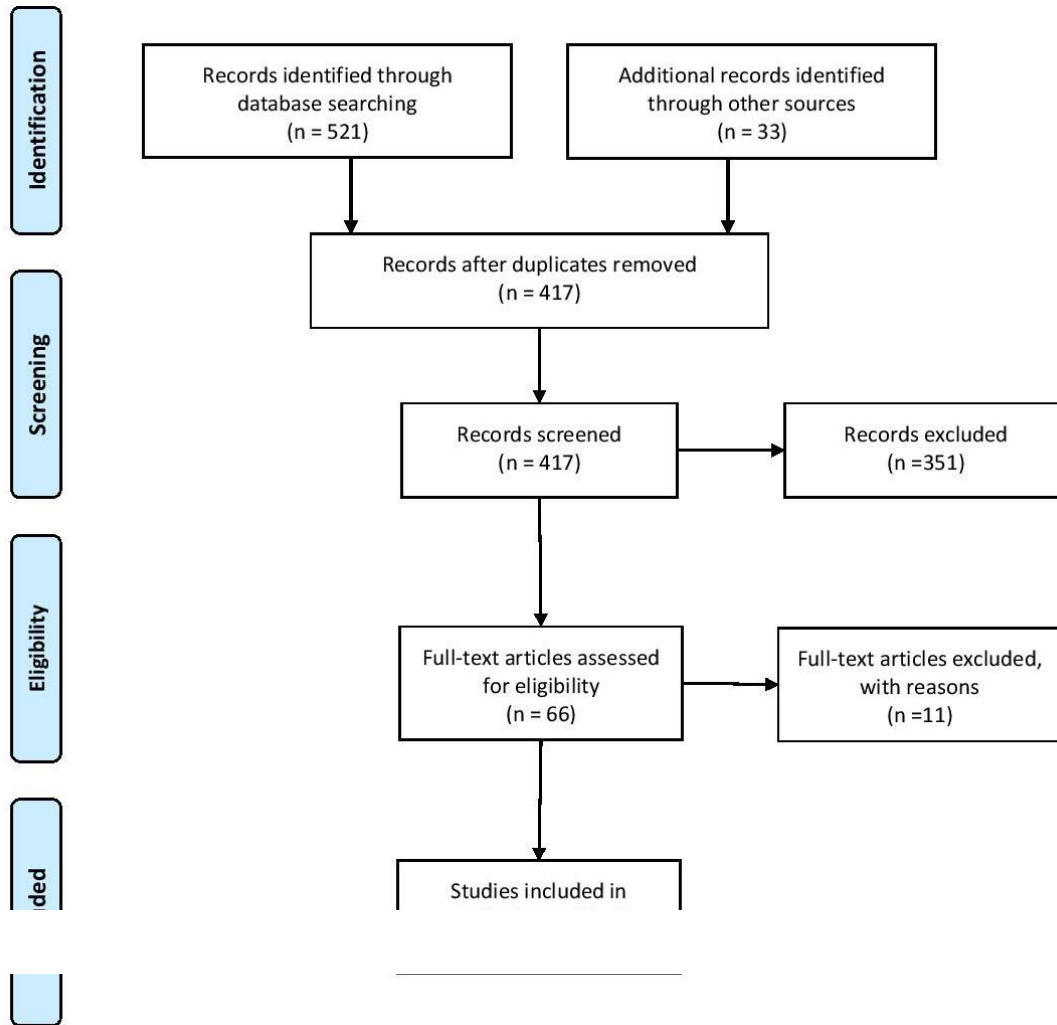


Figure 17: PRISMA Flow Diagram to show the papers included and excluded in the systematic search. Source: (Adapted From) Moher, Liberati, Tetzlaff, (2009).

For more information, visit www.prisma-statement.org.

5.4.1. Data sources

The search of the electronic databases generated 521 hits including duplicates, 384 unique papers. Of this, 22 articles were obtained after meeting inclusion criteria. An additional 33

articles were found through extensive citation mapping. Therefore, the total number of papers from which data were extracted was 55.

5.4.2. Quality of literature

No data fell within the top two quality categories proposed by Benzies: Randomised Controlled Trials, (251). Some the sources did report qualitative or quantitative data, 42% (23/55), yet the majority of articles reviewed were based on the opinions of authors or the evaluation of specific projects (58%) and reported no primary data.

Table 2: Papers included in the systematic review

	Title	Date	Authors	Countries	Profession	Level of Evidence
1	Hands across the Equator: the Hereford/Muheza link	1988	Wood JB, Hills EA	Tanzania	Uncategorised	VI
2	Hands across the Equator : Hereford/Muheza link 8 years on	1994	Wood JB, Hills EA, Keto FJ	Tanzania	Uncategorised	VI
3	Training for health care in developing countries: the work of the Tropical Health and Education Trust	1998	Parry E, Parry V	Uncategorised	Uncategorised	Vb
4	A comparison of an international experience for nursing students in developed and developing countries	2000	Thompson K, Boore J, Deeny P	Many	Nurses	III
5	Education and research links between the UK and Thailand	2000	Burnard P, Claewplodtook P, Pathanapong P	Thailand	Nurses	Vb
6	UROLINK – benefits for trainees from both sides	2002	Gujral S, Nassanga R	Tanzania	Urologists	Vb
7	Twinning: the future for sustainable collaboration	2002	MacDonagh R, Jiddawi M, Parry V	Tanzania	Urologists	Vb
8	The impact of international placements on nurses' personal and professional lives: literature review.	2005	Button et al.	Uncategorised	Student Nurses	III
9	International Health Electives: Four years of experience	2005	Miranda JJ, Yudkin JS, Willott C	Uncategorised	Medical students	III
10	NHS Links: a new approach to international health links	2005	Wright J, Silverman M, Sloan J	Uncategorised	Uncategorised	Vb

11	Can you help?	2006	Hancock C	Africa (mainly East)	Nurses	Vb
12	International health links: an evaluation of partnerships between health-care organizations in the UK and developing countries	2006	Baguley D, Killeen T, Wright J	Many	Uncategorised	III
13	The contribution of international health volunteers to the health workforce in sub-Saharan Africa	2007	Laleman G, et al.	Sub-Saharan Africa	Health Volunteers	III
14	Nursing electives: an innovative and creative learning opportunity	2008	Peate I	Uncategorised	Nursing Student	Vb
15	Uncovering study abroad: Foreignness and its relevance to nurse education and cultural competence	2008	Greatex White S	Uncategorised	Nursing students	III
16	Short-term visits by eye care professionals: ensuring greater benefit to the host community	2008	Pyott A	Uncategorised	Orthomologists	Vb
17	Overseas Placements: Addressing Our Challenges?	2008	Clampin A	Uncategorised	Student Occupational Therapists	Vb
18	A questionnaire study of Voluntary Service Overseas (VSO) volunteers: health risk and problems encountered.	2009	Bhatta P, et al.	Uncategorised	10.1% Drs and Nurses	III
19	All aboard with Impact India	2009	Sikkh N	India	Dentists	Vb
20	Internationalising occupational therapy education	2009	Horton A	Uncategorised	Student Occupational Therapists	Vb
21	Electives: isn't it time for a change?	2009	Dowell J, Merrylees N	Uncategorised	Medical Students	Vb
22	NHS links: achievements of a scheme between one London mental health trust and Uganda	2009	Baillie D, et al.	Uganda	Mental Health	Vb

23	Global health partnerships: leadership development for a purpose	2009	Hockey P, et al.	Cambodia	Professionals Healthcare workers	Vb
24	Research into practice: 10 years of international public health partnership between the UK and Swaziland.	2010	Wright et al.	Swaziland	NHS staff and Academics	Vb
25	Medical electives: a chance for international health	2010	Banerjee	Uncategorised	Medical Students	Vb
26	International Health Links movement expands in the United Kingdom	2010	Leather A, et al .	Many	Uncategorised	Vb
27	Global public health training in the UK: preparing for the future	2011	Lee AC, Hall JA, Mandeville KL	Uncategorised	Registrars	III
28	Reflecting on the learning experiences of student nurses in rural Uganda	2011	Lovett W, Gidman J	Uganda	Health Visitor's/ Student Nurses	Vb
29	Working with UK-based non-governmental organisations for better reproductive health in Nepal	2011	Nunns D	Nepal	Various	Vb
30	Student nurse perceptions of risk in relation to international placements: A phenomenological research study	2012	Morgan DA	High Income Countries-9, Low Income Countries- 1	Student Nurses	III
31	Travel related illness in short-term volunteers from the UK to developing countries.	2012	Wyler N, et al.	Many	Many professions	III
32	The role of health links in international development: the need for greater evidence?	2012	Smith C	NA	Uncategorised	Vb
33	How international health links can help the NHS workforce develop	2012	Longstaff B	Uncategorised	Uncategorised	III

34	Combining UK general practice with international work — who benefits?	2012	Seo HN, et al .	Uncategorised	GPs	III
35	Combining general practice with international work: online survey of experiences of UK GPs	2012	Smith C, et al.	Uncategorised	GPs	III
36	A new partnership for anesthesia training in Zambia: reflections on the first	2013	Kinnear JA, et al.	Zambia	Consultant Anaesthesiologists	Vb
37	Factors that influence a career choice in primary care among medical students from high-, middle-, and low-income countries: a systematic review	2013	Puertas EB, Arósquipa C, Gutiérrez D	Uncategorised	Medical Students	III
38	Becoming culturally sensitive: A painful process?	2013	Briscoe L	UK America Canada Guatemala	Midwifery Students	III
39	'Tanzania changed me'	2013	Dean E	Tanzania	Nurses	Vb
40	Do health partnerships with organisations in lower income countries benefit the UK partner? A review of the literature.	2013	Jones FA, et al.	Uncategorised	Healthcare Professionals	III
41	Placements in global health masters' programmes: what is the student experience?	2013	Cole DC, Plugge EH, Jackson SF	Uncategorised	Global health Masters Students	III
42	Should trainee doctors use the developing world to gain clinical experience? The annual Varsity Medical Debate – London, Friday 20th January,2012	2013	Gilbert BJ, Miller C, et al.	Developing Countries	Trainee Doctors	Vb
43	Maximising the value from the elective experience: post-elective workshops	2013	Evans R, et al.	Uncategorised	Medical Students	III
44	Developing cultural sensitivity and awareness in nursing overseas	2014	Paterson JG	Uncategorised	Nurses	Vb
45	Sharing skills in dementia care with staff overseas	2014	Marçal-Grilo J	Sri Lanka	Nurses	Vb
46	The benefits for children's nurses of overseas placements: where is the evidence?	2014	Standage R, Randall D	India, Canada, USA	Nurse Students	III

47	Making short-term international medical volunteer placements work: a qualitative study	2014	Elnawawy O, Lee AC, Pohl G	Nepal	GPs	III
48	Evaluation of effect on skills of GP trainees taking time out of programme (OOP) in developing countries	2014	Kiernan P, et al.	South Africa, Zambia and Rajasthan	GPs	III
49	Mutual learning and reverse innovation—where next?	2014	Crisp N	Uncategorised	Uncategorised	Vb
50	Boost or burden? Issues posed by short placements in resource-poor settings	2014	Dowell J, et al.	Uncategorised	Uncategorised	Vb
51	Medical professionalism across cultures: A challenge for medicine and medical education	2014	Jha V et al.	Various (developed and developing)	Medics	Vb
52	Lessons from an elective in Sierra Leone	2014	Robinson T	Sierra Leone	Medical Students	Vb
53	Supporting medical students to do international field research: a case study	2014	Pearson S, et al.	Uncategorised	Medical Students, Academics,	III
54	Electives in undergraduate medical education: AMEE Guide No. 88	2014	Lumb A, Murdoch-Eaton D	Uncategorised	Medical Students	Vb
55	International work and leadership in UK general practice	2014	Young P et al.	Uncategorised	GPs	III

5.4.3. Outcomes

Positive outcomes were extracted from 96% of the papers (53/55), whilst negative outcomes were extracted from only 49% of the papers (27/55). Potential variables that could affect these outcomes were extracted from 90.91% of papers (50/55), however it is not specifically stated in the papers if/how they are believed to affect outcomes.

Box 2: Percentage of papers containing each category of data

Positive Outcomes: 96%

Negative Outcomes: 49%

Variables: 91%

The outcomes extracted could be categorised within NHS professional development terminology, there were 24 items about knowledge, 44 about skills and 20 attitudes (53). Six were organisational benefits and 29 negative. Organisational outcomes were deliberately separated, as they were identified in addition to the general positive effect of staff with developed knowledge, skills and attitudes.

5.4.4. Variables/Contextual Components of an LMIC environment

From the literature I extracted numerous variables, these were synthesised into 33 higher order themes. Some of these were environmental factors: things that were present in the environment and external to the individual. Some of these were intra-psychological, behaviours or attitudes that a person might exhibit. Others were opportunities that might arise in a low and middle income country (LMIC) environment. Table 4 presents the higher order-themes, the lower-order components and some examples from the literature or data from the workshop; which is described in more detail in the next chapter.

Table 3: Table of PPD outcomes extracted from the literature, higher order themes, lower order components and examples from the data

Outcome: Highest order theme	Lower order components	Example data from source
Knowledge		
Increased awareness of and knowledge about how communication between two people can affect understanding	Effectively conveying ideas in an contextually appropriate way	‘Effectively conveying and receiving ideas and messages in appropriate ways so that information is carried in context’ (workshop participant)
Increased awareness of and knowledge about conditions and procedures rarely encountered in the UK	Greater knowledge of procedures not used in the UK, Better management of conditions that are not common in the UK	‘Experience of unfamiliar pathologies’ (Kiernan et al., 2014) Experience has been gained in open operations now rarely performed in the UK, including vesico-vaginal fistula surgery (Gujral, 2002)
Increased awareness of and knowledge about the importance of assessing healthcare on an individual basis	The uniqueness of each patient	Enhanced the students’ cultural awareness and made them more aware of the need to assess healthcare needs on an individual basis. (Thompson et al., 2000)
Increased awareness of and knowledge about the importance of community participation in health	The importance of community involvement in health, Awareness of the role of the community in improving healthcare, Understanding the importance of community work	The investigators reported a significant growth in participants’ awareness of how nurses interacted with the village as a community (Button et al., 2005)
Increased understanding of basic skills and ideas	Core skills often replaced by technology (basic observations, using eyes, relying less on lab tests)	‘it kind of makes you go back and think about things in their fundamental...of course physics and that kind of thing’ (workshop participant)
Increased awareness of and knowledge about clinical	Doctors about nurses and vice versa	‘facilitate exploration of a different health care profession.’ (Button et al., 2005)

knowledge in relation to other professions		‘improved interdisciplinary teamwork’ (Lee et al., 2011)
Increased awareness of and knowledge about the importance of mutual learning and respect		‘acknowledgement from the participants that the learning was a two way process’ (Standage et al., 2014) ‘mutual respect’ (workshop participant)
Understanding how to be a good teacher	Understanding how to target training most effectively, Ability to suggest and acknowledge improvements in teaching, Understanding importance of experiential learning	‘Makes you drill down more and more what makes a good teaching programme’ (workshop participant) ‘learning in this context has enabled me to suggest ways to improve the facilitation of learning.’ (Lovatt et al., 2011)
Increased awareness of and knowledge about the importance of relationship maintenance skills	Consciously making an effort to get on with colleagues, Learning colleagues names	‘Increased appreciation of and skills in maintaining of relationships’ (Jones et al., 2013)
Increased awareness of and knowledge about the positive impact of clinical policies and governance	Greater policy skills	‘Work overseas will enable the health care worker to develop a greater understanding of socioeconomic and political determinants of health and consider the benefits of alternative health systems and health care initiatives.’ (Banatlava, 1997)
Increased awareness of and knowledge about tropical diseases	New knowledge of tropical diseases and increasing existing knowledge	‘Knowledge of tropical diseases has increased’ (Wood et al., 1994)
Increased awareness of and knowledge about appropriate clinical behaviour	Knowing when to ask for help, Knowledge of different populations needs	‘specifically for people from other cultures. Remembering to let people speak to husband or want to pray. Not talking to baby when it comes out.’ (workshop participant)
Increased awareness of and knowledge about the cultural aspects of health	Greater understanding and appreciation of health promotion, Understanding how culture affects daily occupation, Increased understanding of cultural differences in health , Understanding the effects of politics on	‘the noticeable lack of parental input in caring for their hospitalized children compared with UK culture and practice.’ (Standage et al. , 2014)

	health, Understanding how culture affects you professionally, Understanding how to incorporate health beliefs into a shared decision, Greater understanding of sustainable healthcare	'increased understanding of the importance of culture in health care and the degree of variability in the countries they visited' (Thompson et al. 2000)
Increased awareness of and knowledge about global issues	Re-evaluation of world issues, Deeper engagement with issues of equality and diversity, Greater global knowledge	Both learners and institutions potentially will gain from an enhanced awareness of global health issues. (Lumb, 2014)
Increased awareness of and knowledge about cultural differences and similarities	Understanding key issues within a culture, Understanding culturally acceptable behaviour , Learning about other cultures, Being more attentive to subtle clues about cultural differences , Accepting cultural differences, Understanding of cultures of UK immigrants, Changed assumptions of culture	'in Mexico it was inappropriate for them to discuss family planning methods with females because it was common for the males to exert control over such matters' (Standage et al., 2014) 'they could apply this new understanding to immigrant communities in the UK who had come from these cultural backgrounds' (Standage et al. 2014)
Increased awareness of and knowledge about ethical considerations	Through experiential learning	'This process of challenging assumptions appeared to help student to appreciate the child rights stance promoted in the UK.' (Standage et al. 2014)
Increased awareness of and knowledge about the need for/importance of training	Understanding how important effective training is in the UK and overseas	'I recognised the need [for] teaching, so trained as a GP trainer.' (Smith et al., 2002)
Increased awareness of and knowledge about how other healthcare systems function	Developed insight into disparities within healthcare systems, Increased understanding and awareness of other systems	'gain a more effective measure by which to evaluate the strengths and weakness of their own country's health care system, and further develop insights into disparities' (Button et al., 2005)
Increased self-awareness	Awareness of own skills and limitations, Able to challenge own beliefs, Able to reflect on own situation, Able to self-define	'also made me more aware of my own values and beliefs and broadened my mind' (Greatex-White, 2008)
Increased awareness of and knowledge about finance in healthcare	Awareness of the costs of healthcare	'There is an acute awareness of the costs of healthcare delivery especially when confronted by patients who have to pay for each intervention' (Longstaff, 2012)

Increased awareness of and knowledge about the resistance of culture	Understanding how to make small changes, Being innovative in overcoming language and cultural difference, Understanding not to enforce your perspective onto others	'To demonstrate cultural competence, nurses should reflect on and recognise their own biases and be open to other perspectives, rather than trying to persuade others to see things their way.' (Paterson, 2014)
Increased awareness of and knowledge about culture in practical assessments	Understanding importance of collecting relevant cultural information about people's presenting health problems Learning how to conduct cultural assessments and culturally based physical assessments	'better understanding of cultural differences and of the need to acknowledge them in the delivery of health care.' (Paterson et al., 2014)
Increased awareness of and knowledge about the importance of trust within healthcare systems and staff	Understanding other people's perceptions of trust	Understanding of perceptions of trust, risk taking behaviour and approaches to risk management style. (Leather et al., 2010)
Increased awareness of and knowledge about how systems work	Able to identify stakeholders and change agents, Awareness of value systems, Understanding influencing patterns of those in power, Ability to assess impact of healthcare systems, Understanding the difficulty of questioning an organisation	'had come to understand a lot about how host countries health systems operate. They were also able to make direct comparisons with the British health care system' (Standage et al., 2014)
Skills		
Ability to overcome communication challenges	Liaise between-groups, Engage senior people, Negotiate with senior people	'Ability to have challenging conversations about sustainable change' (workshop participant)
Ability to communicate non-verbally	Developed non-verbal techniques	'developed nonverbal techniques' (Button et al., 2005)
Ability to provide better care	Ability to provide multicultural care, Ability to develop most effective approaches to care, Taking responsibility for providing quality care	'taking responsibility for developing quality of care' (Banatlava, 1997)
Ability to observe and examine patients	Increased intuitive knowledge of clinical signs, Ability to make diagnosis without investigations, Increased clinical judgement	'In particular, UK doctors 'honed' their clinical diagnoses when laboratory confirmation was not available' (Baguley et al., 2006)

Ability to be innovative with clinical skills	Use of innovative techniques, New ways of working	'Innovation in healthcare delivery and use of resources' (Jones et al., 2013)
Ability to use a broader range of clinical skills	Enhancing existing skills and acquiring new clinical skill	'clinical skills were better and that the trainee had a broader range of skills' (Kiernan et al., 2014)
Ability to apply clinical skills to another context	A more challenging environment or a low resource setting	'They gained hands-on experience of care and developed a keen awareness of how the principles of nursing were applied in contexts very different from that to which they were used.' (Thompson et al., 2000)
Ability to work with limited resources	Being more resourceful, Ability to target resource, Ability to find solutions despite limited resources, Ability to work without reliance on technology, Ability to manage in a low resource setting, Understanding the reasons behind lack of resources	'The nurses and doctors there are resourceful with what they have to use. I have learnt a lot and it has made me think differently. (Dean, 2013)
Ability to 'get the best out of people'	Encouraging people to work together Empowering people to recognise their own strengths and to take possession of their own work/projects Ability to assess the capability of others Encouraging people to work together	'empowering them to recognise their strengths and not deskilling them' (workshop participant)
Ability to manage risk	Manage risk in advance, Evaluation of environment, Understanding the clinical importance of risk management, Understanding the wider implication of poorly managed risk	'to manage risks they would not normally be exposed to' (Morgan, 2012)
Ability to negotiate with multiple stakeholders		'Improved skills of negotiation with multiple stakeholders' (Jones et al., 2013)
Ability to make independent clinical decisions	Ability to make an urgent decision in an emergency, Dealing with uncertain outcomes	'More independent clinical decision making, eg in an emergency situation' (workshop participant)
Ability to manage time and prioritise	Ability to respond quickly in an emergency, Prioritisation of limited resources	'time management and prioritisation' (workshop participant)

Ability to work within a system with unfamiliar power systems		‘power relationships very difficult to manage’ ‘understanding the power context’ (workshop participant)
Ability to fulfil future leadership roles		‘prepare them for future leadership roles within their profession’ (Kiernan et al., 2014)
Ability to plan and organise	Able to set direction	‘planning and organisation’ (Pearson et al., 2014)
Ability to improve service	Including renewed enthusiasm for service improvement	‘service improvement’ (Young et al., 2014)
Ability to transfer skills and knowledge to another context		‘applying those skills in a different context’ (workshop participant)
Ability to work towards solutions	Solution focused approach	‘solutions despite resource constraints’ (Kiernan et al., 2014)
Ability to find facts to solve problems		‘They all recognised improvements in their ability to problem solve’ (Longstaff, 2012)
Ability to make decisions	Understanding who the decision is for, Taking action on decision, Make judgements	‘better able to make decisions and take action’ (Kiernan et al., 2014)
Ability to co-operate		‘enhancing their own cooperation and communication skills’ (Baguley et al., 2006)
Ability to work as part of a team	Understanding team group norm, Perception of roles within the group, Managing personal objectives within a group	‘At a professional level, the experience enhanced team-working skills’ Longstaff, 2012)
Ability to develop friendships	Relationship formation skills, Developing new friendships	‘fostering friendships’ (Smith, 2012)
Ability to build a global network		‘They provide opportunities for personal and professional development of staff and promote the development of friendships and supportive networks between diverse communities’ (Bagguley et al., 2006)
Ability to give and accept praise		‘Appeared to be related to the giving and accepting of praise. In this context praise was meaningful and valued and

		often contrasted with the inanity of the home situation’ (Greatex-White, 2008)
Ability to disseminate best practice globally		‘fosters international networking, which leads to the dissemination of best practices’ (Horton, 2009)
Ability to be professionally competent	Wider view of profession, Intellectual development, Reminder of professional responsibilities, Stronger work ethic	‘a wider view of their profession’ (Horton, 2009)
Developed research skills	Grant application skills, Greater research skills	‘Experiential engagement with research is a desirable outcome’ (Pearson et al., 2014)
Ability to present work	Greater presentation skills	‘I’ve seen them change considerably as people – by the end they are standing up and presenting their work and they really value that.’ (workshop participant)
Ability to write reports and academic pieces		‘I believe this not only enhances my effectiveness as an NHS consultant, but also the lecturing, teaching and writing that I do reflects favourably on my hospital and university.’ (Banatlava, 1997)
Ability to apply knowledge gained in host system to the UK	Relating experiences back to UK, Using knowledge gained overseas to improve UK systems	‘Renewed enthusiasm for service improvement’ (Conference)
Ability to cope	Better coping strategies, Ability to deal with knock backs, Being unfazed by things, Learning to deal with stress	‘I am more adaptable and can cope much easier with change’ (Longstaff et al., 2012)
Ability to adapt social norms to meet needs of another culture	Change behaviour to fit with social norms	‘transcultural adaptation’ (Button et al., 2005)
Ability to lead by example		‘Leading by example with consistency and perseverance can be successful ways to improve practice’ (Dowell et al., 2014)
Ability to exchange ideas with those from another culture	Communicate effectively with those from another country or culture	‘interpersonal skills to live and work together with people of all nationalities and cultures’ (Paterson, 2014)

Ability to encourage others to take responsibility for own health		‘encourage taking responsibility for health’ (workshop participant)
Ability to manage self	Own expectations, Self-reliance, Self-management, Self-assurance	‘self-management’ (Lumb, 2014)
Ability to manage projects		I gained significant experience in report writing, project planning, managing budgets and particularly human resources (Young et al., 2014)
Ability to think through problems in a logical way	Analytical thinking, Lateral thinking	‘The experience of clinical practice in a low resource environment stimulated lateral thinking’ (Lee et al., 2011)
Ability to establish communication systems	Formal and informal	‘Establishing communication systems, both formal and informal.’ (Leather et al., 2010)
Developed teaching skills	Greater training delivery skills	‘But nurses/midwives - confidence and skills really increase, don’t do teaching in the UK’ (workshop participant)
Ability to use evidence based practice	Ability to apply theory	‘Use evidence-based practice effectively and develop a broader and more sophisticated understanding of occupation’ (Dowell et al., 2009)
Ability to speak host language		‘Some people would learn new language, this could depend on how rural you are’ (workshop participant)
Attitudes		
Confidence to work in other locations	Confidence to move to another city/country Working with UK multicultural/ underserved populations	‘to live and work independently in a new community and culture.’ (Morgan,2012)
Independence		‘Autonomy/independence’ (Kiernan et al., 2014)
Integrity		‘integrity’ (Young et al., 2014)
Diplomacy		‘utilising diplomacy skills’ (workshop participant)
Humility		‘Knowing that you are sometimes wrong’ (Conference notes)

Judgement	Non-judgemental attitude Changed self-judgement	'Yes and taking things less as face value and less judgemental.' (Workshop participant)
Proactivity	Using initiative	'initiative' (Pearson et al., 2014)
Increased cultural sensitivity	Sensitivity to reasoning behind cultural differences Sensitivity towards feelings of minority Sensitivity towards language barriers	'It involves an awareness and acceptance of cultural differences' (Paterson, 2014)
Increased respect for other cultures		'an understanding of and respect for other cultures' (Horton, 2009)
Reinforced ethnic and cultural identity	Positivity about being British	Having become a foreigner in the host country, there remained a sense of being tied to the home culture (Greatex-White, 2008)
Patience and tolerance	Accepting and working at other peoples pace More tolerance	'made them more tolerant of others' (Thompson et al., 2000)
Increased confidence	In caring for clients from another culture, In quality improvement methods, To take bolder steps, Self-confidence, Confidence in professional ability, In ability to address challenging situations	'Confidence about caring for clients whose culture differed from their own' (Briscoe, 2013)
Flexibility and adaptability	Acceptance of other ways of working, Adaptation to responsibility, Able to adapt more easily to unfamiliar situations, Able to cope more easily with change, Able to manage change, Gaining a wider perspective, Understanding the flexibility of roles	'Flexibility/humility: Accepting different ways of working' (workshop participant)
Emotional intelligence	Changed engagement with self, Knowledge and world	'emotional intelligence' (workshop participant)
Appreciation of importance of care and compassion	Empathy	'greater empathy and understanding' (Button et al., 2005)

Changed perception of otherness	Understanding importance of being a friendly stranger in UK, Experienced feeling like a foreigner whilst away	'Learning cultural differences gave students the rare chance of being in a minority status, with the consequential experience of living and surviving in a foreign culture – an experience that students reported as 'more valuable than a mere excursion' (Morgan, 2012)
Appreciation of excellent human resource in the NHS	Multidisciplinary teams, HR structures, Appreciation of own profession, Understanding hierarchy and the importance of each person within it, Interaction between healthcare professionals	'Through lack of team working they appreciated Resources - material and human' (workshop participant)
Appreciation of having the right tools and equipment to be able to do the job	Resources: technical equipment, disposal equipment, cleaning products and protective equipment	'greater appreciation of the resources' (Lee et al, 2014)
Appreciation of free universal health	NHS system of free healthcare for all Privilege and opportunity for UK citizens, Understanding the expectations that are placed on NHS by service users	'able to comment and reflect on issues around the perceived inequalities of insurance based healthcare systems' (Standage et al., 2014)
Appreciation of clinical governance procedures within NHS	Waste disposal, Audit, Teamwork, Education system, Tests and investigations, Understanding that systems are not restricting	'And a greater understanding of why we need to do the things that we do, like gaining consent from a child' – (Standage et al., 2014)
Organisational Outcomes		
Increased staff knowledge and skills	Increased staff knowledge of low cost healthcare, More knowledgeable staff, Staff able to discover better ways of doing things, Staff more aware of waste reduction	'makes people more adaptable when they come back because in some areas if you haven't move ward for twenty years, it is trauma just to be asked and work in ward X in the same hospital isn't it? If you've got somebody that has been exposed to a range of environment, they're more likely to cover shifts.' (workshop participant)
Increased international reputation of NHS	Greater fulfilment of social responsibility)	'Reputational development' (Jones et al., 2013)

NHS becomes a more attractive employee (If offers staff opportunity to volunteer)		‘Link attracts potential staff’ (Baguley et al., 2006)
Increased patient satisfaction	Staff better able to respond to UK multicultural populations, Staff have greater relationships with multicultural patient population, Staff more in tune with patients, Staff more aware of individual needs of patients	‘“Patient experience and dignity : understanding of patients from different areas’ (Jones et al., 2013)
Medical school more attractive to students (if allow students to go abroad)		‘medical school benefits (programme are increasingly attractive, potentially providing a strong tool for recruitment);’ (Miranda et al., 2005)
Increased workforce productivity		‘Increased workforce productivity’ (Jones et al., 2013)
Reduction in NHS drop outs	Increased staff retention	‘Attraction & retention of (more/better quality) workforce’ (Jones et al., 2013)
Increased international reputation (of UK)		‘96 per cent of health professionals interviewed for the study thought that the reputation of the NHS could only be enhanced by involvement in international health links.’ (Longstaff, 2012)
Miscellaneous outcomes		
Upper hand when competing for careers		‘working internationally is beneficial when competing for future employment’ (Paterson, 2014)
Increased job satisfaction	Increased motivation and morale with profession, Renewed passion for work, Sense of reward	‘They came back with greater job satisfaction’ (Longstaff, 2012)
Influence career pathway	Affects specialism choice, Exploration of potential career pathways, Pursuing careers in primary care, family practice, and public service, Sub-specialism in global health,	‘Such broadening experiences are recognized to impact upon the likelihood of working with underserved populations, and pursuing careers in primary care or public service’ (Lumb, 2013)

	Teaching or lecturing careers, Teaching responsibilities within clinical position	
Refreshment and reinvigoration	Coming back to UK refreshed and reinvigorated, Bringing new ideas to UK	‘with a rekindling of that initial desire to “change the world and help people” and refresh those values underpinning their initial vocational drive to enter the profession.’ (Lumb, 2013)
Personal satisfaction	Personal achievements and challenges, New experiences, Experiencing a different lifestyle, A holiday, Personal fulfilment	‘an opportunity to travel, experience and work in a different setting, and to make a positive impact’ (Elanaway et al., 2014)
Increased motivation to learn a language		‘Enhanced your motivation and/or ability to learn a foreign language after returning to Northern Ireland?’ Thompson (2000)
Development of a new perspective	Revising assumptions , Reassessed outlook on life, Seeing things differently, Changed world views, Changed outlook, Look at everything in a new light, Openness to new experiences, Put things into perspective	‘they were beginning to see differently and to compare aspects of the host environment with those of home, leading to new perspectives on life’ (Greatex-White, 2008)
Escapism	Escape from agendas and workload, A chance to take time out of training and practice, Space to think and clarify career objectives	‘they want to escape the hassle of home.’ (workshop participant)
Negative Outcomes		
Costs to British patients	Bringing tropical illness to UK	‘it is not uncommon for a few students each year to return from their elective unwell, with some of the infectious diseases occasionally brought back from electives not becoming apparent for some time, e.g. tuberculosis or malaria. This has significant public health implications’ (Lumb, 2013)
Developing redundant or bad skills/attitudes	Non-transferable skills, Bad habits , Deskilling, Overconfidence in ability, Poorer communication skills, Loss of confidence	‘They may be left to ‘do their best’ to manage heavy workloads with limited or no supervision, leading to the acquisition of poor practice habits.’ (Barnabas, 2012)

Difficulty getting the job you want on return	Permanent jobs or training contracts	‘ Many of them experienced discouragement and warnings of "career suicide" when proposing to opt out from accepted career pathways in Britain to work in the developing world for a short period" (Connelly, 1995)
Loss of trained staff	Utilisation of key staff time, Financial cost of losing staff, Having to find cover for staff	‘Trained staff leaving their post following links’ (Jones et al., 2013)
Negative perceptions of NHS	Reputational When program run badly	‘ Negative perception of the UK institution where links are run badly’ (Jones et al., 2013)
Distracted staff		‘Distracts staff from their work at the institution’ (Jones et al., 2013)
Exposure to ethical dilemmas	To work outside of competency, Lack of regulation, Too much responsibility	‘ to encounter challenging ethical scenarios, particularly those students venturing to developing countries’ (Banatlava, 1998)
No recognition of accreditation upon return		‘ training and accreditation issues,’ (Banatlava, 1998) ‘ Lack of accreditation/recognition’ (workshop participant)
Reduced experience and exposure to UK procedures, protocols and research	No experience with NHS procedures that don’t exist in host country, Missing out on formal training and conferences, No experience with chronic disease management over time, No experience with health conditions that are common in UK and not in host country, Unaware of NHS protocol and updates, Loss of professional networks and relationships	‘ Referral experience more limited’ (Kiernan et al., 2014) ‘Things might be outdated’ (workshop participant)
Affects professional progression	Lengthens training, Less time to prepare for exams, Loss of partnerships	‘The threat of having to 'retrain' is ludicrous when I am working in a developed country in a primary care setting essentially modeled on the British system’ (Smith et al., 2012)
Negative colleague perceptions	Colleagues have to cover	‘ Negative perception of gaps in training programmes’ (workshop participant)

Use of time	Annual leave, General time consumption	‘ Staff generally use their annual leave for the trips’ (Dean, 2013)
Professional revalidation issues	For consultants	‘ "Another common barrier was keeping up appraisal in light of the recent changes to GP revalidation:" ‘ (Young et al, 2014)
Litigation	Legal issues involving clinical/professional risk	‘ clinical-professional risk- litigation,’ (Morgan, 2012)
Security	Exposure to aggression, Violence and death, Becoming a victim of crime, Political unrest	‘examples range from involvement in criminal activity (either as perpetrator or victim),’ (Lumb, 2014)
Carbon footprint		‘ Another health and safety issue is the carbon footprint’ (Pearson et al., 2014)
Culture shock		‘Culture shock” due to the contextual differences and challenges faced in resource poor settings.’ (Jones et al., 2013)
Environmental and infrastructural risk		‘ physical risk to person- environment, infrastructure,’ (Morgan, 2012)
Extreme nationalism towards UK		‘developing negative attitudes towards host culture- causes retreat back to culture of origin and even extreme nationalism’ (Greatex-White, 2008)
Experiencing negative feelings	Feeling as though imposing on UK colleagues to provide cover, Feeling out of depth, Frustration, Guilt and regret about death	‘I was subjected to the feelings of guilt and regret which accompany the death of a patient under one's care’ (Robinson, 2014)
Financial loss	Costs of getting involved, Loss of earnings, Loss of pension or employment entitlement	‘costs of getting involved’ (Dean, 2013)’
Health consequences	Animal bites, Tropical diseases, Sexually Transmitted Disease, Injuries and transport accidents, Infection, Jet lag, Skin disease	‘11.1% were concerned that they had placed themselves at risk of HIV and STIs. Unprotected sexual intercourse was the most commonly reported reason’ (Wyler et al., 2012)
Psychological consequences	Depression, Anxiety, Stress, Nervousness	‘Psychological problems on return from their placements’ (Wyler et al., 2012)
Exhaustion and burn out		‘ Exhaustion/Burnout/Stress’ (Jones et al., 2013)

Loneliness	Isolation, Social isolation, No or few friends in host country	'you will often be doing lone working which will be very high risk and that happens an awful lot.' (workshop participant)
Missing things at home	Missing life in the UK, Time away from family and friends	'time away from their family' (Button et al., 2005)
Loss of interest in global health and international placements	Negative perceptions of volunteering and international placements	'Many reported negative experiences and never wanted to do it again' (Conference speaker)
Socio-cultural risk	Exposure to corruption, Experiencing resistance to western influence	'Socio-cultural risk- dress like them, didn't want English influence, corruption' (Morgan, 2012)
Become judgemental		'Go home with a judgmental opinion of some of the people I look after.' (workshop participant)

Table 4: Table of potential variables, higher order themes, lower order components and examples from the literature

Higher order themes	Lower order Components	Examples from data
Environmental		
Ethics	Are local patients informed of the risk? Corporate and social responsibility Do patients come first? Levels of standards Health and Safety	"For example, it was not uncommon at first for an anaesthesiologist to encounter a complex paediatric patient having major surgery in the operating theatre where she was expected to proceed with anaesthesia without question and without preparation of adequate drugs or equipment." (Kinneer, 2013)
Funding	Consistency of funding for project Finance plan for project Funding from a charity or grant Volunteer funded by sending organisation	"The period of external funding is drawing to a close and the link needs more regular and predictable funding to ensure sustainability." (Baillie, 2009)

	<p>Volunteer fundraising Support of a health link partnership Self-funding Specific funding for training</p>	<p>“All international experiences are financed by the students either by assistance from grant awarding bodies, fund raising activities or personal finance.” (Thompson, 2000)</p>
Decision of host countries needs	<p>Needs Assessment by both parties High income party decides Host country decides</p>	<p>“In South Africa, for example, the government tries to fill all clinical posts with local doctors. Only when a post has not been filled by a local doctor does the government seek external applications for which UK GP trainees can apply.” (Kiernan, 2014)</p>
Healthcare facility factors	<p>Does the environment favour flexibility Does management allow people to become multi-skilled Level of organisational support Use of specific activities/sessions for learning Volunteer exposure to numerous systems Opportunities for exposure to culture outside of hospital Differences in protocols Licensing and professional regulations Level of corruption Are volunteer skills best utilised? Encouragement and motivation of volunteers Financial and human resources Criticism of project/volunteers Mobility of local staff Existence of local role models Number of times volunteers and local professionals engage</p>	<p>“This support is, by necessity, mostly provided by the host supervisor, and home medical schools in effect delegate their duty of care to the host.” (Lumb, 2014)</p> <p>“Students should be exposed to a variety of nursing experiences within the host country. This would give them a broad spectrum for comparisons between cultures, nursing practice and health care delivery in those cultures” (Button, 2005)</p>
Benefits for host organisation	<p>Donations Material/financial benefits Payment for supervision</p>	<p>“each trainee must recognise the need for reciprocity when a community contributes to his or her education. This might manifest through the provision of resources, such as books and</p>

		surgical supplies, of teaching and new ideas, or of money, which could be reallocated to meet local need." (Banatlava, 1998)
Income of host country	Low Middle High	"They therefore concluded that there was no significant difference in level of knowledge and skill gained by going to a developed or developing country" (Button, 2005)
Commitment of local staff to project	Staff time pressures Empowerment of local staff Involvement of hospital leaders Project use local experts Local perceptions of volunteers Value of volunteer opinions	"It was reported that some overseas staff are wary of offering constructive criticism, not wishing to appear ungrateful" (Baguley, 2006) "As this host explains, two prominent negative aspects are insufficient input and time" (Pearson, 2014)
Difference between host and origin country	Cultural distance between host and origin country Level of cultural immersion Severity of communication difficulties Shared values and cultural fit	"The greater the cultural differences of the international placement, the greater the impact." (Thompson, 2000)
NHS and UK Factors	Accreditation Existence of returner schemes Bureaucracy Political Climate in UK Recognition of benefits by NHS/UK organisation Trust, deaneries and PCT's support and influence Support of UK colleagues	"This placement is recognized by the (UK) Royal College of Anaesthetists to count towards training, and these trainees will all have completed their Royal College examinations before the trip." (Button 2005) "Many forward-thinking NHS trusts actively support relationships with overseas organisations but barriers remain." (Dean, 2013)
Relationship between host and sending organisation	Dependence on one-another Quality of communication Collaboration Differing expectations Equality of input Ground rules and protocol How the link is set up Multi-departmental partnerships Registered links i.e. THET	"Links are not properly established until a visit has given collaborators time to become familiar with each other and to plan the first year, at least, of their work together." (Parry, 1998) "Links forged as trainees on these initial UROLINK visits have often been strengthened, and centres where these trainees have become consultants are now 'twinning' to continue the two-way exchange of experience." (Gujral, 2002)

	<p>Sensitivity to local contexts Sustainability of relationship Length of relationship Uni-professional or multi-disciplinary</p>	
Level of supervision and support	<p>Mentor in UK Support in UK Supervision from western staff residing in host country Linking of senior and junior volunteers Supervision from local people Support structure in host country Access to HR</p>	<p>“less support from organisational structure, developed skills as a result” (workshop participant)</p> <p>“the supervision styles of host supervisors as the major challenges faced” (Horton, 2009)</p>
Existence of other similar project in areas	<p>Over-crowding of volunteers in hospitals Support from others volunteers in another project</p>	<p>"specialises in delivering high-quality primary health care in very hard to reach communities, where government service provision is non-existent and where there are very few other NGO projects" (Nunns 2011)</p>
Focus of project	<p>Agreement of focus Focus on mutual benefit Alignment of project with host country health plans Capacity building focus Service delivery focus Developmental focus Sustainability focus Training focus</p>	<p>“For IMV placements to work, both host and volunteer need to have realistic goals and a common understanding of the aims of the placement.”(Elnaway, 2013)</p> <p>“The most commonly-reported roles overall were clinical service delivery in a non-emergency setting” (Seo, 2012)</p>
Practical Factors	<p>Travel Accommodation Use of travel agent Documentation</p>	<p>some students plan their electives in groups, all travelling to a particular destination. This process often involves students planning a travel experience rather than a learning experience. (Miranda, 2005)</p>
Structure of the programme	<p>Aims developed by volunteers themselves Informed by other similar projects Informed by literature</p>	<p>“undertaking project work, particularly if beneficial to the host.” (Lumb, 2014)</p>

	<p>Coercion</p> <p>Continuation of project by other volunteers</p> <p>Involvement of local governments</p> <p>Countrywide initiatives</p> <p>Do volunteers have a project?</p> <p>How project is managed (i.e., well run)</p> <p>Existence of guidelines and frameworks</p> <p>Commitment/time allocation/number of UK admin staff</p> <p>Programme tailored to volunteer needs</p> <p>Spread of volunteers throughout the year</p> <p>Quality control of services provided by volunteers</p>	<p>"It may have been helpful to obtain more input from similar programs at an earlier stage of planning, and it would be helpful in the future to establish formal links between programs or a forum for discussion" (Kinnear, 2013)</p> <p>‘degree of developing country ownership’ (Smith, 2012)</p>
Length of placement	<p>Long term</p> <p>Short term</p> <p>Adjustment</p> <p>Short re-occurring trips</p>	<p>‘the average time out being 12 months, you really have time to get to grips with trusting people when you are volunteering that it takes that long before you can kind of be comfortable with it.’ (workshop participant)</p>
Project evaluations	<p>Evaluations during placement</p> <p>Post-placement longitudinal evaluation</p>	<p>‘The collection and application of feedback from hosts and volunteers, as well as the assessment of impact of such placements, are vital for ensuring that potential harms are mitigated and beneficial outcomes maximised (Elnaway, 2013)</p>
Project retention and recruitment of volunteers	<p>Volunteer drop out</p> <p>How are volunteers recruited</p>	<p>‘Retention of staff’ (workshop participant)</p>
Assessment and Education	<p>Existence of set learning outcomes and objectives</p> <p>Use of assessment</p> <p>Use of model to facilitate contextual understanding</p>	<p>‘it’s all about gaining global health knowledge, so that’s their basic outcome, there’s no assessment, its quite fluid’ (workshop participant)</p>
Time of programme arrangement	<p>In advance</p> <p>In country</p>	<p>‘Communications between Hereford and Muheza are difficult so details of each programme are arranged on arrival’ (Wood, 1994)</p>
Training and preparation	<p>Appropriate training and preparation before placement</p>	<p>‘the intensity of the learning experience and pretrip preparation had a greater influence’ (Button, 2005)</p>

	<p>Contact with previous volunteers Debriefing Encouraging people to share experience Set training and preparation events Health monitoring Meeting in UK Training and preparation in country Volunteer involvement in planning</p>	<p>‘subsequently question the actual benefit of their placement. Of note, this was despite the fact that all had received comprehensive pre-placement briefings and documents, and had had contact with previous volunteers’ (Elnawaway, 2013)</p>
Type of organisation	<p>Health Partnership Existing organisations Commercial involvement DIY/self-organised Remote or physical volunteering</p>	<p>‘Links forged as trainees on these initial UROLINK visits have often been strengthened, and centres where these trainees have become consultants are now ‘twinning’ to continue the two-way exchange of experience.’ (Gujral, 2002)</p>
Transferability of skills learnt	<p>Non-transferable skills Skills latency period Context dependency of skills</p>	<p>‘Areas in which responders were most easily able to transfer competencies to the UK to a moderate or significant degree were personal qualities (such as self-awareness and integrity)’ (Young, 2014)</p>
Volunteer dynamics within project	<p>Different disciplines of volunteers in project Number of volunteers in the project Social support from other volunteers in country Planned travel to destination as a group</p>	<p>‘A broad range of departments become involved and a variety of activities are developed with the partner institution in the United Kingdom... This is preferable to a medley of individual links from a number of different institutions.’ (Parry,. 1998)</p>
Intra-personal Variables		
Choices made/behaviour	<p>Desire to become culturally sensitive Wanting to work outside of competency Willingness to work in dangerous situations Use of stress reduction strategies Understanding of local context Communication with friends/home Feeling like a foreigner Being realistic about achievements Engagement with project</p>	<p>‘a LMI country may present a temptation to students to undertake medical care or procedures which they would not be permitted to perform at home’ (Lumb, 2014)</p> <p>‘learning the local language will enable nurses to succeed in developing relationships with patients or nursing students. In doing so, they will begin to move to the third level of cultural competence’ (Paterson, 2014)</p>

	Willingness to learn language Perception of placement as negative or positive experience	
Motivations for international placement	Professional/career motivations Personal Cultural Recognition from peers Desire to help other	‘unclear whether those who participated wanted to learn from the experience or whether they saw themselves as aiding the perceived ‘unfortunate’’ (Button, 2005)
Differences between volunteers	Level of advanced preparation Age Locum posts before or after Have individuals volunteered before? Stage in professional career Level of experience Use of professional leave	‘the range of professionals that aren’t qualified so they have to be supervised when they go out’ (workshop participant) ‘In practical terms, overseas working may be more accessible to younger GPs who have fewer family and financial commitments and may take up international work during training or during periods of job transition’ (Smith, 2014)
Opportunities		
Opportunities for reflection	Critical reflection Set reflection tasks Debrief Self-reflection when choosing a placement Time for post-placement reflection	‘the process of critical reflection was uncomfortable for some. Critical reflection facilitated in a safe place may support individuals to transform their way of thinking’ (Briscoe, 2013)
Opportunities for clinical exposure	To experience complex situations and procedures To be thrown out of professional comfort zone To experience a different healthcare environment To experience a measure to compare UK and NHS to To experience unusual networks and hierarchies To work with higher severity of illness To work with limited resources To work with many illnesses: spread and volume	Participation in health links provides in depth experience of these increasingly global pathologies" (Peate, 2008) ‘cannot emphasise enough how seeing a mind-bogglingly large number of seriously ill people has helped ... in [their] subsequent career.’ (Seo, 2012)

Opportunities for culturally different exposure	<ul style="list-style-type: none"> Risk exposure To engage with people from culturally diverse backgrounds To experience another culture To experience being a foreigner To experience challenging situations 	<p>‘being a foreigner- trigger for disturbance’ (Greatex-White, 2008)</p> <p>the opportunity to work in complicated, poorly resourced and challenging environments’ (Kiernan, 2014)</p>
Opportunities for skill development	<ul style="list-style-type: none"> To test coping mechanisms To use own approaches to care For creativity and innovation For hands on work For student/volunteer-centred approach to learning To use risk management skills To convert knowledge to know how To develop communication skills To challenge communication skills To practice clinical skills To practice speaking in another language To put theory into practice 	<p>‘There was lots of hands-on experience and opportunities to improve clinical skills (Kiernan, 2014)</p> <p>‘opportunity to use skills- risk management’ (Workshop participant)</p> <p>‘the opportunity to develop their clinical skills.’ (Barnabas, 1992)</p>
Opportunities for research skill development	<ul style="list-style-type: none"> To research unusual areas To undertake collaborative research To conduct research mutually 	<p>Doctors undertaking research in the UK become frustrated with its perceived lack of relevance to health care: research in developing countries is often more applied (Banatlava, 1997)</p>
Opportunities for leadership	<ul style="list-style-type: none"> To be included and opinions valued For teaching To lead and have responsibility To use risk management skills 	<p>‘opportunities to develop leadership skills’ Smith (2014)</p>
Opportunities for atypical learning experiences	<ul style="list-style-type: none"> To learn about self Mutual learning 	<p>‘Nursing electives at home or abroad may be one way of encouraging nurses in the UK to consider their role and function from a different perspective" (Peate, 2008)</p>

5.5. Discussion

This study aimed to generate a list of PPD outcomes which might be developed through international placements and variables which might affect their development. I did this through meta-synthesis of existing literature. I wanted to create a list of low-level learning outcomes that would be suitable for psychological measurement or assessment. I found 55 peer-reviewed papers which reached the quality criteria of academic rigor and were about the specific population of interest, for inclusion in the meta-synthesis. From these, I extracted 133 PPD outcomes and 34 variables. PPD outcomes ranged from ‘ability to work with limited resources’ to ‘understanding how to be a good teacher’. Variables included items like ‘structure of the programme’, ‘transferability of skills learnt’ and ‘motivations for international placements’. By using this wider scope, the results of this study and subsequent studies can be applied and used more frequently.

The previous systematic review described at the beginning of this chapter by Jones et al., (13) found 40 individual benefits grouped into 7 key domains clinical skills, management skills, communication and teamwork, patient experience and dignity, policy, academic skills and personal satisfaction and interest. The 40 individual benefits reported in the paper map similarly onto my findings. However, my findings are presented at a more specific level. For example Jones et al. (13) reports ‘management skills as a high level domain’, within this sits ‘leadership and management’ as one of the 40 benefits and no further initial codes (13). My review found and reported many more specific measurable knowledge, skills and attitudes that could characterise constituent components of such leadership: ability to manage self; ability to manage projects; ability to lead by example; ability to manage risk; ability to manage time and prioritise; ability to fulfil future leadership roles; ability to plan and organise; ability to ‘get the best out of people’; ability to make decisions; independence. So whilst there was a great overlap with the domains that are already known this review reported more measurable constituent components that can be used to develop psychological tests/measurements. The previous systematic review did not report any variables, so this study adds to the knowledge base by providing higher specificity of PPD outcomes, additional outcomes and variables that might affect these. It seems the aim of the Jones review was to synthesise the findings into a small number of categories, whilst the aim of this review was to extract measurable PPD outcomes (13).

The comparison of the domains and benefits reported in the Jones et al., review (13) also highlights the difficulties of trying to categorise learning into neat categorical domains. A low level outcome from my meta-synthesis such as ‘Ability to negotiate with multiple stakeholders’ could fall into ‘improved skills of negotiation with multiple stakeholders’ within Jones framework. However, others might argue it’s a component of ‘Leadership and management’, ‘greater understanding of the factors affecting health in other countries’, or ‘understanding of other health systems’ on a domain level it could fit into ‘communication’, ‘management’ or even ‘policy’. Therefore, this synthesis further highlights the importance of removing high level broad categorisations and focusing on measurable specific PPD outcomes.

It could be argued that my review found additional outcomes that are not reported in the Jones review (13), however differences in categorisation makes direct comparison difficult. An outcome may have been in the original data, but the exact meaning of the particular knowledge, skill or attitude was lost in the synthesis process. For example ‘ability to transfer skills and knowledge to another context’ isn’t mentioned in the Jones domains, but it could arguably fit into ‘clinical skills’ or ‘ability to cope in different environments’, so may well have been in the original data. This further highlights the issue of a lack of clarity and specificity in the existing literature.

The costs (negative outcomes) reported in the Jones et al., (13) review are also very much in line with my findings, they report 5 high level domains: financial, loss of staff, reputational, health and security and opportunity (13). In a similar way to the positive PPD outcomes it could be argued that this review provides and reports a re- expansion of the domains to fully understand how these five domains are exemplified through the 29 individual costs I report. However, as there are less domains that are more restricted in meaning my review adds additional more specific costs. Some unique costs found in my research are: cost to British patients, effect on career progression; family and relationships; negative perceptions from trust, colleagues and line managers, redundant/bad skill development.

I suggested earlier that previous literature presented much of the learning within broad generalised categories (13,22,44,47). Whilst this study found this to be largely true, it also

adds to existing knowledge by evidencing the many times when authors describe the constituent components of these key skills. By extracting the data at such a low-level of specificity, I have created a large data set of the potential learning outcomes and potential variables. Furthermore, by extracting at this level of specificity, I have generated data that is of greater relevance for psychometric research, as literature suggests using high levels of specificity to make self-assessment more accurate (155). Asking participants whether they feel their communication skills developed as a result of international placements would have little psychometric validity (155). However, with the newly acquired data I can develop a measure that asks specific questions about specific components of each skill set for example 'Increased awareness of and knowledge about how communication between two people can affect understanding' rather than 'communication'.

This study supports previous literature that suggests international placements are generally a positive experience that result in various learning outcomes for British professionals (13,17,19,82). Furthermore, 96% of the papers in the original systematic review reported positive outcomes. However, this must also be balanced with the frequency of negative outcomes occurring, as 49% of papers also reported negative outcomes, suggesting there is potentially much more to be done to remove the potential costs.

The review findings suggest there is a lack of empirical results in this field. Only 43% of the papers included in the review contained quantitative or qualitative data, and much of the findings are written as an evaluation of a link/project or an individual account of an international placement. There is also little evaluation written by an external evaluator, but rather those involved in the project that may have biases. This finding mimics that of previous papers included in the systematic review, that a greater body of high quality research and evidence is needed to explore the benefits and drawbacks of international placements (13,24).

The participant groups of the study highlight a key issue that has been recognised in recent research. A survey conducted by the MOVE research team suggested that many NHS non-medical staff would also be interested in international placements, given the opportunity (252). The inclusion criteria for the systematic review included all NHS professions such as administrative staff, dentists, occupational therapists and mental health professionals. Yet a large proportion of the literature written (and used in this review) only concerns doctors and nurses, 38% of the papers used in this review focused solely on doctors and 25% on nurses. Whereas

only 9% focused on any other healthcare profession, in this case dentists, occupational therapists, mental health professionals and global health students. These percentages could suggest two things. Firstly, that more opportunities for international placements exist for doctors and nursing professionals or that more papers are written about these professionals than others. Considering the findings of previous research (253), the former is seems most probable and future research should consider the opportunities available to other staff groups and whether the learning on international placements is equally beneficial to under-represented professions.

By specifying the precise 133 benefits to British healthcare professionals, it is hoped that this meta-synthesis can facilitate the specification and exploration of learning outcomes. It is hoped that this can help in addressing the imbalanced discourse of the ‘benefitting LMIC’ and the ‘donor HIC’ that is historically depicted.

5.5.1 Limitations

There were many papers included in the synthesis; which presented no empirical data and this might therefore be different from data collected in more systematic way. Much of the data generated in this systematic review is not collected from empirical work, quantitative or qualitative. Hence, in order to ensure that the data that has been collected is a true reflection of PPD in LMICs, it will be presented to a panel of expert stakeholders to decide: firstly whether it’s correct and secondly whether it’s important. This will be discussed in the next chapter.

One common criticism of the meta-synthesis approach is that upon generating analytical themes to apply to the data, the researcher can impose his opinion or diverge from the meaning intended in the original data (220). I attempted to account for this potential limitation by avoiding the third stage of the thematic synthesis approach and therefore generating themes that are closer to the author’s intended meaning. However, in any synthesis approach I cannot completely remove myself from the process, as it involves some degree of researcher interpretation.

Another limitation was timescale. The systematic review was conducted at the beginning of my PhD candidature. I could not update it due to the stepwise nature of the work within

this thesis. However, I conducted the same systematic search strategy in March 2018 and although 23 new papers had been published, no new themes had emerged.

Providing a high level of specificity and clarity is presented as a benefit throughout this chapter and thesis, but critics may argue that it is also a limitation, as it makes the results less accessible to readers and less parsimonious. In order to extract data at this level, much of what is extracted is long lists that are categorised thematically, at this stage there were no concise answers to the research question. To understand ‘what’ the PPD outcomes are, one must consider a low list of highly specific, outcomes. However, this was necessary, and made the research findings unique, as the categorical or narrative answers to the research question are reported and explained elsewhere (11,13,82,90). Presenting a table of 133 outcomes may make readers less likely to engage with the results at this stage. However, as the research progresses these results are further reduced.

This review had a narrow focus in order to generate a concise list of outcomes and variables that currently exist in the literature. While this resulted in extraction of only study specific data, it also meant that I excluded some interesting tangential data. For example, as I chose to only extract data from papers that include UK healthcare professionals, data about international healthcare professionals or UK professionals (without a healthcare background) were beyond the remit of this review. Furthermore, the review excluded grey literature; a lot of research in this field is grey literature, such as report papers generated by individual projects (13). However, to ensure the data extracted was of reasonable quality and to limit the items presented to stakeholders in the next progressive study it was essential to have a quality filter.

Finally, it could be argued that there are many specific examples in the list of outcomes that only apply to a small number of professionals. Similarly, it could be argued that the meta-synthesis included opinions of individuals in the field that may not be shared by all. It is intended that the next stage in the empirical process, the Delphi (with the assistance of key stakeholders) will generate a list of outcomes that are core, common and applicable across professions. It is hoped that the Delphi process will eliminate outcomes and variables that are abstract, not applicable to all professions or only applicable to a certain type of person. Hence, the refined list of outcomes in the next chapter, may hold higher validity than those generated in the results tables of this chapter; which have yet to be assessed or critiqued.

5.5.2. Future directions and implications

By extracting low-level potential learning outcomes, an understanding about ‘what’ the PPD is emerged. This provides a framework for future research or policy to develop specific intended learning outcomes for training and continuing professional development. By extracting the variables potential ideas emerge about ‘how’ it is gained (under what circumstances); which could eventually result in an understanding of how to maximise the gain. However further exploration of the how and what happens throughout this thesis.

In regards to the PPD outcomes, this study has generated a list of measurable outcomes that can be used in numerous ways in future studies. To my knowledge there are no other studies that have presented the outcomes without the restraints of arguably ineffective domains or thematic categorisations. This has more utility in psychological measurement.

In regards to the costs, this study adds to the emerging literature to provide greater evidence of the negative effects of international placements. Understanding what these ‘costs’ are will allow for greater future empirical measurement of costs. Furthermore, understanding how ‘costs’ are related to the ‘benefits’ and more importantly the contextual components of the LMIC environment may allow researchers to find ways to reduce and mitigate risk.

The synthesised list of variables, the contextual components of an international placement that affect PPD outcomes, is to my knowledge an original contribution with no research having generated, stated or used such a list. The list of contextual components that can now be explored further in a qualitative or quantitative manner, either used alongside the quantitative measure developed in the thesis or as a framework for qualitative exploration of HPIP learning environments Reporting these as independent variables in future studies alongside the PPD outcome dependant variable; will allow me to discover and evaluate the relationship between the two. The extraction of these variables is useful for future studies that may begin to explore how to optimise the returns for the professional, by ensuring that placements include variables that positively interact with outcomes, and exclude or reduce those that have a negative effect.

5.6. Conclusion

In conclusion, in this chapter I extracted many potential outcomes and contextual components of international placements from the literature. Most fit into descriptive themes and categories to some extent but some are presented as individual high-specificity concepts. As expected, not

every constituent component of the general terms (communication, leadership) are reported to develop on international placements. Furthermore, although there were 55 papers included in the thematic synthesis in 2014, most were of low quality and more than half did not report primary data. In order to advance knowledge, I would recommend that more high quality data providing evidence for PPD is generated.

5.7. Summary

This chapter has described how I synthesised data from peer-reviewed articles concerning the potential benefits, costs and potential variables of international placements. The output at the end of this chapter was a table of PPD outcomes, negative outcomes and variables that might affect these. In the next chapter I present this output to stakeholders. I describe how stakeholders critique, reduce and refine the extracted data using a consensus method.

6. Delphi Study: a Consensus Technique

The previous chapter described how I extracted potential outcomes and variables from peer-reviewed literature. This chapter describes how I use this data to develop a core outcome set (COS) using a consensus method. I describe the methods, findings and discussion of results. I describe the future applications of the developed COS.

6.1. Background

Despite ample literature describing the abundance of beneficial learning and development outcomes of international placements for British health professionals, there is no consensus or agreed upon definitive list of the specific learning that happens (11,13,14). In the previous chapter, I developed a list of potential personal and professional development (PPD) outcomes, however it is not understood; which of these outcomes are the most important and happen the most frequently. In chapter 4 I described COMET initiative guidelines to generate a core outcome set (COS). The most common way to generate COS consensus is through a stakeholder Delphi, whereby participants vote anonymously about which items should be included, they are then asked to reconsider in light of the group findings until finally an agreed upon COS emerges (211).

In this study I aim to generate consensus about which of the potential outcomes proposed in chapter 5, are most important and common and should therefore be included in a psychological measurement tool. Hence this study aims to present each of the low-level outcomes identified in the earlier meta-synthesis to a group of key stakeholders. To then explore which outcomes stakeholder's, believe are 'core' (common, important and applicable across a wide range of settings) and which are context or profession dependent.

6.2. Methods

6.2.1. Design

I took a modified Delphi approach. The Delphi method is an iterative method that uses numerous rounds to collect data and condense individual opinions into a group consensus (231). It involves a series of questionnaires that record participant's agreement with statements concerning a particular topic and is often used to develop COs in health

research (211). A stakeholder Delphi method has been used successfully multiple times to develop COS in the medical field (210,211,223).

In round one, I held a face-to-face discussion group with stakeholders to generate further statements. This was a workshop whereby stakeholders met to generate numerous lists of outcomes, variables and costs. The workshop involved various methods to extract and rank what the group believed to be the benefits and drawbacks to volunteering. Subsequent rounds were delivered online using software developed to host Delphi studies (a paper version was also created and circulated via email attachment to participants that experienced technical difficulties). Participants were presented with outcome statements and were required to indicate to what extent they agreed or disagreed each was a ‘*core outcome of international placements and volunteering.*’

6.2.2. Participants

I identified groups of stakeholders who were health professionals who had volunteering experience, people who placed international volunteers, individuals responsible for intended learning outcomes (ILOs) for health professionals, individuals who coordinate health partnerships, academics in health professional education and international development, educational commissioners and NHS stakeholders. Participants were recruited for an initial MOVE Project workshop using an existing network of people, to ensure that participants from each of the stakeholder groups were invited and represented. Non-attendees were invited to participate online. After this event a snow-ball sampling technique was used to reach further stakeholders from each group for online rounds, participants were asked to recommend interested individuals.

6.2.3. Instrumentation

6.2.3.1. Round one and pilot

I input the statements generated in the meta-synthesis and any additional from round one of the Delphi, into the hosting software. I piloted round two with seven members of the research team, who commented on structure, grammar, wording, level of specificity and technical issues. This resulted in a list of outcomes comprising of three questions and 156 statements to go forward in the experiment.

6.2.3.2. Round two

My external supervisor (LBD) and I divided the 156 statements into three categories: Knowledge, skills and attitudes (n=115), organisational outcomes (n=8) and negative outcomes (n=33). Statements were presented alongside a seven point Likert-type scale, regarding agreement as to whether each statement should be ‘considered a ‘core outcome’ of international placements that should be measured in a toolkit’. The scale used the following numbers to represent agreement: 1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=No Preference, 5=Slightly Agree, 6=Agree, 7= Strongly Agree. For emphasis the phrase ‘core outcome’ was presented in bold and the definition was repeated in numerous emails, instructions and synopsis. A ‘core outcome’ was defined in the following way:

“A core outcome is something that is common, important and applicable across a wide range of settings. It can be a benefit or cost, but it must be something that would be more likely to happen to an individual on international placement rather than somebody working in the UK”

For each round participants had 14 days to respond. However, as this initial questionnaire was particularly long some participant’s requested an extension of the deadline by 10 days. Email reminders were sent to invitees frequently.

6.2.3.3. Round three

The statements with at least 70% consensus in the previous round were retained and not re-presented to the group. In round three, stakeholders that completed round two were presented with the much smaller group of non-consensus statements and an anonymised report of the comments gathered in round two. Participants were asked to use the same Likert scale and reconsider their answers from round two (displayed) in light of the group median and the comments. Participants were given 14 days to answer but some requested a 2-day extension.

6.2.3.4. Round four

Any statements with at least 70% consensus in round three were retained; therefore participants were presented with an even smaller list of statements. Participants who had not responded in round three (but had in round two) were invited to re-join the study, as many stakeholders were working internationally and had limited internet access at certain

periods of the study. In round four, the expressions of some statements were changed in light of participant comments to increase clarity.

Box 3: The three questions presented to stakeholders in the Delphi

Box 3

- 1) **KNOWLEDGE, SKILLS AND ATTITUDES:** to what extent do you believe the following is a CORE outcome of international placements (that should be measured in a toolkit)?
- 2) **ORGANISATIONAL OUTCOMES:** to what extent do you believe the following is a CORE outcome of international placements (that should be measured in a toolkit)?
- 3) **NEGATIVE OUTCOMES:** To what extent do you believe the following is a CORE outcome of international placements (that should be measured in a toolkit)?

6.2.3. Analysis

The COS that is developed will then be compared to the current knowledge base developed in a systematic review by Jones et al. (13). The current outcomes will be applied to the broad domains generated in the systematic review to see the spread of items within each domain and any items that fit into more than 1 domain or no domain. The domains are: (communication and teamwork, clinical skills, management skills, patient experience and dignity, policy, academic skills and personal satisfaction & interest). A Wilcoxon ranked sums test will be conducted on the results between rounds to show the changes in opinions between rounds.

6.3. Results

6.3.1. Participants

51 participants attended the round one workshop across all of the stakeholder's groups. In total, 259 participants were invited to the online Delphi, 78 accepted. The response rates throughout the rounds remained high, however there was a small amount of attrition (22%): round two n=58, round three n=49, round four n=45. The stakeholders did not form a homogeneous group, nor fit into single defined categories (see appendix 11). More than half of the participants were involved in global health policy and a third of the participants had volunteered themselves in a healthcare role.

6.3.2. Rounds

After round two, 98 of the 156 statements were retained, this meant over 70% of the stakeholders agreed or strongly agreed these 98 statements were core outcomes. After re-considering their own vote in round two, the group median and anonymous comments regarding each statement 13 additional statements were retained in round three. Finally, after readdressing the above items for a second time an additional five statements met consensus and were retained in round four (see table 5). Of the items that met consensus 99 were positive and eight were negative. Positive outcomes were of educational benefits to the British health professionals and negative outcomes were drawbacks, costs or negative effects. Table 7 shows how the outcomes matched to the Jones et al., (13) framework, table 6 shows items that fell within more than one category. See appendix 3 and 4, for a full list of items and consensus levels.

Table 5: Number of statements with consensus at each round

Round	Number of Statements with consensus (n=156)	Consensus to include	Consensus to exclude
2	98	97	1
3	13	10	3
4	5	1	4
Did not meet consensus	40		

Table 6: Examples of core outcomes that fell within more than one categories

Example	Categories
Increased Awareness/Knowledge about clinical conditions and procedures rarely encountered in the UK	Clinical, Academic
Increased awareness of/knowledge about the importance of mutual learning and respect Ability to disseminate best practice globally	Patient experience and Dignity, Communication and Team Work Communication and Team Work, Academic, Service Improvement and Policy
Ability to develop friendships	Personal, Communication and Team Work

Table 7: Applying my results to the current knowledge: my core learning outcomes presented within the existing domains from Jones et al. (14)

Domain in Jones et al. (13)	Number of COs within this domain	Examples
Clinical skills	12	Ability to use a broader range of clinical skills Increased awareness of/knowledge about tropical diseases Increased awareness of/knowledge about the cultural aspects of health
Management skills	16	Ability to be adaptable in leading Ability to work within a system with unfamiliar power dynamics Ability to manage projects
Communication and teamwork	21	Understanding that words and behaviours can have different meanings Ability to co-operate Ability to work as part of a team
Patient experience and dignity	19	Understanding own potential to empower people Increased respect for other cultures Appreciation of free universal health
Service/Policy development and implementation	15	Increased awareness of/knowledge about the positive impact of clinical policies and governance Appreciation of excellent human resource in the NHS
Academic skills	9	Ability to dissemination best practice globally Improvement in teaching skills ability to build a global network
Personal satisfaction and interest	16	Ability to develop friendships Refreshment and reinvigoration Can-do attitude

6.3.3. Thematic results

The three charts below show how the results of the Delphi study relate to the key themes that came from the literature review: communication, leadership and cultural learning. Each shows the percentage of stakeholder consensus that was met for each component of the complex skill sets.

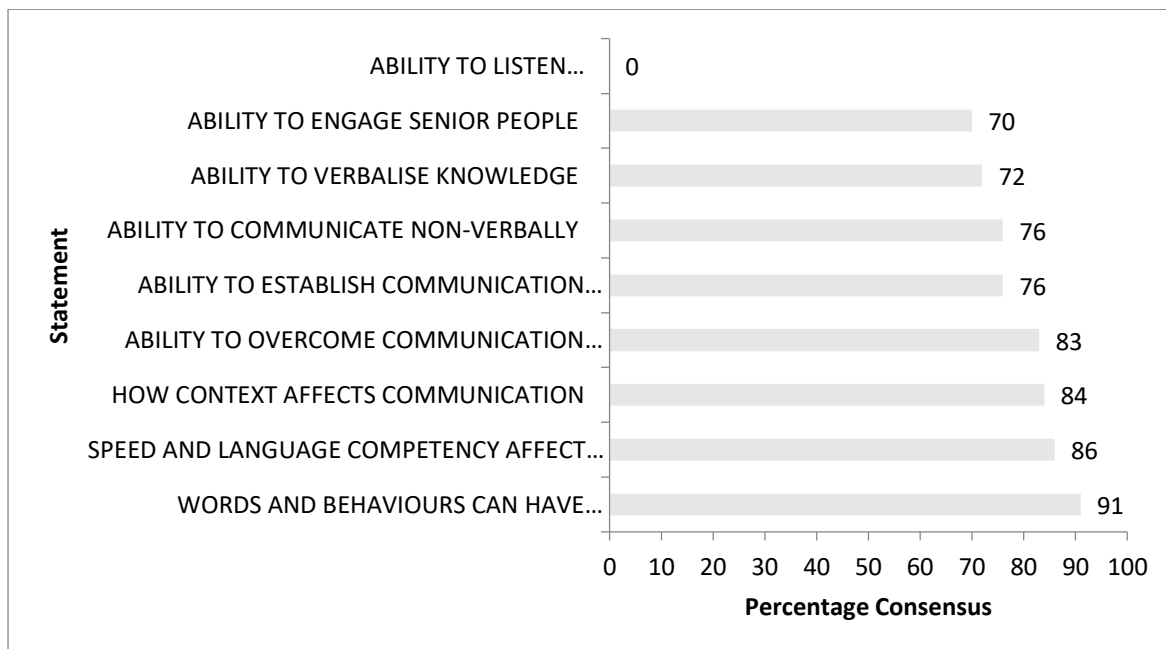


Figure 18: Percentage consensus for communication statements

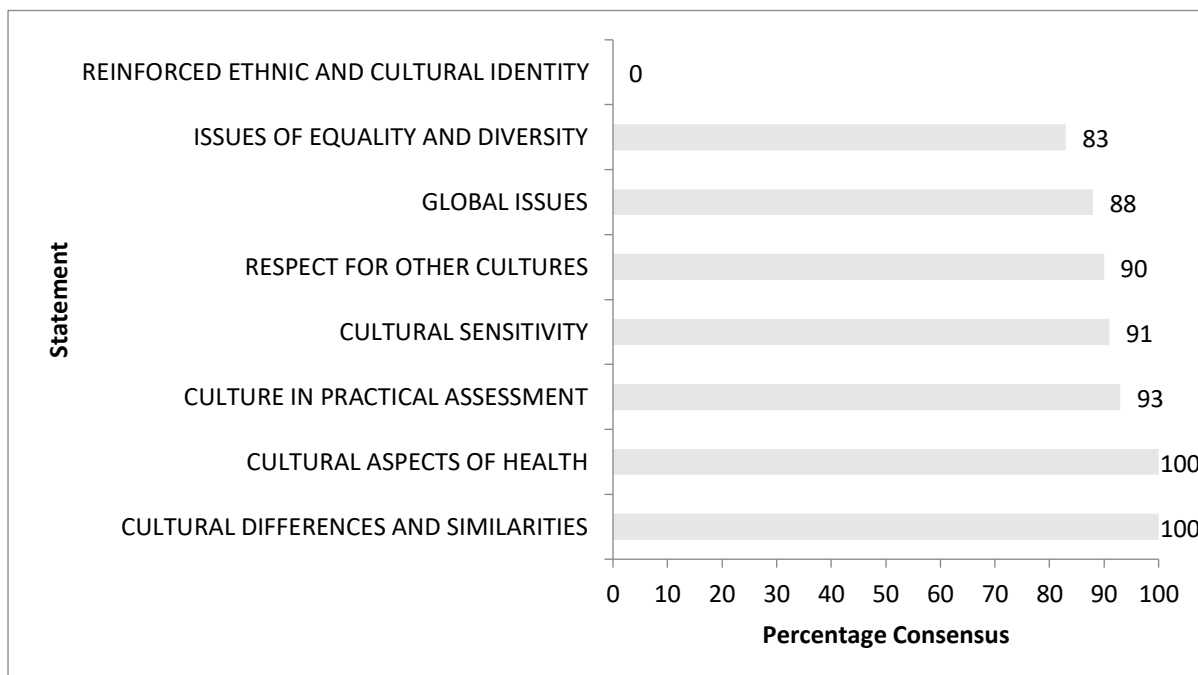


Figure 19: Percentage consensus for cultural learning statements

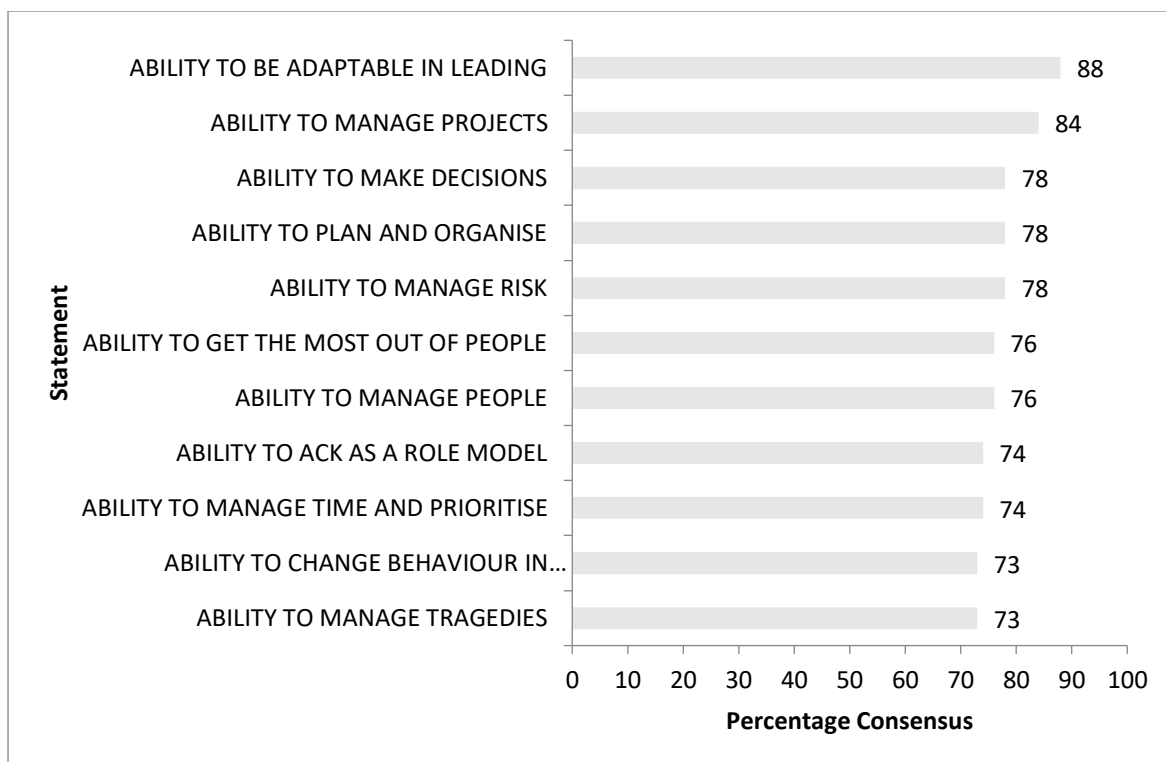


Figure 20: Percentage consensus for leadership statements

6.3.4. Statements with above 90% consensus

A number of statements reached greater than 90% consensus in the first round. Only two statements were agreed on by 100% of the participants. Of 14 statements that had greater than 90% consensus, four concerned cultural learning. Five concerned adaptability, transferring skills and innovation. The statements with 90% or more consensus are presented in table 8.

Table 8: Statements with above 90% consensus

Outcome	Percentage Consensus
Increased awareness of/knowledge about cultural differences and similarities	100
Increased awareness of/knowledge about the cultural aspects of health	100
Ability to work with limited resources	95
Increased awareness of/knowledge about culture in practical assessments	93
Ability to apply clinical skills to another context	93
Ability to be adaptable and innovative in teaching	93
Increased awareness of/knowledge about how other healthcare systems function	93
Ability to cope	93
Increased cultural sensitivity	91
Understanding that words and behaviours can have different meanings	91
Ability to apply knowledge across systems	91
Development of a new perspective	91
Improved flexibility and adaptability	91
Ability to be innovate when overcoming challenges	91

6.3.5. Statements for which the most stakeholders strongly agree

There were a number of statements for which a large proportion of stakeholders voted ‘strongly agree’. The most agreed two replicated the previous results, so those with 100% consensus also had the greatest number of strongly agree votes.

Table 9: Statements with most stakeholder agreement

Statement	Number of stakeholders that agreed
Increased awareness of/knowledge about cultural differences and similarities	36
Increased awareness of/knowledge about the cultural aspects of health	30
Increased awareness of/knowledge about conditions and procedures rarely encountered in the UK	28
Ability to work with limited resources	26
Ability to apply clinical skills to another context	25
Appreciation of free universal health	25
Increased understanding of basic skills and ideas	24
Increased awareness of/knowledge about the importance of community participation in health	23
Ability to be innovative with clinical skills	23
Increased self-awareness	23
Ability to work with resources available in specific contexts	22
Increased awareness of/knowledge about culture in practical assessments	21
Increased respect for other cultures	21
Increased cultural sensitivity	21
Understanding that words and behaviors can have different meanings	21
Ability to cope	21
Ability to be innovate when overcoming challenges	21

6.3.6. Non-consensus statements

There were a number of positive statements for which consensus was not met. Below are the positive statements with no-consensus:

- Reinforced ethnic and cultural identity
- Ability to listen
- Increased awareness of/knowledge about the importance of assessing healthcare on an individual basis
- Ability to apply evidence based practice
- Ability to give and accept praise
- Ability to encourage others to take responsibility for own health
- Ability to speak the host language

- Ability to challenge breaches of privacy and confidentiality
- An upper hand when competing for careers
- Spiritual development
- Escapism
- Improved research skills
- Ability to present work
- Ability to write reports and academic pieces
- Medical school more attractive to students

There were also many negative statements that stakeholders did not agree to be core outcomes of international placements:

- Costs to British patients
- Loss of trained staff
- Negative perceptions of NHS
- Distracted staff
- Difficulty getting the job or training position that you want upon return
- Reduced experience and exposure to UK procedures, protocols and research
- Affects professional progression
- Negative colleague perceptions
- Use of time
- Professional revalidation issues
- Litigation
- Security
- Carbon footprint
- Culture shock
- Environmental and infrastructural risk
- Experiencing negative feelings
- Psychological consequences
- Compromises of health and safety
- Exhaustion and burn out
- Loneliness
- Missing things at home
- Loss of interest in global health and international placements
- Socio-cultural risk
- Becoming judgmental
- Negative feelings towards the NHS

6.3.7. Changes in stakeholder opinion between rounds

To monitor change of opinion between rounds a Wilcoxon Ranked Pairs test was used to measure the change between median votes in each round for the whole group. A Bonferroni correction for multiple comparisons test was used to generate a p value of 0.001 to be significant. No statements had a significant change between rounds, however some exhibited greater change than others.

6.4. Discussion

By conducting this study, I aimed to seek the opinions of key stakeholders to determine which of the proposed outcomes identified in the meta-synthesis are core and should therefore be measured. I aimed to develop a COS of international placements and I generated a list of 116 core outcomes that stakeholders indicated could be generalised to all international placements across countries and professions. The results suggest that stakeholders agree positive personal and professional development happens across many different skills, knowledge and attitudes when engaging in international placements. Only 8 negative outcomes were retained in the Delphi, therefore stakeholders were in agreement that these negative outcomes were not likely to happen or not likely to happen to a range of healthcare professionals. The outcomes generated are in line with previous literature that suggests a wealth of knowledge, skills and attitudes are developed, however this COS is at a much more specific and measurable level.

Previous literature generally presents outcomes in terms of broad generalised skill sets (13,22,44,47). However, this study provides a list of 116 COs, from peer-reviewed literature and stakeholder opinion. When I attempted to retrospectively impose the domains of existing literature (13), it was difficult to fit each outcome within a single category, some fell within two or three and some could not be categorised (but fell within the general category of non-clinical skills). This supports the rationale for extraction of outcomes at a granular level, because in extracting at a higher level, some of the important content might be lost or misinterpreted. It also a reason why it was difficult in the previous chapter to identify the overlap between the outcomes in my meta-synthesis and the high level frameworks and domains of existing work.

The stakeholders agreed that the majority of the outcomes extracted from the literature were core, only 15 of the 123 positive statements did not reach a consensus, the remainder were considered core. The agreed core outcomes can be distinguished by percentage agreement, round in which consensus was met or number of participants that strongly agreed/disagreed. With those items having higher consensus percentages, reaching consensus at earlier rounds, or including high levels of strongly agree votes being the most important/agreed upon.

The results show a general lack of consensus regarding negative outcomes (costs). At the end of the first round consensus was only met for one negative outcome (health consequences) in comparison 95 positive outcomes. Therefore, the only negative statement that stakeholders

agreed on in round one was health consequences. This suggests that stakeholders initially believed that 97% of negative outcomes are not core (common, important and applicable across a wide range of settings). By round three the results still showed little consensus in terms of negative outcomes. Literature suggests the effect of negative outcomes can be moderated or mediated by certain factors/variables and may be dependent on the individual placement. For example, literature suggests that careful planning of placements can remove negative outcomes, for example pre-departure training is said to alleviate culture shock (4,83). This would suggest that by carefully controlling contextual factors the likelihood of negative outcomes occurring can be controlled. Hence, stakeholders may believe a change in moderating and mediating variables could potentially eliminate most negative outcomes; which means it cannot be core by definition. This is consistent with many of the qualitative free text comments that were collected during the research process:

- *'All the last questions relate to how well visit is planned'*
- *'Depends on post'*
- *'Depends on length of placement'*
- *'This can be challenging if you are not organized'*
- *'Not with appropriate selection and training'*
- *'There is need for preparation prior to overseas placements and preparation after the event prior to return to practice in the UK.'*

The comments above suggest that although negative outcomes can happen, stakeholders recognise ways of mediating them, for example training, preparation, choosing the right location/post/length of stay. On the contrary, stakeholders generally decided that the positive outcomes were more universal and less dependent on moderating variables. These results would suggest that the positive outcomes were mainly considered core, but the negative outcomes were not considered inevitable and they can be mediated or removed. This implies that stakeholder's may believe it is possible to tailor international placements that generate largely universal positives with careful mediation to ensure the likelihood of negative outcomes occurring is low. This has implications in the design of future projects and shows how important a tool to measure these moderating and mediating variables in relation to outcomes is.

From the results, it seems generating consensus of what is 'core' was much simpler for positive than negative statements. For a negative outcome to be core, it would mean that something bad will happen inevitably. Literature would suggest this is not the case. For example literature argues that pre-departure training can help prevent 'culture shock' and reduce risk (4,254), whereas failing to listen to local advice may increase difficulties adjusting to the local culture

(4), or that local governance and regulation in the host country may increase safety (98). If the manipulation of certain variables can reduce, increase or stop a negative outcome from occurring than it would not make sense for a stakeholder to argue its core. This may be the reason for a lack of consensus on the negative outcomes. When the results were fed-back to the stakeholders, one emailed to suggest that meta-cognitively the idea of voting for a negative outcome was difficult to conceptualise and attributed the lack of consensus to this:

'The negative responses were not easy to understand how to show your vote positively....that is probably why you have varied outcomes'

As expected, the results suggests that different constituent components of core, generalised skill sets can be detached and don't always develop at the same rate (e.g. communication, management, culture). I will discuss three key skills sets in relation to the results, communication, leadership and cultural learning.

6.4.1. Communication

Within the remit of communication numerous statements were presented to stakeholders.

The chart (figure 18) shows the percentage of stakeholder consensus: the number of participants that agreed each item was a core outcome of international placements.

Anything under 70% was not considered consensus and was displayed as 0%. The only statement with no consensus was 'ability to listen'. Hence, stakeholders do not believe that international placements improve professional's ability to listen. On the other hand the statement 'words and behaviours can have different meanings' achieved high consensus (91%), meaning that the vast majority of stakeholders believed this learning happens on each placement. Items such as 'engaging senior people' and 'verbalising knowledge' were very close to the 70% threshold, so less stakeholders considered this core.

One of the key themes to emerge from the literature review was how communication develops as a result of international placements (13,20,112). Despite this being a key theme in the literature review, it was not sufficiently supported by the Delphi results. Only one statement that could be categorised as communication was in the top 20 statements 'Understanding that words and behaviors can have different meanings'. This was the only statement in the communication category to have greater than 90% consensus and over 20 participants vote to strongly agree that it is a core outcome. Furthermore, no consensus was met regarding 'ability to listen'. This suggests that stakeholders do not believe that listening ability improves in low and middle

income countries (LMICs). Listening is a major component of the communication skill set, so it further highlights the importance of separating skills into constituent components, to examine ‘what’ learning actually happens as a result of international placements.

6.4.2. Cultural learning

Many papers describe the development of cultural knowledge, awareness or sensitivity during an international placement (13,21,22). The current study supports previous research as the only two statements which 100% of stakeholders agreed upon fell within the remit of cultural learning. This suggests that stakeholders understood this to be most frequent or important type of PPD in LMICs. Figure 19 shows that understanding ‘the cultural aspects of health’ and understanding ‘cultural differences and similarities’ were agreed to be core by 100% of the stakeholders. On the other hand, there was no consensus in regard to ‘reinforced ethnic and cultural identity’. Therefore most stakeholders did not consider this core. The remaining components of cultural learning had rather high levels of stakeholder consensus, with none close to the 70% threshold, indicating that the majority of stakeholders consider multiple components of cultural learning happen in LMIC placements; which is in line with previous research.

Each stakeholder agreed that two constituent components of cultural learning were core: understanding ‘cultural differences and similarities’ and ‘the effect of culture on health’. It is interesting that stakeholders believe this PPD happens invariably as a result of one international placement in a single culture. As presumably individuals would only have experience of one different culture whilst working overseas. It could suggest that stakeholders believe exposure to a new culture, is a catalyst or determinant of cultural learning, however it is not possible to infer this from these results and will be discussed in detail in later chapters. The idea of experiencing being a ‘foreigner’ resulting in learning and the international experience providing a platform for comparison to the UK is discussed in literature (46,255). This may provide an explanation for the high consensus regarding cultural learning.

6.4.3. Leadership

In the literature review the constituent components of ‘leadership’ were discussed. The notion of unequal constituent component development is echoed in the results of the Delphi. For example, Williams (164) argued there are six components to leadership. The current results suggest that stakeholders agree that there are numerous components of leadership which develop at different

rates as a result of international placements. For example, one of the 6 components ‘ability to plan and organise’ reached 78% consensus. Some constituent components were more agreed upon than others. Being ‘adaptable in leading’ was the most agreed upon, whilst ability to ‘manage tragedies’ had the least amount of stakeholder agreement, see figure 20. Being ‘adaptable in leading’ (perhaps similar to adjustment to the job proposed by Williams, (164)) reached 88%, suggesting that more stakeholders believe this a likely to happen universally as a result of international placements.

The constituent components of cultural learning and communication show a greater range of stakeholder consensus than the components of leadership. For example, some statements regarding cultural learning have no consensus and others 100%. In regards to leadership, most fall between 70 and 80%. This could be indicative of differences in placements, those exposed to greater opportunities for leadership would agree with most statements, accounting for the majority of the consensus. Yet, it could be that some individuals have experience of placements whereby British professionals are not given opportunities to lead. This could account for the 20-30% of stakeholders that disagree with the majority of the leadership statements. If some placements have different (or no) opportunities for leadership than others, it supports the necessity of psychological measurement of the learning environments to recognise which contextual components influence the PPD, that with a 70% consensus rate is considered core. The statement with the highest consensus was ‘adaptability in leadership’, 88%. However, it could be argued that adaptability in leadership is not a component of leadership, but rather a peripheral skill that could be applied to leadership and other skill sets. The skills that concern management, such as the ability to manage people, tragedies and time, show much lower levels of consensus, just above the threshold at around 75%. When considered in line with latent trait theory, this may indicate that it is not the specific professional skill sets that develops in LMICs but another construct/domain that underpins them.

6.4.4. Non consensus statements

There were a number of statements that did not meet consensus and were therefore excluded from the COS. Many of which were placement specific, for example, not every placement has opportunities to present work, apply evidence-based practice, speak the host language, conduct research or write academic pieces (these statements had no consensus). Others non-consensus statements were personal qualities such as ability to listen, spiritual development or ability to give and accept praise. This may indicate that stakeholders felt

these were dependent on the learning environment or more stable traits. Other statements might be considered contentious or unethical, for instance reinforced ethnic and cultural identity, escapism and challenging breaches of privacy and confidentiality. Finally, an upper hand when competing for careers was excluded, despite being reported frequently in the literature (43,112,256). The reason this was not considered core could be that this positive effect on career may not be considered inevitable, or it could be considered ‘ego-centric’ or against the ethos of ‘volunteering’ if personal achievement were acknowledged as a primary outcome.

6.4.5. Change in opinions

One unique aspect of the Delphi study, compared to face-to-face consensus methods, is that there is a quantitative measure of change of opinion. However, when analysing these changes there were no significant changes in opinions for any of the statements using a Wilcoxon ranked pairs. This suggests that the Delphi process did not elicit a significant median change in opinion between rounds. Hence, stakeholder opinions remained considerably consistent throughout.

6.4.6. Limitations

It has been argued that Delphi consensus is sometimes forced, people are asked to reassess their opinions continuously and many may change their opinion in order to gain consensus (257). Additionally, the 70% threshold still means that despite considerable disagreement an item may still become a core outcome. For this reason the tool (the next stage in the empirical process) will be important to measure cross-sectionally, actual occurrences of the outcomes and the variables that moderate these, to ensure the consensus opinion is supported in the next stage. Consensus in a Delphi method is dependent upon individuals changing their mind. This is problematic as the literature does not determine how the consensus is met, be it through new information or social pressure, either way both need further exploration (229,258). I do not propose that this discredits the findings, as there is currently no consensus to my knowledge about multi-professional PPD in LMICs, so this provides an initial evidence base. But similarly to any data that is derived through social process (be it virtual or face-to-face), the results may be impacted by pressures (in this case empirical pressure to reach consensus). However, advocates of this method propose that it removes other pressures with the face-to-face environment such as pressure to agree with a dominant participant, and even in such environments the pressure to reach consensus would likely still exist (227).

It could be argued that the findings lack credibility because stakeholders agreed so many were core in the first online round. Meaning that they only re-considered a small percentage of the statements a second or third time, it could be argued that consensus for in the first online round 98 statements were considered less thoroughly than those included or exclude in later rounds. There is a general consensus in the stakeholder group to categorise most positive outcomes as core outcomes. Many of the participants may have a passion for the work they do, or dedicated large proportions of their time to volunteering or international placements and many of the participants were in fact in developing countries, working on placements when they were participating. However, if I were to replicate the study, I would mediate this by setting a higher inclusion percentage and perhaps including less passionate participants, for example aiming to specifically sample people that disagree with the value of international placements.

6.4.7. Future directions and implications

The outcome set provides a framework of personal and professional learning across healthcare professional groups, concerning non-clinical learning. This is important as previous literature has tended to focus on specific professional cadres, but this would allow comparison and collation across professional groups (24,103). The outcomes would be relevant to a broad range of UK healthcare professionals, health providers, employers and governmental policy makers.

The core outcome set provides a framework that can be used to evidence the benefit of international placements to policy makers and employers. It is hoped that by developing a COS and beginning to provide metrics to measure this benefits of international placements in LMIC, that there will be an impact on policy. This core outcome set will form the basis of a psychometric tool to advance knowledge and metrics. Generation of such evidence should provide answers to employers about the benefits of releasing staff to undertake international volunteerism.

Future research should look to use the COS and list of variables to monitor, measure and assess the learning that happens on international placements. In an ideal world, all future studies would measure learning in line with the COS items, then researchers and policy makers could synthesis and analyse results of studies on different populations around the world.

6.5. Conclusions

This study developed a core outcome set of 116 PPD outcomes of health professionals working in LMICs. The outcomes are applicable across professions, countries and experience level. It is hoped that the COS will provide a framework for future measurement of this phenomenon. Therefore, data gathered using these outcomes could be compared, contrasted, synthesised and analysed to influence future policy and change the discourse surrounding the mutual benefits to HIC and LMIC partners.

6.6. Summary

This chapter outlined how a core outcome set was developed using the opinions of the key stakeholders. The next chapter describes how the COS is operationalised by being converted into a pilot psychometric tool. I describes how I tested the psychometric properties of the items and how I reduced the 116 core outcomes to a 40-item tool to measure health professional PPD in LMICs.

7. Development of a Psychometric Tool to Measure Personal and Professional Development on International Placements

7.1. Introduction

The previous two chapters described the methods that I used in succession to develop a core outcome set. In this chapter I describe how the core outcome set was transformed into a measurement tool. I describe how the tool was piloted and the statistical methods used to identify the items with the best psychometric properties.

7.2. Background

The literature reviewed throughout this thesis, proposed a great number of personal and professional development (PPD) outcomes of health professional international placements (HPIPs) (11,13,14). However, this learning was proposed at a level of specificity not best amenable to psychometric measurement (155). Therefore, in chapter 6 I developed a core outcome set of outcomes (COS) with stakeholder consensus at a level amenable to psychometric measurement. However, the COS is large (116 items) and it is known which of these items will have adequate psychometric properties or how they items relate to one another. Therefore, the psychometric properties of each item must be tested in a large-scale pilot of healthcare professionals.

Much of the research reviewed systematically suggests that international experience results in positive and major attitudinal changes (28,76). For example, numerous papers described the development of a non-judgemental attitude (21,259). The importance of attitudinal changes was echoed by stakeholders in round one of the Delphi. Data from round one of the Delphi suggested that stakeholders agreed professionals developed a can-do attitude. Almost every skill described in the literature is described in relation to confidence, for example many papers reported how working in an LMIC increased self-efficacy in numerous domains. These specific skills included caring for clients from another culture (21), to deal with threatening situations/risk (45) or in teaching (11). In addition to these specific skills, confidence and self-efficacy is frequently described as a set of interrelated skills, knowledge and attitudes, for example self-confidence, confidence in one's professional role, confidence in one's own capabilities or clinical skills (24,76,94). However, as stated in previous chapters, using broad categorical PPD outcomes such as

confidence is not successful in psychometric assessment. Finally, a considerable amount of the learning described on international placements is framed in terms of experience, much of the learning is believed to happen as a result of an experience (or a series of experiences). In fact, it is often described that the occurrence of an experience alone results in PPD, so experiencing something invariably results in PPD. For example, papers report that opportunities to lead invariably result in an increase in leadership skills. Kiernan et al.,(24) reported that 'leadership skills improved because it is easier to get involved in management and leadership'. Therefore, I decided that the items used in the psychometric tool pilot would be framed around three types of PPD: attitudes, experience and confidence.

This study used principal component analysis (PCA) as a data reduction technique, in which a large number of items can be synthesised to a smaller number of variables called components, which attempt to explain as much variance as possible in comparison to the original data set, without losing considerable information (260). In this context, I wanted to subsidize the process of fine tuning the measurement tool, by choosing which of the items from the COS had the highest percentage of variance explained by the extracted components and which of them were most informative about a particular domain.

Therefore, the removal of items with small variance, i.e. items with a monotonic pattern, (e.g. in which almost all respondents strongly agreed) would not result in a great loss of information. However, if another item is evenly spread (i.e. equal numbers of people respond in each of the 7 categories of the Likert scale), the variability in responses would likely make this item more informative in psychometric terms. This item would show more individual differences in responses, therefore if the scores on such items are also correlated with the intended component, this item will be more useful in the resulting measurement tool. In order to see what the variability of responses are, the tool needed to be tested on a large number of people and the variability statistically analysed (261).

Previous literature argues that vague themes such as leadership, communication and cultural skills develop in HPIPs (13,41,68). However, the previous chapters have suggested how these categories and the boundaries between them are not definite. Many of the core outcomes do not fit neatly into a single category. Using the PCA approach, a component (or underlying latent trait) could emerge from the analysis that spans all of the categories. This process removes the existing demarcated categories of learning and allows new domains to develop from the statistical analysis. Therefore, the analysis provided a

greater understanding of how the low-level elements of PPD relate to one another, by removing pre-existing ideas of how PPD outcomes should be categorized. PCA searches for principle components that best explain the variance amongst the data, anything that is not informative or categorized within a component has less psychometric utility is removed, resulting in a reduction in tool items, without a great loss of psychometric information, but also an indication of the PPD domains that may underpin some of the learning that is reported in the literature (260).

In order to test the psychometric utility of the COS in the previous chapter. It was converted into a set of experience, attitude and/or confidence statements. This study aimed to create a measure with psychometric utility of the PPD outcomes of international placements by developing questions based on the core outcome set derived in the previous chapter, pilot these questions with a large sample of healthcare workers and use item response theory to establish and test a set of latent traits and their associated questions.

7.3. Method

7.3.1. Participants

I aimed for 400 participants across 4 different groups: 100 professionals that undertook international placements in the past, 100 professionals about to undertake an international placement or currently working overseas, 100 with an interest in international placements but no past experience and 100 with no interest in or past experience of international placements. I required as many health professionals as possible to complete the tool and it needed to be relevant for those with and without international experience. I aimed for this many participants because of previous psychometric research on the sample size requirements for precise estimates of reliability coefficients (262).

In order to participate an individual must have been an NHS employee (current or past), that works/worked in a patient facing role or as a qualified healthcare professional (therefore some NHS admin and support staff without patient contact were excluded).

7.3.2. Design

I used a cross-sectional independent measures design. Therefore, participants were measured only at one stage in the international placement process depending on their personal circumstances.

7.3.3. Procedure

7.3.3.1. Creating a tool

The first stage of the process was to develop/create a tool based on the research conducted in the earlier chapters. In keeping with the literature that proposes that PPD outcomes include changes in experience, confidence and attitudes, two members of the MOVE project team (myself and my external supervisor, LBD) developed statements in these categories. We considered each core outcome and decided if it concerned experience, confidence or attitude and then wrote the item on that basis. Where the core outcome could be interpreted in multiple ways, we referred back to the original papers where the outcome was reported and used this to make decisions about how to express the statement. If a statement could indicate change in experience, confidence and/or attitude, we developed multiple questions, using more than 1 of the 3 categories (confidence, experience and attitudes). We wanted a common Likert scale to allow for multiple questions to assess a single latent trait in the future analysis. So we selected Likert scale of agreement

7.3.3.2. Pre-pilot

7.3.3.2.1. Participants

The tool was pre-piloted on a small group of returned volunteers and a group of researchers (members of the MOVE team also completed the questionnaire (a group of researchers in international placements). An additional group of stakeholders were used in the cognitive interviews.

7.3.3.2.2. Procedure

Participants (returned volunteers and researchers) completed the tool online using Manchester eForms (263) and were asked to comment on the usability of the tool. After completing each page of tool participants were prompted to comment on usability (specifically: how we can improve questions, do they make sense? Are any confusing, offensive or redundant?).

All researchers that completed the pre-pilot met to consider each written comment from the pre-pilot including their own. I also cognitively interviewed participants when completing the tool. The cognitive interviews involved both the ‘think aloud interviewing’ and ‘verbal probing’ techniques (264,265). Any comments, issues, questions or suggestions raised during the cognitive interviews were inputted into a table, two members of the team (LBD and I) decided how best to act on each one and whether changes needed

to be made to any of the questions, any disagreements were resolved verbally after addressing the interview transcripts.

7.3.3.3. Pilot

There were two methods of recruitment: online and face-to-face. Face-to-face participants were recruited using an opportunity sample at health professional events nationwide, many of which had an international focus (the majority of the sample gained this way were nurses and HCAs). Online participants were recruited in numerous ways, including links to the questionnaire posted on international volunteering blogs and in health professional newsletters and bulletins (appendix 9 has a comprehensive list of the recruitment methods used with each anonymised collaborating organisation). The majority of the online sample was gathered using a network technique, companies, projects and hospital health links that place professionals internationally agreed to send the link via email to health professionals, the majority of the doctors responded online.

The tool was administered either online or face-to-face, as was convenient and appropriate for the participants. After giving consent, online participants received a link in an email, blog or online community. Face-to-face participants, after agreeing to be involved, completed a paper version of the questionnaire. The questionnaire was administered in different ways for different organisations. Any online links were sent between April and July 2016, any events were attended within the same time period. Collaborative projects were encouraged to send at least one follow up reminder email.

7.3.4. Materials

7.3.4.1. Measure

The tool consisted of 110 statements measured on a 7-point Likert scale ranging from strongly agree to strongly disagree. The Likert scale contained the following descriptors: 1 Strongly Agree, 2, 3, 4 Neither Agree not Disagree, 5, 6, 7 Strongly Disagree (this was reverse coded for analysis as higher intensity ordinal constructs need to be higher values, strongly agree at 7, strongly disagree at 1). No statements were reversed. The statements questionnaire fell into 3 categories: 'Thinking about the last month', 'About you' and 'Confidence'. 'Thinking about the last month', was the largest section and contained 56 questions. For example: 'In the last month I demonstrated a good awareness about how culture influences health'. The second, 'About you' contained 35 questions and includes questions regarding an individual's skills, attitudes and knowledge. For example, 'I have an excellent work ethic'. The final entitled 'Confidence', contained questions regarding an

individual's confidence/competency. For example, 'I am confident in my abilities to allocate tasks and co-ordinate colleagues'.

An additional existing scale was used within the tool, the satisfaction with life scale (SWLS) (242). This is a five item scale that is validated and has been used frequently to measure satisfaction with life and is considered the most useful current self-report measure of satisfaction with life (242). Therefore, it seemed unnecessary to pilot new items to measure this domain.

In addition to the 110 statements participants demographic and placement data were also gathered. Each participant was asked basic demographic questions: age, gender, profession, past experience on international placements and employment status. The remaining questions were dependant on the stage in the international process. The during-placement questionnaire (administered to participants that were working overseas or had no international experience) contained only demographic questions in addition to the 110 core questions. The post placement questionnaire (administered to those who had worked/volunteered internationally in the past) included demographic questions and questions regarding their most recent experience. The pre-placement questionnaire (administered to participants that had an upcoming planned international placement) included demographic and pre-placement questions.

7.3.5. Analysis

7.3.5.1. Principal component analysis

The initial step towards the establishment of a final version of the questionnaire was the use of successive iterations of principal component analysis so that only the items with optimal psychometric properties would remain. Principal component analysis used IBM SPSS 23 (266). Firstly, the Kaiser-Meyer-Olkin measure was used to show the level of sampling adequacy. The Bartlett's sphericity test was used to check inter-item correlations were sufficient for proceeding with the analysis. Initially, a parallel analysis was performed to determine the number of factors. Items with low communalities (<0.500) or loadings below 0.3 were withdrawn in each one of the subsequent iterations. In the final iterations, exclusions were performed at an item-by-item basis. In addition, the Eigenvalue is a measure of how much variance is explained by each component. Literature from the 1960s that is still practiced now, suggests that any items with an eigenvalue below should be removed (267). The team looked at those items and discussed why they didn't load.

Sometimes it was because they were poor items that didn't fit with other items and sometimes they were items that were important but might be different to other items. We then removed or retained each item and conducted the next iteration of PCA.

7.3.5.2. Multidimensional item response theory

Multidimensional item response theory (MIRT) model was used to assess the latent factor structure of the final version of the questionnaire based on the best iteration of the principal component analysis. MIRT is analogous to confirmatory factor analysis (CFA) (260). The most important distinctive features of MIRT is the exemption of compliance to the multivariate normality assumption needed for CFA as MIRT considers all Likert scale variables as categorical. MIRT parameters in this study were estimated using weighted least squares means- and variance-adjusted (WLSMV), given its appropriateness for categorical variables in comparison to Bayesian estimation, which would be an operationally attractive alternative, given the high dimensionality of the data (261). Multidimensional item response theory analysis used Mplus 8 (268).

7.4. Results

7.4.1. Developing the tool

Two members of the MOVE team (LBD and I) assessed each core outcome and generated 103 statements with Likert scales of agreement for each statement (from strongly disagree to strongly agree). We also established 40 core outcomes that could not be measurable in a self-report questionnaire, i.e. items about organisational outcomes for the NHS (8), outcomes that were too vague to be specifically defined (8) or overlapped in meaning with another and were combined (24). For example, '*exposure to ethical dilemmas*' and '*increased awareness of/knowledge about ethics*' were combined into '*I have frequently experienced ethical dilemmas*'. The majority of the outcomes were used as in the previous research (n=73), see additional files for decision reasoning.

This process generated 56 statements to ask the frequency an individual experienced something or exhibited certain behaviour. For example, 'In the last month I frequently experienced ethical dilemmas', these were categorised within the experience section. We generated 19 confidence statements to ask how confident an individual was in their ability. For example, 'I am confident in my ability to teach others'. The final section was labelled 'About you' and contained any statements that did not concern experience or confidence, for example 'I have an excellent work ethic', (n=35). Appendix 6 shows the category used

for each outcome and those that were reconstructed to fit into more than one of the sections.

7.4.2. Pre-pilot

Sixteen participants completed the pilot questionnaire, including seven from the research group. Three participants completed cognitive interviews. This resulted in numerous changes being made to the statements, including using an existing life satisfaction scale (SWLS) and removing a statement that was unusual ‘the UK is the best country in the world’. Reasons for any changes made are displayed in appendix 8

. As a result of this process a 110 item tool was created for the pilot phase.

7.4.3. Pilot

7.4.3.1. Participants

436 participants completed the questionnaire, 42% (182/436) of participants had no international experience. The remainder of participants had international experience (169/436, 39%), or were overseas/due to depart at the time (79/436, 18%). Table 10 shows the anticipated and actual participant groups.

Table 10: Participants: Anticipated and Actual Numbers

Group	Target	Number of participants	Percentage
Currently Overseas/Due to Depart	100	79 (26 Currently Overseas. 53 Due to Depart)	18%
Past International Experience	100	169	39%
No International Experience-Interested	100	78	18%
No International Experience-Not Interested	100	104	24%
Total	400	436	

All participants were NHS employees (past or present). Table 12 shows that 34% (148/436) categorised themselves as medical and dental (doctors), 31% (135/436) nursing and midwifery, 15% (65/436) Allied health professionals, 7% support to clinical staff (30/436), 3% Healthcare scientists (13/436) and 3% ambulance (13/436). This is largely in line with the NHS North West employee data, whereby 30% of the workforce is nursing and midwifery. The other staff groups were also relatively proportionate, besides Medical

and Dental which represents only 9.5% of the North West workforce and support to staff (28%).

Only 26% of the sample was male (113/436), 74% female (323/436). Table 11 shows that the sample was well spread across working ages, 8% of the sample were under 25 (35/436), 18% 26-30 (78/436), 29% 31-40 (126/436), 19% 41-50 (83/436), 19% 51-60 (83/436), 7% 61-70 (30/436). The majority of the sample were employed full-time (75%, 327/436), 17% part-time (74/436), 5% retired (22/436), 4% students (post registration) (17/436) and <1% Unemployed. The majority of the sample, that stated their nationality, considered themselves British (350/436, 83%) however when dual British nationals and British devolution nations were included this figure reached 87% (379/436). The remainder included 3% from Ireland/Northern Ireland (13/436), 3% from the EU (13/436) and 7% from outside of the EU (30/436). Data were missing for 14 participants. In relation to career stage, data were missing from 47 participants, of those that stated their career stage, 25% were early-career (97/386), having registered for the first time within the last 5 years, 24% had over 25 years' experience (93/386), 35% had 6-15 years (136/386), 15% had 16-25 years (58/386).

Table 11: Participant Demographic Information Table, showing the age, employment status, nationality and career stage (years since registration) of participants(n=436)

Age	n	Employment		Nationality	n	Years since registration	
		status	n			n	n
Under 25	35	Full Time	325	British	350	<5 Years	98
26-30	76	Part Time	72	English	7	6 to 15	137
31-40	127	Retired	20	Irish	11	16 to 25	60
41-50	84	Student	16	Scottish	4	26+	94
51-60	81	Unemployed	3	Welsh	1	Total	389
61-70	32			N Ireland	2	Missing Data	47
Missing	1			EU	12		
				Non EU	28		
				Dual British	7		
				Total	422		
				Missing	14		

Table 12: Staff cadres of participants, percentage of sample made up by each profession and percentage of staff in North West Demographic data and number of staff from each profession with international experience

(1=Past international experience, 2=currently overseas, 3=no international experience, not interested, 4=no international experience, interested, 5=due to depart)

Staff group	n	Pilot sample	NHSNW	1	2	3	4	5	Total
Medical and Dental	146	34%	9.50%	77	20	10	7	32	146
Nursing and Midwifery	135	31%	30%	51	2	39	31	13	136
Allied Health Professionals	64	15%	6%	23	4	12	17	9	65
Healthcare Scientists	13	3%	3%	6	0	1	5	1	13
Ambulance	13	3%	1.70%	2	0	1	10	1	14
Support to clinical staff (HCAs)	30	7%	28%	0	0	8	22	0	30
NHS infrastructure support	5	1%	18.92%	1	0	3	1	0	5
Other scientific, therapeutic & technical	3	1%	3.80%	8	0	4	9	5	26
Other	25	6%	0.02%	1	0	0	2	0	3

7.4.3.2. Principal component analysis

Twenty-one iterations of principle component analysis were performed. From the original set of items, only 40 items were chosen for the last iteration of the principal component analysis. This principal component analysis used the correlation matrix obtained from the application of the questionnaire in 436 participants. The Kaiser-Meyer-Olkin measure showed the level of sampling adequacy to be acceptable (KMO = 0.896). The lowest measure of sample adequacy for an individual item was 0.810 (“*I demonstrated I’m a good teacher*”). The Bartlett’s sphericity test indicated that the inter-item correlations were sufficient for proceeding with the analysis. The lowest value for the items’ communalities was 0.590 (“*If I could live my life over, I would change almost nothing*”), which is above the aimed threshold of 0.500. After *varimax* rotation, 10 factors were extracted taking into account the findings of the scree plot and of a Monte Carlo parallel analysis. The 10 factors explained 71.80% of the variance. On the scree plot (see Figure 22) it is possible to observe that the first five factors had the highest eigenvalues, while the remaining five had similarly low eigenvalues.

A multidimensional item response theory model was created based on the results of the best iteration of the principal component analysis. The resulting model comprised the 40

items with the best psychometric properties and 10 latent variables based on the factors obtained in the principal component analysis. The diagram with the resulting model, containing the items selected for each one of the latent variables, the loadings for each item and the correlation coefficients between the constructs can be seen in Figure 21.

This model was chosen as it was the best possible solution to reconcile the need of creating a comprehensive, content-rich questionnaire while obtaining satisfactory evidence of validity based on its internal structure. In terms of goodness-of-fit, the model had significantly better fit than a unidimensional solution in the chi-square test for difference testing ($\chi^2 = 2889.749$, $df = 45$, $p < 0.001$). However, the goodness-of-fit indices were not entirely perfect. While CFI, RMSEA and χ^2/df are within acceptable margins, TLI and WRMR are slightly out of the optimal margins (above 0.950 for TLI and below 1,2 for WRMR) but still within the acceptable range. The comparison of goodness-of-fit indices between the unidimensional solution and the proposed model can be observed in Table 13.

Table 13: Comparison of selected goodness-of-fit indices between the unidimensional model and the proposed model.

Models	χ^2	df	χ^2/df	RMSEA	CFI	TLI	WRMR
Unidimensional	8206.204	740	11.089	0.152	0.641	0.622	3.511
Proposed model	1736.922	695	2.499	0.059	0.950	0.944	1.271

Table 14: Cronbach's alpha co-efficient for each construct

Construct	Cronbach's alpha
Confidence	0.86
Life satisfaction	0.86
Behaviour Change	0.77
Cultural awareness	0.72
Difficult communication	0.86
Teaching skills	0.78
Team Work	0.82
Management skills	0.86
Flexibility	0.83
Adapting communication	0.88

Reliability estimates were calculated using Cronbach's alpha coefficients but also using estimates of individual precision calculated based on the individual estimates of the standard errors of measurement. Figure 23 shows the precision curves for each latent variable. While "Confidence", "Life Satisfaction" and "Team Work" had the highest means for the individual precision estimates, "Adaptability" was the construct that achieved the highest precision estimates for most of the theta spectrum. "Team Work" had the lowest estimates for individual precision. Using the information functions as indicators of precision, "Flexibility" achieved the highest values and "Team work", the lowest ones. As expected, an inverse situation is observable on the curves for the standard errors of measurement, with "Flexibility" showing the lowest measurement errors and "Team Work" the highest ones. The precision, information and standard error curves for the retrieved constructs under the MIRT analysis can be observed in Figures 23, 24 and 25.

In the sequence, Table 14 shows the Cronbach's alpha coefficients for each one of the retrieved constructs. Taking the Cronbach's alpha coefficients into account, the reliability estimates are somewhat divergent from the MIRT-based precision estimates. Using Cronbach's alpha, the most reliable factor was "Adapting Communication" and the least reliable was "Cultural Awareness".

The final list of constructs and the items that belong on each can be seen in Table 15. Table 15 also shows the loading estimates, the standard errors of the loading estimates, the ratios between the estimate and the standard error and the two-tailed *p*-values for the estimates.

Table 15: The final selection of items with the dimension each one of them belongs, the loading estimates, and the standard errors of the loading estimates, the ratios between the estimate and the standard error and the two-tailed p-values

Constructs / Items	Estimate	S.E.	P-Value (two-tailed)
CONFIDENCE			
I am confident in my ability to manage myself in a clinical environment.	0.727	0.030	0.000
I am confident in my abilities to work independently when necessary.	0.719	0.032	0.000
I am confident in my ability to deal with the unexpected.	0.743	0.025	0.000
I am confident in my ability to be adaptable and innovative as a leader.	0.733	0.024	0.000
I am confident in my ability to adapt and be flexible clinically.	0.823	0.021	0.000
I am confident in my ability to adapt and be flexible in general.	0.798	0.021	0.000
I am confident in my ability to find solutions despite limited resources.	0.770	0.022	0.000
I am confident in my ability to apply clinical skills to another context.	0.721	0.026	0.000
I am confident in my work.	0.724	0.025	0.000
LIFE SATISFACTION			
In most ways my life is close to my ideal.	0.834	0.02	0.000
The conditions of my life are excellent.	0.783	0.02	0.000
I am satisfied with my life.	0.893	0.017	0.000
So far I have gotten the important things I want in life.	0.776	0.024	0.000
If I could live my life over. I would change almost nothing.	0.667	0.029	0.000
Taking everything into consideration. I am satisfied with my job.	0.717	0.038	0.000
CULTURAL			
I demonstrated a good awareness about how culture influences health.	0.761	0.036	0.000
I frequently demonstrated cultural sensitivity.	0.881	0.031	0.000
I was constantly conscious of culture when working with patients.	0.779	0.033	0.000
ADAPTING COMMUNICATION			
I changed the way I speak so that somebody can understand me (e.g. purposely spoke slower and clearer).	0.899	0.024	0.000

I changed the way I communicate to make it more contextually appropriate (e.g. to make it more culturally appropriate).	0.916	0.025	0.000
I frequently relied on my non-verbal communication (e.g. hand gestures).	0.751	0.032	0.000
TEACHING			
I demonstrated I'm a good teacher.	0.813	0.024	0.000
I adapted the way I teach to make it better for the learner.	0.807	0.023	0.000
I am confident in my ability to teach others.	0.883	0.031	0.000
DIFFICULT COMMUNICATION			
I demonstrated that I am skilled in challenging conversations, even in high pressure situations.	0.842	0.025	0.000
I demonstrated that I am able to manage difficult people effectively.	0.862	0.021	0.000
I frequently dealt with difficult people.	0.774	0.027	0.000
BEHAVIOUR CHANGE			
I am able to empower patients to help themselves.	0.807	0.026	0.000
I am able to empower colleagues to help themselves.	0.794	0.025	0.000
In my work I have demonstrated skills in changing colleagues' behaviour.	0.761	0.027	0.000
In my work I have demonstrated skills in encouraging and supporting patients to change behaviour.	0.778	0.027	0.000
MANAGEMENT			
I allocated tasks.	0.848	0.021	0.000
I co-ordinated colleagues.	0.868	0.02	0.000
I demonstrated I am able to plan and organise.	0.907	0.024	0.000
TEAM WORK			
I was frequently proactive at work (e.g. used my initiative. got on with things. thought on my feet).	0.778	0.027	0.000
I demonstrated that I am able to cope in work (e.g. able to deal with stress).	0.763	0.028	0.000
I demonstrated that I am particularly good at working as part of team.	0.765	0.026	0.000
FLEXIBILITY			
I demonstrated I'm good at dealing with the unexpected.	0.857	0.037	0.000
I frequently had to find solutions despite limited resources.	0.912	0.017	0.000
I demonstrated I am able to find solutions despite limited resources.	0.937	0.017	0.000

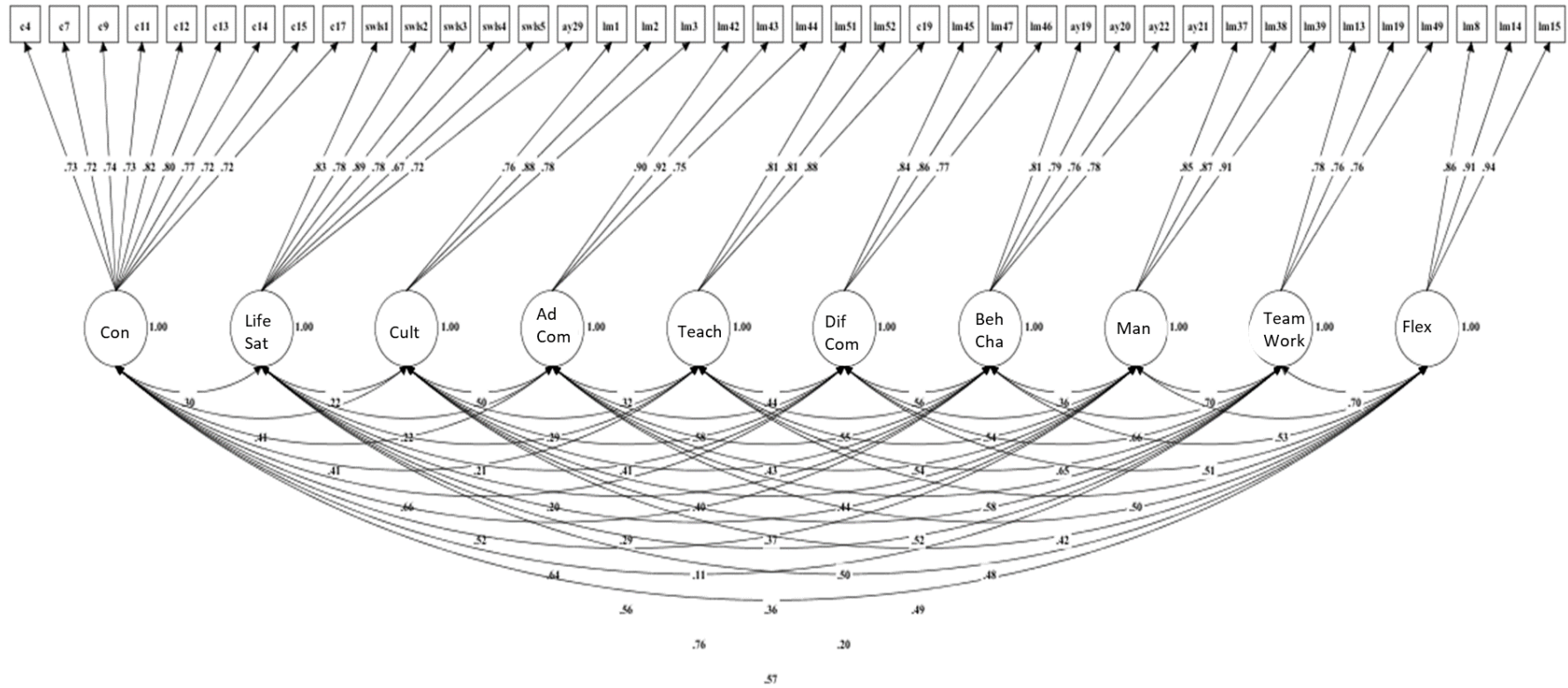


Figure 21: Latent Variables and Loadings

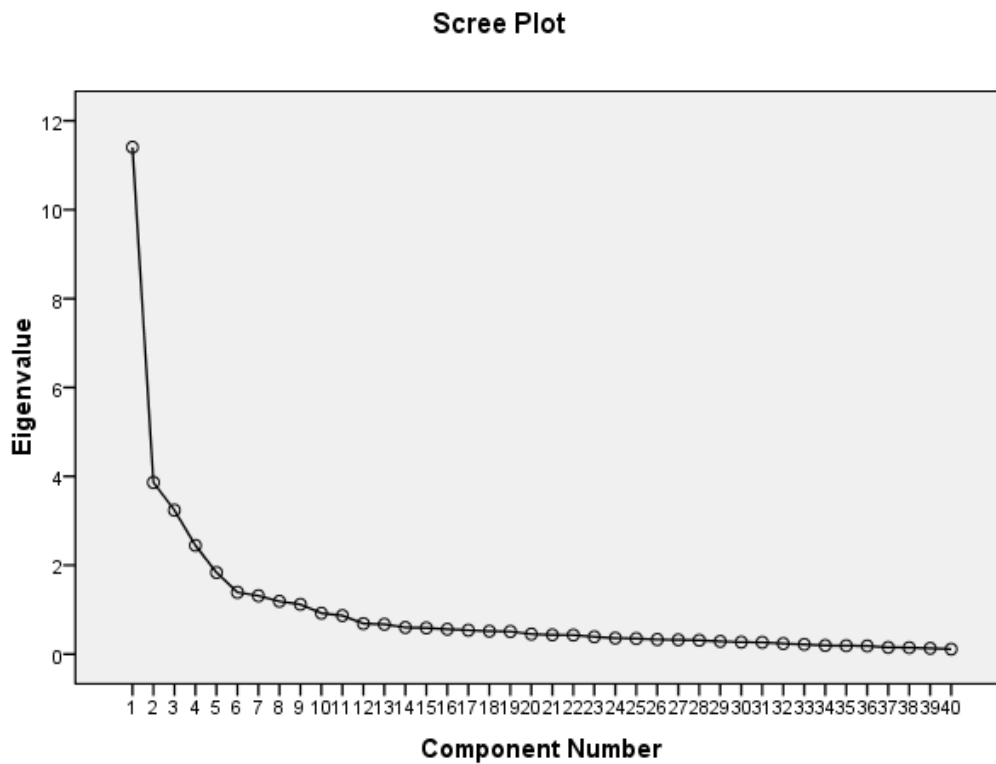


Figure 22: Screen Plot

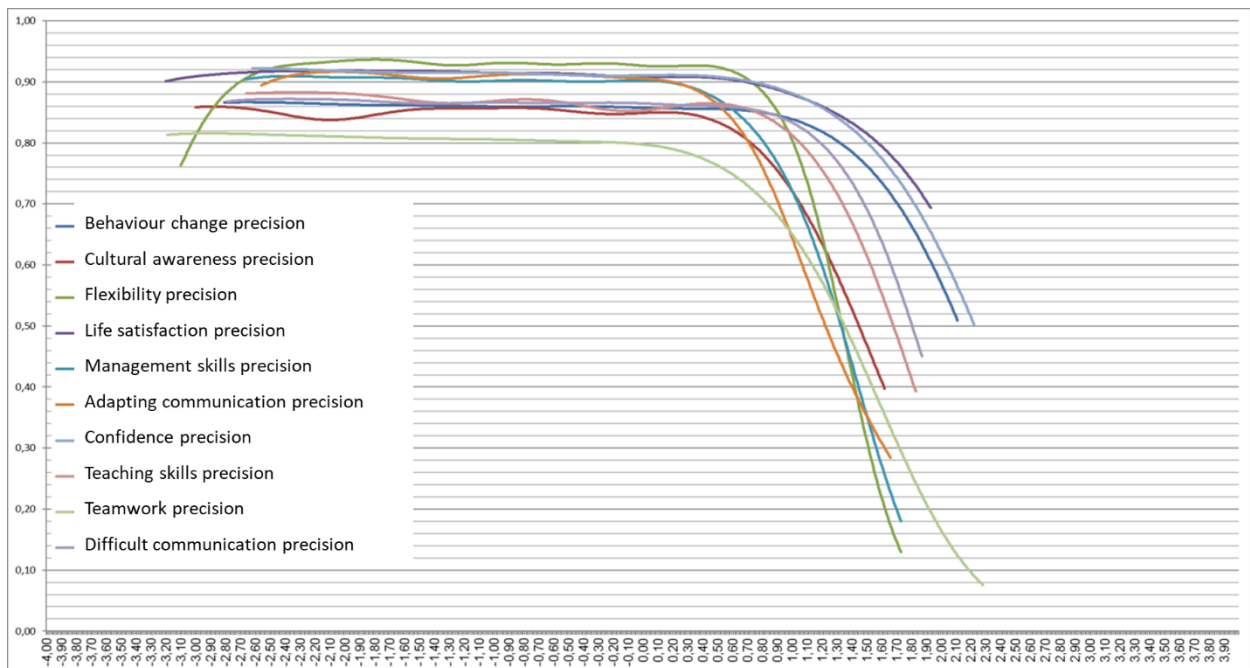


Figure 23: Estimates for mean individual precision of the latent variable scores.

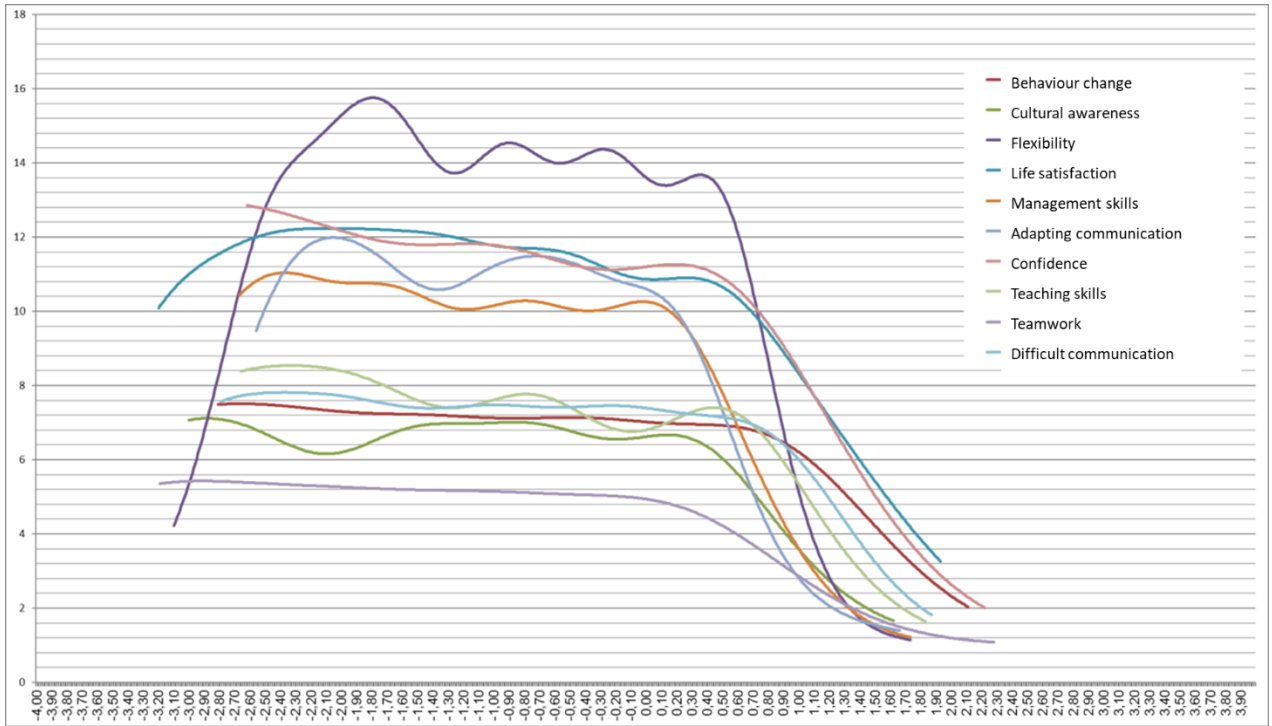


Figure 24: Information functions for the latent variables.

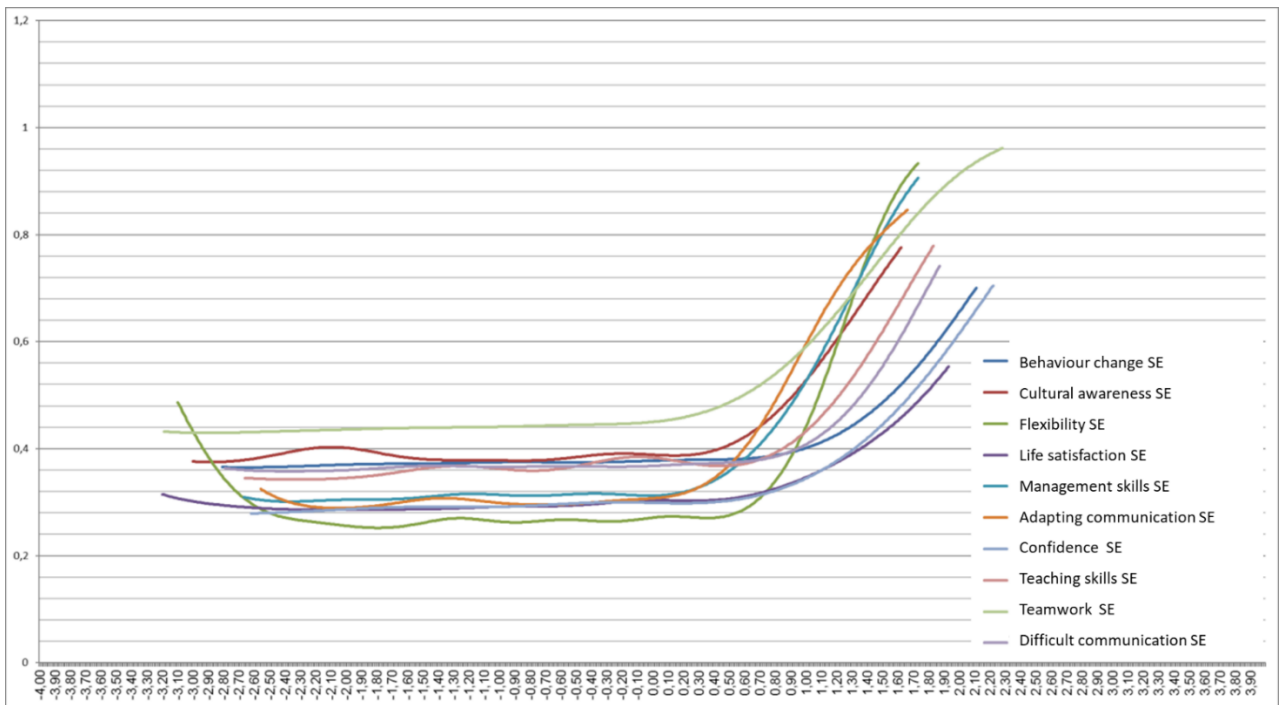


Figure 25: Estimates for individual standard errors of measurement of the latent variable scores.

7.5. Discussion

The study aimed to develop a questionnaire, using a large sample to establish and test a set of latent variables and associated items which would measure the PPD outcomes of international placements. I developed a 40 item questionnaire that, unlike the few current empirical measures of PPD on international placements, is applicable across all staff cadres and measures non-clinical learning with a high degree of internal consistency reliability and content validity, allowing users to quantify several dimensions of PPD. The tool has internal consistency reliability as the items in each domain have strong correlations within-participants and lesser correlations between-groups. It has content validity as the original item pool was developed using peer-reviewed literature and expert opinion. The 40 items developed within this tool are proposed to assess 10 latent traits, which we have called Confidence, Life Satisfaction, Cultural Awareness, Adapting Communication, Challenging Communication, Teaching, Behaviour Change, Management, Teaching and Adaptability. Reliability evidence is favourable to the latent trait structure, both when using a single coefficient for the entire sample, but also under the multidimensional item response theory approach. Therefore, the validity evidence based on the internal structure of the questionnaire detailed in this study, combined with the content validity evidence based on the selection of the initial pool of items helps build a strong validity argument in favour of the use of this questionnaire for the measurement of PDD-related dimensions of international placements.

Previous research often presents the outcomes of HPIPs in broad thematic, categories such as leadership or communication (13). However, this study aimed to move beyond this and develop a tool that looked at constituent components of the broad terms that are currently used in the literature, such as communication (13,82). The tool used items presented at a greater level of specificity, that weren't grouped categorically. Whilst other research and measures consider communication as a single thematic entity, this tool assesses communication across two domains 'difficult communication' and 'adapting communication' and each domain contained three items. Hence, the study has found that at least two latent variables exist within the domain of communication and three items in the newly developed questionnaire assess each of these traits. Again, suggesting that not all elements of communication develop at the same rate or fit within one latent trait.

Therefore, future research should move beyond describing broad skill sets, and consider constituent their components of when measuring PPD. It also further supports the argument that there are many constituent components of the broad thematic categories that are not necessarily inter-related.

The participants in this study represented a broad range of healthcare professionals. Although the professions of participants in the study were representative of the NHSNW workforce (269). ‘Medical and Dental’ (Doctors) staff were over-represented and ‘Support to clinical staff’ (Healthcare Assistants or similar) underrepresented. This can probably be explained by the network sampling technique, as the majority of sampling was done through organisations with an interest in global health. The numbers are almost reversed in this sample, doctors constitute only 9.5% of the NHS workforce and account for 34% of the sample, whilst support staff make-up 28%, only 7% completed the pilot. Further analysis shows that all of the 30 support staff had no international experience, of these only 26% were interested in international work.

Previous research suggests that Doctors as a staff group are most likely to volunteer or work internationally and support staff are highly unlikely to engage in such work (252). International experience is often imbedded into medical training courses, or is at least not far removed from it (270). The sample of doctors was polarised, only 4% had no interest in international work, but 90% had either past/current experience or were about to travel internationally. Yet, Nursing and Midwifery, Allied Health Professionals and Ambulance, mapped very closely onto the NHSNW demographics. Therefore, this research is in line with previous research that suggests that HPIPs are uncommon for non-clinical staff.

7.5.1. Limitations

It could be argued that the sample was not fully representative of the staff cadres in terms of international experience, however it was necessary to ensure an adequate sample for the PCA that included 50% of participants that had or were due to undertake international experience. Females were also over-represented in the sample.

A criticism of the tool is that core outcomes that were generated in the previous study, were removed at this stage because they did not adequately measure a latent variable (271). However, in order to use this tool for psychometric assessment, items that do not fall within a latent trait have no value. Therefore, the tool could be used to complement a more thorough qualitative or reflective measure that allows a professional to consider all

components of learning (150). However, it provides a way of quantitatively measuring change in PPD within an individual and across groups.

7.5.2. Future directions

The developed tool now provides an easy and efficient way to gather data to measure these 10 domains. The tool could be used in a variety of ways. In particular, it offers the opportunity to compare different types of placement for their impact on PPD. Literature proposes that certain variables may affect the likelihood of change in the domains. These may be moderating variables; something that influences strength of the relationship between international placements and development of a latent trait (115). For example, some argue that ‘career stage’ may affect the likelihood of development of management skills internationally (12,17). There may also be mediating variables that explains the relationship between two other variables (115). For example, some argue it is lack of available resources that affects an individual’s development of ‘adaptability’ (102,272). Further use of this tool would provide greater evidence about these relationships; that are often described but not empirically evidenced. As such, variables that produce optimal developmental outcomes, or reduce them, could be discovered using this tool and provide evidence to implement future policy and project development.

7.6. Summary

In summary, this chapter I described the methods used to develop a psychometric tool. I described how I used statistical methods to reduce 110 outcomes to a 40-item psychometric tool. In the next two chapters I will conduct secondary analysis on the data generated during this process to provide greater insight into the 10 PPD domains and the contextual variables that might affect them.

Box 4: 40 Item tool to assess learning on international placements

CONFIDENCE

1. I am confident in my ability to manage myself in a clinical environment.
2. I am confident in my abilities to work independently when necessary.
3. I am confident in my ability to deal with the unexpected.
4. I am confident in my ability to be adaptable and innovative as a leader.
5. I am confident in my ability to adapt and be flexible clinically.
6. I am confident in my ability to adapt and be flexible in general.
7. I am confident in my ability to find solutions despite limited resources.
8. I am confident in my ability to apply clinical skills to another context.
9. I am confident in my work.

LIFE SATISFACTION

10. In most ways my life is close to my ideal.
11. The conditions of my life are excellent.
12. I am satisfied with my life.
13. So far I have gotten the important things I want in life.
14. If I could live my life over, I would change almost nothing.
15. Taking everything into consideration, I am satisfied with my job.

CULTURAL SENSITIVITY

16. I demonstrated a good awareness about how culture influences health.
17. I frequently demonstrated cultural sensitivity.
18. I was constantly conscious of culture when working with patients.

ADAPTING COMMUNICATION

19. I changed the way I speak so that somebody can understand me (e.g. purposely spoke slower and clearer).
20. I changed the way I communicate to make it more contextually appropriate (e.g., to make it more culturally appropriate).
21. I frequently relied on my non-verbal communication (e.g. hand gestures).

TEACHING

22. I demonstrated I'm a good teacher.
23. I adapted the way I teach to make it better for the learner.
24. I am confident in my ability to teach others.

DIFFICULT COMMUNICATION

25. I demonstrated that I am skilled in challenging conversations, even in high pressure situations.
26. I demonstrated that I am able to manage difficult people effectively.
27. I frequently dealt with difficult people.

BEHAVIOUR CHANGE

28. I am able to empower patients to help themselves.
29. I am able to empower colleagues to help themselves.
30. In my work I have demonstrated skills in changing colleagues' behaviour.
31. In my work I have demonstrated skills in encouraging and supporting patients to change behaviour.

MANAGEMENT

32. I allocated tasks.
33. I co-ordinated colleagues.
34. I demonstrated I am able to plan and organise.

TEAM WORK

35. I was frequently proactive at work (e.g. used my initiative, got on with things, thought on my feet).
36. I demonstrated that I am able to cope in work (e.g. able to deal with stress).
37. I demonstrated that I am particularly good at working as part of team.

ADAPTABILITY

38. I demonstrated I'm good at dealing with the unexpected.
39. I frequently had to find solutions despite limited resources.
40. I demonstrated I am able to find solutions despite limited resources.

8. Measuring Differences using the Tool

The data collected from the 436 participants described in the previous chapter had four purposes 1) to provide variability data to allow the tool dimensions to be statistically reduced 2) to gather preliminary findings about the utility to the tool 3) To gather preliminary data about what learning happens 4) to gather information about the contextual components of international learning environments and how learning happens in low and middle income countries (LMICs). The first purpose, reduction of items was described in the previous chapter and participants were sampled for this purpose. In the current chapter I describe how I tested the tool on a between-group population, comparing those with and without international experience. I also conducted a longitudinal test of the tool, following 21 participants from before the international experience to after.

8.1. Background

Literature suggests that personal and professional development (PPD) outcomes happen as a result of international placements (11,13,31). This development is depicted in two ways: in comparison to peers, or in comparisons to oneself before the placement. In many papers in the review professionals described how they believed their skills were superior to peers without international experience. For example, General Practitioners with international experience describe having a broader range of clinical skills than peers (24). General practitioners, generally felt their communication skills were superior to peers as result of international experience (24). Literature also suggests international experience is beneficial when competing for future jobs (259). However, to my knowledge no research has been conducted to empirically compare the skills of those with and without international experience.

On the other hand, literature also describes how skills develop within an individual as a result of health professional international placements (HPIPs). Therefore, skills and knowledge increase after a HPIP. Literature often frames the outcomes in terms of an increase within an individual, for example, ‘increased cultural sensitivity’, ‘enhanced community, social, and public health awareness’ or ‘enhanced clinical and communication skills’ (89). Some attempts have been made to analyse or record this change. For example, Longstaff (150) developed a tool that asks people to reflect on their own skills before and after a HPIP and assign a numerical value from 1-10. However, this tool has not been

subject to psychometric testing. Further attempts have been made to record this change qualitatively (11,24).

Whilst previous research anecdotally highlights an increase in PPD as a result of international placements; which some claim to make staff superior to peers without international experience. Little attempt has been made to empirically compare the skills of those with and without international experience. Similarly, little attempt has been made to empirically measure the longitudinal difference within individuals.

8.1.2. Aim

This study aimed to use the tool developed throughout this thesis to explore the learning outcomes of international placements, within 10 key domains. Using quantitative data that allows for comparison, within and between-groups. Firstly, regarding the learning outcomes, characterised by the ten domains (domains) developed in chapter 7. Do people with international experience have higher levels of any of the domains than those without international experience? Also do any of these domains increase after an international placement?

Hypothesis A: Those with international experience will have higher scores on each of the 10 domains than those without

Hypothesis B: Scores will increase on each of the ten domains after international placements

Hypothesis C: Effects of other demographic variables will be less than international experience

8.2. Methods

8.2.1. Participants

Phase 1:

Health professionals working in an NHS patient facing role were recruited to complete the questionnaire. See chapter 7 for a full description

Phase 2:

53 Participants that had completed the pre-placement questionnaire in Study 1, were invited to complete a follow-up questionnaire.

8.2.2. Design

Phase 1 involved a cross-sectional, independent measures design. Comparing those with and without international experience (April-June 2016). This phase aimed to test hypothesis A.

In Phase 2, a longitudinal, within-subject design was used, participants completed the same measure one year later (June/July 2017). This phase aimed to test hypothesis B.

8.2.3. Procedure

See Chapter 7 for a full description of procedure for the pilot data collection.

In phase 2 participants received a link to an online survey. They were asked to reconsider the same self-report tool, one year later.

8.2.4. Materials: Measure

The measure used was the tool that was developed throughout this thesis (MOVE Tool: Measuring the Outcomes of Volunteering for Education), the development process is described in Chapter 7. The items included in the scale were agreed to be a set of core outcomes by a group of stakeholders (volunteers, volunteer placers, academics, medical educators and health policy makers) and a set of variables that are thought to affect these core learning outcomes (extracted from a systematic review and meta-synthesis of the literature). See Appendix 14 and 15 for paper versions of the tool used in the pilot study. The participants completed 110 items, but for the purpose of this study, I will only consider the 40 items across 10 domains in the final version of the tool. Items were measured on a 7-point Likert scale ranging from strongly agree to strongly disagree. The Likert scale was presented using the following descriptors: 1 Strongly Agree, 2, 3, 4 Neither Agree nor Disagree, 5, 6, 7 Strongly Disagree (this was reverse coded for analysis as higher intensity ordinal constructs need to be higher values, strongly agree at 7, strongly disagree at 1).

Measures of Learning Outcomes were within ten domains:

- Team Work (3 items)
- Behaviour Change (4 items)
- Adaptability (3 items)
- Management (3 items)
- Adapting Communication (3 items)
- Difficult Communication (3 items)
- Teaching (3 items)
- Confidence (9 items)

- Cultural Sensitivity (3 items)
- Satisfaction with life (6 items)

A domain score was generated for each participant taking the mean score across all the items within each domain. Therefore, each participant had an average score for each of the 10 domains.

8.2.4.1 Phase 2

In phase 2 the 40 items were measured using the same online tool.

8.2.5. Analysis

Any comparative measures (within or between-groups) used the median score on each of the 10 domains that developed from the principle component analysis in the previous chapter. I developed a mean score for each domain for each participant using their answers each of to the contributing items (between 3 and 7). Hence, a score could be attributed to each of the 10 domains (team work, teaching, adaptability etc.). For example, to generate a score for the teaching domain, the mean score for the following three items was computed:

1. I demonstrated I'm a good teacher.
2. I adapted the way I teach to make it better for the learner.
3. I am confident in my ability to teach others.

The same method was used for each of the domains, see box 4 for a list of domains and the component items.

8.2.5.1. Phase 1

Firstly, I compared 5 groups: 1) no international experience, not interested 2) no international experience interested 3) past international experience 4) currently overseas 5) due to depart. Secondly, I compared those without (1 and 2) and with (3 and 4) international experience. Group 5 was excluded as data were not collected regarding the past experience of those due to depart. As data were non-parametric, I used a Kruskal Wallis H test to compare differences in scores on each of the 10 domains between-groups. For any significant differences, I conducted pairwise analyses to see which specific groups were different.

I also conducted a secondary comparisons to test the effect of other demographic variables on scores of the 10 domains. The first was a bivariate comparison of gender: male compared to female. The second compared the scores of early, medium and late career

stages. The third compared the four main professional cadres: medical and dental, nursing and midwifery, allied health professionals (AHP) and support staff. I used a Mann Whitney U test for bivariate analysis and Kruskal Wallis H for multivariate, as the data were non-parametric.

8.2.5.3. Phase 2

I compared within-participant scores (pre and post placement) on each of 10 domains using a Wilcoxon Signed Ranks test, as the data were non-parametric.

8.3. Results

8.3.1. Participants

8.3.1.1. Phase 1

436 health professionals working in an NHS patient facing role completed the questionnaire. Of these, 195 (45%) had international experience. Please see Chapter 7 for a description of the demographic data of all respondents.

8.3.1.2. Demographics for phase 1

The groups with and without international experience were similar in terms of gender about two thirds of each sample were female, the group with international experience had a marginally larger proportion of males. The groups were also relatively balanced in terms of experience. Almost half of both groups were early career and had less than 10 year's experience, the group with no international experience had a marginally higher proportion of early career participants (51% as opposed to 40%). A quarter of both samples were mid-career (10-19 years post registration) and the remainder were late career, the group with international experience had a larger proportion of later career participants (35% compared to 23%). In regards to professional cadres, the groups had relatively similar groups of allied health professionals (14% and 16%) and nursing and midwifery (27% and 38%). Medics dominated the group with international experience (50%) but made up less than 10% of the sample without experience. The reverse effect is seen with support staff. No support staff had international experience, but 16% of the group without international experience were support staff.

Table 16: Professional cadres of the groups with and without international experience

	Medical and Dental	Nursing and Midwifery	Allied Health Professionals	Healthcare Scientists	Ambulance	Support to Clinical Staff	NHS Infrastructure	Other Scientific	Other	
International experience	97 (50%)	53 (27%)	27 (14%)	6 (3%)	2 (1%)	0 (0%)	1 (0.5%)	8 (4%)	1 (0.5%)	195
No international experience	17 (9%)	70 (38%)	29 (16%)	6 (3%)	11 (6%)	30 (16%)	4 (2%)	13 (7%)	2 (1%)	182
Total	114	123	56	12	13	30	5	21	3	377

Table 17: Career stage of the groups with and without international experience

	Early Career	Mid-Career	Late Career	Total (minus missing data)
International experience	76 (40%)	48 (25%)	66 (35%)	190
No international experience	72 (51%)	37 (26%)	32 (23%)	141
Total	148	85	98	331

Table 18: Genders of the groups with and without international experience

	Gender			Total (minus missing data)
	Male	Female	Other	
International experience	57 (29%)	133 (70%)	1 (0.5%)	191
No international experience	40 (22%)	141 (78%)	0	181
Total	97	274	1	372

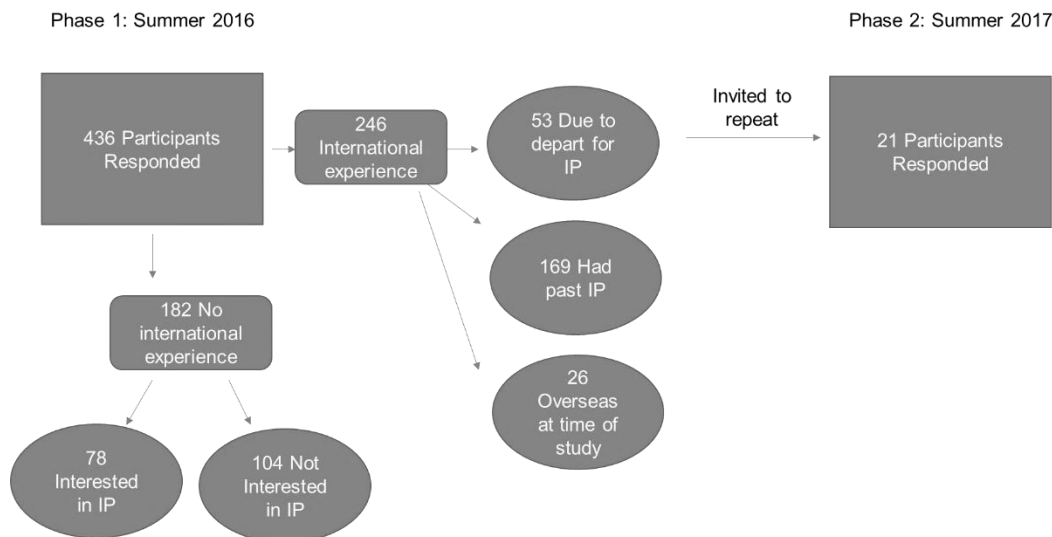


Figure 26: Number of respondents in each phase

8.3.1.3. Phase 2

In phase 2 responses were received from 21 of the 53 participants who completed the pre-placement questionnaire in phase 1. There was a response rate of 39.6%.

8.3.2. Domain Scores

When analysing data from all 436 respondents, the lowest median scores were ‘Difficult Communication’ (5.7) and ‘Satisfaction with Life (SWLS)’ (5.7). The highest median score was ‘Team Work’. The lowest 25th percentile interquartile range marker was 4.7 for ‘Difficult Communication’. The highest 75th interquartile range marker was 7 for ‘Adapting Communication’, ‘Management’ and ‘Cultural sensitivity’.

Table 19: Median scores and interquartile range for each of the domains for all 436 participants

Domain	Median (n=436)	IQ25	IQ75
Teaching	6	5	6.7
Adapting	6	5	6.7
Management	6	5	7
Team Work	6.3	5.7	6.8
Behaviour Change	5.8	5	6.3
Difficult Communication	5.7	4.7	6.3
Satisfaction with Life	5.7	4.8	6.3
Cultural Sensitivity	6	5.33	7
Adapting Communication	6	5	7
Confidence	6.1	5.7	6.6

8.3.3. Phase 1: Between- group comparison of domain scores

I compared scores on the domains for participants in each of the five groups: returned, currently overseas, due to commence an international placement, no international experience: interested, no international experience: not interested. A Kruskal Wallis H test found two significant differences. The median scores on the behaviour change domain were different across the 5 groups ($H(4) = 14.097$, $p=.007$). Post-hoc tests found that those with no international experience, interested (6) were had higher median scores than those currently overseas (5.125), ($p=.011$).

There was also a difference between the 5 groups on the Difficult Communication domain scores ($H(4)=18.329$, $p=.001$). Post hoc tests of pairwise comparisons found a significant difference between 'no international experience, not interested' (6) 'currently overseas' (5) ($p=.003$), also between currently overseas and 'no international experience' interested (5.7, $p=.027$). In both pairwise tests those currently overseas had lower median scores than their counterparts in the UK.

For the second analysis I grouped the data into two groups: those with past international experience and those without international experience. I excluded those due to depart from this analysis, as I could not identify past international experience. Those with no international experience scored significantly higher on three domains, Behaviour Change (5.5, 6) Team Work (6, 6.3) and Difficult Communication (5.33, 5.7). A Mann Whitney U test showed significantly different domain scores for Behaviour Change ($U=14499.500$, $p=.003$), Team Work ($U=15181.000$, $p=.003$) and Difficult Communication ($U=13474.00$, $p=.002$).

Table 20: Median scores on each of the domains when participants are grouped into five categories of international experience

	Teaching	Adapting	Management	Team Work	Behaviour Change	Difficult Communication	SWLS	Cultural Sensitivity	Adapting Communication	Confidence
Returned (n=169)	6	6	6	6	5.5	5	5.8	6	6	6.1
IQ25	5	5	5	5.8	5.2	5	5	5.6	5	5.8
IQ75	6.7	6.7	7	7	6.5	7	6.3	5	7	6.7
Currently Overseas	5.7	6.3	6	6	5.1	5	5.4	6.3	6	6.1
IQ25	5	5.9	5.7	5	4.5	4.2	4.6	5.9	5	5.8
IQ75	6.7	6.7	7	6.7	5.6	5.8	6.5	6.7	7	6.6
No Int Ex: Interested (n=78)	6	6	6	6.3	6	5.7	6	6	6	6.1
IQ25	5	5	5	5.8	5.2	5	5	5.7	5	5.8
IQ75	6.7	6.7	7	7	6.5	7	6.3	7	7	6.7
No Int Ex: Not Interested (n=104)	5.7	6	6	6.3	5.8	6	5.6	6	6	6
IQ25	5	5	5	5.7	5	5	4.7	5.5	5.2	5.7
IQ75	6.3	6.7	7	7	6.5	6.7	6.2	6.7	7	6.7
Due to depart soon (n=53)	6	5.7	6	6	5.5	5	5.7	6	5.7	6
IQ25	5	5	5	5	4.8	4	4.6	5	4.3	5.4
IQ75	6.3	6.3	6.9	6.7	6	6.3	6.5	6.7	7	6.3
Kruskal-Wallis H	8.9	7.2	2.6	4.7	14.1	18.3	1.9	4.1	4.4	2.8
df	4	4	4	4	4	4	4	4	4	4
Sig	0.061	0.128	0.635	0.319	.007*	.001*	0.746	0.399	0.359	0.588

Table 21: The median scores and interquartile range for each domain for those with and without international experience

	International Experience Median (n=193)	25I QR	75I QR	No International Experience Median (n=182)	25I QR	75I QR	Mann- Whitney U	z	Sig
Teaching	6	5.3	6.7	5.7	5	6.7	15479.5	-1.824	0.068
Adapting	6	5	6.7	5	5.3	6.7	16940	-0.768	0.443
Management	6	5.3	7	6	5	7	15592	-1.057	0.291
Team Work	6	5.7	6.7	6.3	5.7	7	15181	-1.98	.048*
Behaviour Change	5.5	5	6	6	5	6.5	14499.5	-3.004	.003*
Difficult Communication	5.3	4.7	6.3	5.7	5	6.7	13474	-3.165	.002*
SWLS	5.8	4.8	6.3	5.7	4.9	6.2	17422	-0.129	0.897
Cultural Sensitivity	6	5.3	7	6	5.6	6.7	16805	-0.383	0.702
Adapting Communication	6	4.7	6.7	6	5.3	7	14641.5	-1.919	0.055
Confidence	6.1	5.7	6.7	6	5.8	6.7	17191	-0.251	0.802

8.3.3.1 Additional between-group comparisons

I compared groups across three different variables: gender, professional cadre and professional experience. When comparing the scores of each gender, females had a median Adapting Communication score of 6 and males 6.3, ($U=12945$, $p=0.0103$). There was no significant differences between males and females on the other domain scores.

As many of the professional cadres contained less than 30 respondents, results of the four groups with the highest number of respondents were compared: Medical and Dental, Nursing and Midwifery, Allied Health Professionals (AHP) and Support Staff. Medical, Nursing and AHPs had higher median scores on the teaching domain (6) than support staff (SS) (5.53) ($H=13.911$, $p=0.03$). Medical staff scored lower on the difficult communication domain (5.3) than nursing, AHPs and SS (5.7) ($H=10.059$, $p=0.018$). On the behaviour change domain AHPs had the highest median score (5.88), followed by nursing (5.8), SS (5.71), Medical staff had the lowest score (5.5) ($H=12.502$, $p=0.006$). On the Team Work domain nursing had the highest median (6.7), followed SS (6.3) followed by medical and AHP (6) ($H=16.038$, $p=0.001$).

When comparing domain scores for the different career stages, teaching median domain scores increased with experience, early (5.7), mid (6), late (6) ($H=8.338$, $p=0.015$). Mid-Career staff had the highest median scores for management (6.3), followed by late (6) and early (5.7) ($H=12.518$, $p=0.002$). Late Career staff had the lowest scores for adapting communication (5.7) compared to early and mid (6) ($H=17.797$, $p=0.000$). Mid-career staff had the highest confidence scores (6.2), followed by late (6.1) and early (6) ($H=6.247$, $p=0.044$).

Table 22: The difference in median scores on each domain according to gender and the results of the Mann Whitney U comparison

Domain	Male Median n=113	IQ25	IQ75	Female Median n=317	IQ IQ25	75	Mann Whitney U
Cultural Awareness	6	6	6.7	6	5.3	7	U=15064.5, p=0.06
Life Satisfaction	5.7	4.9	6.3	5.8	4.8	6.3	U=17565.5, p=0.837
Management	6	5.7	6.7	6	5	7	U=15523, p=0.253
Teaching	6	5	6.7	6	5	6.7	U=16410.5, p=0.380
Adaptability	6	5	6.7	6	5	6.7	U=17496.5, p=0.713
Adapting Communication	6.3	3.7	7	6	5	7	U=12945, p=0.013*
Difficult Communication	5.7	4.9	6.3	5.7	4.7	6.3	U=15466, p=0.276
Team Work	6	5.7	6.7	6.3	5.7	7	U=15537, p=0.123
Behaviour Change	5.5	4.8	6.1	5.8	5	6.3	U=15986.5, p=0.097
Confidence	6.1	5.7	6.4	6.1	5.7	6.7	U=16718, p=0.362

Table 23: The difference in median scores on each domain according to career stage and the results of the Kruskal Wallis test

Domain	Early Career Median n=125	IQ25	IQ75	Mid- Career Median N=140	IQ25	IQ75	Later Career Median n=123	IQ25	IQ75	Kruskal Wallis H
Cultural Awareness	6	5.6	6.7	6	5.3	7	6	5	7	H=1.602, p=0.449
Life Satisfaction	6	5.1	6.3	5.5	4.5	6.3	5.7	5	6.2	H=4.309, p=0.116
Management	5.7	4.7	6.8	6.3	5.7	7	6	5.3	7	H=12.518, p=0.002*
Teaching	5.7	5	6.3	6	5.3	6.7	6	5.3	6.7	H=8.338, p=0.015*
Adaptability	5.7	5	6.5	6	5	6.7	6	5.3	6.7	H=4.533, p=0.104
Adapting Communication	6	5.3	7	6	5	7	5.7	4.7	6.3	H=17.797, p=0.000*
Difficult Communication	5.7	5	6.3	5.7	4.7	6.7	5.3	4.5	5.3	H=5.168, p=0.075

Team Work	6.3	5.7	6.7	6.3	5.7	7	6	5.3	6.7	H=5.243, p=0.072
Behaviour Change	5.8	5	6.3	5.8	5	6.5	5.7	5	6.3	H=.239, p=0.888
Confidence	6	5.4	6.6	6.2	5.9	6.7	6.1	5.8	6.7	H=6.247, p=0.044*

Table 24: The difference in median scores on each domain according to professional cadre and the results of the Kruskal Wallis H test

Domain	Medical Median n=146	IQ25	IQ75	Nursing Median N=136	IQ25	IQ75	AHP Median n=64	IQ2 5	IQ75	Support Median, n=30	IQ25	IQ75	Kruskal Wallis H
Cultural Awareness	6	5	6.7	6	5.7	7	6	5.3	7	6.2	5.3	6.8	H=6.63, p=0.087
Life Satisfaction	5.8	5	6.3	5.8	5	6.3	5.4	4.6	6.3	5.91	4.5	6.2	H=4.165, p=0.244
Management	6	5.2	7	6	5.1	7	6	5.3	7	5.8	4.91	7	H=0.766, p=0.858
Teaching	6	5.3	6.7	6	5.3	6.7	6	5	6.3	5.3	4.7	6	H=13.911, p=0.03*
Adaptability	6	5	6.7	6	5.3	6.7	6	5.3	6.7	6	5.3	6.7	H=4.734, p=0.192
Difficult Communication	5.3	4.3	6.3	5.7	5	6.7	5.7	4.7	6.1	5.7	5.3	7	H=10.059, p0.018*
Team Work	6	5.3	6.7	6.7	6	7	6	5.4	6.7	6.3	5.5	7	H=16.038, p=0.001*
Behaviour Change	5.5	4.8	6	5.8	5	6.5	5.9	5.3	6.5	5.7	5	6.3	H=12.502, p=0.006*
Confidence	6.1	5.6	6.47	6.1	5.8	6.7	6.1	5.8	6.7	6	5.7	6.7	H=2.957, p=0.398

8.3.4. Phase 2: Within-participant longitudinal study: comparison of pre and post placement domain scores

All of the pre-placement medians were lower than or equal to the post-placement medians, besides teaching. The pre-placement and post-placement median domain scores on Cultural Awareness were 6 and 6.27, respectively. A Wilcoxon Signed-rank test shows that there is a significant effect of ‘international experience’ ($Z = -2.694$, $p=0.007$). Further, the pre-placement and post placement median domain scores on Team Work were 6 and 6.34, respectively. A Wilcoxon Signed-rank test shows that there is a significant effect of ‘international experience’ ($Z = -2.499$, $p=0.012$). All other domains scores were not significantly different using a Wilcoxon Signed rank test.

Table 25: Longitudinal comparison of medians (pre and post placement scores) on each of the 10 domains

Domain	Pre-placement (n=21)			Post-Placement: 1 year later (n=21)			Wilcoxon Signed Rank
	Median	25IQ	75IQ	Median	25IQ	75IQ	
Cultural Awareness	6	4.66	6.2	6.27	5.7	7	$Z=-2.694$, $p=.007^*$
Life Satisfaction	5.6	4.5	6.4	5.7	4.58	6.41	$Z=-1.134$, $p=.257$
Management	6	5	7	6	5.7	7	$Z=-.742$, $p=.458$
Teaching	6.34	5.5	6.83	6.2	5.8	6.92	$Z=-.258$, $p=.796$
Adaptability	4	4.5	6.2	6.34	5	7	$Z=-1.870$, $p=.062$
Adapting Communication	4	4.34	6.5	4	4.58	6.42	$Z=-.525$, $p=.599$
Difficult Communication	5	3.84	6	5.7	5	6.2	$Z=-.938$, $p=.348$
Team Work	6	4	6.7	6.34	6	7	$Z=-2.499$, $p=.012^*$
Behaviour Change	5.7	5.17	6	6	5.17	6.34	$Z=-.365$, $p=.715$
Confidence	6.23	5.73	6.89	6.3	5.69	6.3	$Z=-.956$, $p=.339$

8.4. Discussion

This study aimed to explore learning within the 10 domains of the psychometric tool. I found that all individuals regardless of international experience scored themselves highly on each of the ten domains. The results from phase 1 show that with all 436 participants

there was little variation between the domains with each of the domain medians falling between 5.7 and 6.3. This suggests that the majority of participants agreed with all of the statements. The highest median score was team work. The lowest were difficult communication and satisfaction with life at 5.7.

The results from phase 1 suggest that those with international experience score no differently than those without it, in most of the domains. However, those without international experience scored higher on behaviour change and difficult communication domains. The additional analysis conducted in phase one shows that professional cadre and career stage has more of an effect on the domain scores than international experience. The effects are somewhat predictable for each group. Support staff have lower teaching scores than other professional cadres, this is likely because healthcare assistant likely engage in less teaching activity than doctors and nurses. Similarly, nursing staff had significantly higher levels of team work, this is likely because there is often a large team of nurses on each ward, whereas doctors and AHP may be more likely to be the only person of their professional cadre on a ward. AHP have the highest behaviour change level; which is interestingly indicative of the profession, helping patients adapt to living with their condition. The similar scenario exists regarding career stage, early career staff have the lowest scores of teaching and management. Interesting, late career have the lowest adapting communication medians, this could be indicative of resistance to change; which often anecdotally characterises older professionals.

The sensitivity of the tool to professional and experience differences in each of the domains supports its utility as it measures what it's supposed too: later career staff have greater management experience, support staff have less teaching experience, AHP's have greater behaviour change experience. The tool was less sensitive to the effect of international experience. The post-hoc, cross-sectional design had limitations, discussed below, so the results were confounded by other variables, so further research is needed.

In phase two, of the 20 participants sampled, participants had a significantly higher cultural awareness and team work domain scores post placement. There was an increase in median post placement scores on 7 of the 10 domain scores. Only one domain score was lower post placement: teaching. This indicates that the tool is more sensitive to change within a participant than between-groups. The median scores for adaptability were 4 pre-placement and 6.34 post-placement, this was not significant but on face value indicates a

considerable increase that could be significant with a larger sample. This indicates that when the limitations of a cross-sectional design are removed, the tool is more sensitive to detecting change within individuals.

Previous literature suggests that those with international experience consider themselves to have greater communication and clinical skills than those without it (24). However, my research does not support this, those without international experience consider themselves to have equally high levels of ten domains relevant to international experience. In some domains, those without international experience consider themselves to have higher levels of that skill set than those with international experience. This does not necessarily mean that they are better, as its self-assessment, it may indicate that self-perceptions of skill are not the best measure of between-group differences.

Previous literature also suggests that skills in the ten domains captured within the tool increase as a result of international experience (17,89,259). My research supports this as participants scored themselves higher for almost all of the domains post-placement; which indicates an increase in perceived level of knowledge and skill. This is particularly relevant for cultural awareness and team work, where the difference between pre and post scores was statistically significant. This is perhaps not surprising as lots of research has been published about the effect of international placements on cultural learning (21,47,259) and cultural outcomes were the only outcomes in the Delphi with 100% consensus (see chapter 6).

Previous literature also argues that international experience has a profound effect on PPD as it is often described a 'life-changing' (41). However, my research did not support this, as other demographic variables (career-stage and profession) had a greater effect on self-assessment scores than international experience. Indicating that is in perhaps not the biggest influencer on the ten domains across professions. It could also again suggest that self-assessment is perhaps not the best measure of between-group differences according to international experience.

8.4.1. Limitations

8.4.1.1. Study design

This chapter provides a preliminary indication of how the tool could be used in practice. It was never sampled or designed to yield transferable significant results, but results gathered during the development process give a preliminary indication of how the tool can be best

utilised, as well as how individuals use the tool and their results. I did not deliberately sample for between-group analyses. The sampling strategy I chose aimed to gather as much data as possible to effectively perform a principle component analysis (see chapter 7). As such, I took a cross-sectional design that fit the research project timeline and allowed for large-scale completion of time-consuming self-assessment tool by large numbers of health professionals. This sampling method allowed me to reduce a 110 item tool to a much more practical 40 item tool, based around 10 latent traits that emerged from a principle component analysis. As a result I developed a tool with high utility and future comparisons using the tool would be more meaningful.

8.4.1.2. Professions, experience, gender

Literature shows that professional groups, levels of experience and other demographic factors like age, nationality or gender may have an effect on PPD and professional development (273). Furthermore, these demographic factors may also have an effect on domain scores regardless of international experience, so for example consultants may have greater managerial skills than newly qualified doctors, or clinical academic nurses may have better teaching skills than healthcare professionals. In phase one comparing a full sample of healthcare professionals that are not matched or stratified could have inadvertently affected the results. Chapter 7 shows that doctors were over-represented in the sample and literature also shows that doctors as a professional cadre are more likely to work internationally, than support staff who rarely work in LMICs (252). The analysis conducted in chapter 7, shows that all 30 of the support staff sampled have no international experience and only 26% were interested. In opposition to 90% of the medics sampled, that had or were due to have international experience. Only 4% of the medical staff had no interest in international work. Therefore, a major confounding variable on this data set is the difference in professional cadres within each group. A matched sample or stratified sample of which included equal numbers of doctors and support staff with and without LMIC experience would have generated more valid results and the confounding differences between the samples may have had a greater effect on skills than the effect of international experience.

8.4.1.3. Ceiling effect

Within the results it is evident that there is a ceiling effect, hence the majority of participants agree or strongly agree with almost all of the statements. However, it must be noted that to disagree with the majority of the statements may imply that an individual is

potentially not competent to practice. The statements regarded competencies that are key components of many health professionals job description and to disagree with them may cause cognitive dissonance (the discomfort of having inconsistent thoughts or beliefs (274)). Consider the following statements from the tool:

- I am confident in my ability to manage myself in a clinical environment.
- I am confident in my abilities to work independently when necessary.
- I demonstrated that I am particularly good at working as part of team.
- I frequently demonstrated cultural sensitivity.

If a healthcare professional were to disagree with any of these statements, it may indicate that they are not equipped to operate within their profession. Healthcare professionals are frequently exposed to literature, policy documents, guidelines etc. highlighting how important such skills are. As stated in earlier chapters, the Royal College of Surgeons good surgical practice (96), suggests that encounters with patients and colleagues should be culturally sensitive and non-discriminatory . The Nursing and Midwifery Council (NMC) code suggests that nurses and midwives should consider cultural sensitivities (65). Therefore, regarding the final bullet point, reflecting and admitting that one does not possess high levels of cultural competency may be intrinsically unsettling. Health professionals are accustomed to completing CPD and reflective activities regarding such core competencies and admitting that they exhibit low levels of any of these may be detrimental to their confidence, reputation or career progression. They will be accustomed to gathering evidence to demonstrate high of such competencies in interviews, CPD, reflective exercises. Getting somebody to truly reflect on whether they are particularly good at something, or whether they possess a basic core professional competency are two very different things. Ensuring the tool captures this is imperative.

8.4.1.4. Non-parametric data

All of the data analysed in this study is non-parametric, this is somewhat due to the skew caused by the ceiling effect. As a result, I could not (without difficulty) run a regression analysis to understand the effects of the confounding variables (such as profession or career-level) discussed above. Future iterations of the tool could be adapted or tested using a different scale to generate parametric data that can be analysed on a more meaningful level.

8.4.2. Future Directions

In order to move beyond this testing phase and gather meaningful generalizable data, future users should ensure that between-group comparisons (based on international experience) use a matched, stratified or specific group sample (i.e. early career doctors), to reduce the effects of profession and career stage. Alternatively a within-participant comparison should use a considerably larger sample size and ensure it's the first international placement for each participant (to remove any effects of past international experience).

Future research should look at ways of ensuring professionals are adequately reflecting on their own ability, perhaps using peers as a point of comparison in a safe environment that may allow for cognitive dissonance and acceptance of professional inadequacies. Future research should also consider using an alternative scale to differentiate between the multiple high scores. For example, it is suggested that using more points on a Likert scale reduces the mean answer by 0.3 (275). Therefore, using a 10-point Likert scale may reduce the ceiling effect as there is a greater variety of choice between the higher scores. It could also consider ways of making professionals use deeper reflexive judgement about their ability, perhaps asking them whether they are 'significantly better than their colleagues', for example.

8.5. Summary

The absence of between-group variation, highlights the relative insignificant effect of international experience on PPD. Alternatively, it could indicate that design and sampling techniques used were not ideal for this self-assessment measure. If international experience had a profound effect on PPD, as suggested in some of the literature, the between-group difference would be expected despite sampling, design and analysis limitations. As an explainable effect of career stage and professional group is seen with some of the domain scores, it indicates that the tool does measure what it intends to and is sensitive to differences between-groups, unfortunately not between international experience groups. The results are much more promising with the longitudinal phase. There is a significant difference for some of the domains on the within-participant tests on a very small sample. This indicates that with larger samples, the tool is likely to be more sensitive to change within an individual than for comparing different groups. This chapter has described how the tool can be used to assess PPD outcomes in a comparative manner, the next chapter

will describe how I used the tool to look for relationships between contextual variables and PPD outcomes.

9. Secondary Analysis of the Pilot Data: Contextual Factors and Costs

In Chapter 7 I developed a tool to measure PPD, whilst in chapter 8 I tested the utility of the tool comparing between-groups and within-participants. Positive outcomes have been discussed in the past two chapters, in this chapter I will consider the evidence for a) negative outcomes and b) contextual factors. Both were a large component of the literature review and meta-synthesis. Upon completion of the meta-synthesis I generated a list of potential variables that might affect PPD in low and middle income countries (LMICs). I also generated a list of costs (negative outcomes of international placements). Whilst conducting the pilot study I generated data to gain a better understanding of each phenomenon.

9. 1. Background

Authors have proposed numerous costs in the literature, for example health consequences, lack of recognition and the tangible financial cost (13,38,104). Jones et al., (13) synthesised qualitative data regarding the costs of volunteering within an NHS health partnership (a link between an LMIC partner institution and the UK trust). They generated 5 domains related to cost: financial, loss of staff, reputational, health and security and opportunity (13). Other researchers have looked specifically a single domain, for example one paper looked at the health consequences of UK short term volunteering placements (104). However, this did not concern health professionals or encompass a range of negative outcomes. More recent papers have looked at the barriers to international volunteering for health professionals, whilst this is sometimes also a negative outcome it is not always and much of the past research including the paper about barriers is qualitative (276). Therefore, we still don't know how often negative outcomes occur and what percentage of health professionals are affected by them. In this chapter I will present these findings in a secondary analysis of the data generated in the pilot by returned volunteers.

There are many contextual components of an LMIC placement that make it different from a UK workplace or learning environment. Anecdotal relationships are described in the literature between outcomes and variables. For example, one author proposed that he learnt from the opportunity to interact with more patients than he would in the UK (68). Qualitative work proposes that interacting with tropical or uncommon diseases helps

professionals learn (16). However, to my knowledge no-one has quantified how often these contextual components occur and tested the relationships between contextual variables and personal and professional development (PPD) outcomes. Little research has been conducted to quantify or reduce relevant components of an LMIC international environment in relation to learning and PPD. Therefore, I will analyse the factors that are described to be influential in other medical learning environments: social, material, intra-psychological and opportunity (118,123). This chapter will provide a quantification of the contextual components, by analysing how many of the returned volunteers from the pilot study reported each variable. I will also analyse the results to identify any emerging relationships between the PPD domains and the variables.

I aimed to use a secondary data analysis for two purposes 1) to gain a better understanding of the frequency costs occur and contextual factors that are present 2) to see if there are any emerging statistical relationships between the contextual factors and the learning outcomes.

9.2. Methods

9.2.1. Participants

Health professionals who had past international experience or were due to depart on an international placement were recruited for the pilot study presented in chapter 7 (see section 7.3) for recruitment strategies. Those without international experience or currently overseas that featured in the pilot study were excluded from this secondary analysis as relevant data were not collected.

9.2.2. Design

A cross-sectional, independent measures design was used.

9.2.3. Procedure

This was a secondary analysis conducted using the data gathered in the pilot in Chapter 7. Participants answered questions about their international experience that were used in chapter 7 for dimensionality reduction. In addition to this they were presented with questions about negative outcomes and contextual components of the environment. The participants completed the questionnaire online. Chapter 7 contains a detailed description of the pilot procedure.

9.2.4. Materials: Measure

1. Measuring PPD outcomes

I used the MOVE tool (the tool described in chapter 7). The tool is a 40-item tool, which measures PPD outcomes across 10 domains: Confidence, Cultural Sensitivity, Behaviour Change, Teaching, Adaptability, Management, Adapting Communication, Difficult Communication, Satisfaction with Life and Team Work. Most domains were measured using three items, however Behaviour Change had four corresponding items, Satisfaction with Life, six, and Confidence, nine. The Satisfaction with life domain was a replication of an existed validated scale (242). Items were measured on a 7-point Likert scale ranging from strongly agree to strongly disagree. The Likert scale was presented using the following descriptors: 1 Strongly Agree, 2, 3, 4 Neither Agree nor Disagree, 5, 6, 7 Strongly Disagree (this was reverse coded for analysis as higher intensity ordinal constructs need to be higher values, strongly agree at 7, strongly disagree at 1).

2. Measuring demographic variables

Data regarding five demographic variables were collected. Age, Gender, Nationality, Year of Registration (to represent career stage) were presented as 'free-text' items. Staff group was presented as 9 categorical items: allied health professionals, healthcare scientists, medical and dental, NHS infrastructure support, other scientific therapeutic and technical, qualified ambulance staff, registered nursing, midwifery and health visiting staff, support to clinical staff and other. These categories are representative of NHS staffing groups and have been used in similar quantitative research in the field (253).

3. Measuring contextual factors (post-placement)

Participants were asked a series of questions that were generated from the meta-synthesised list of variables outlined in chapter 5. Returned participants were asked 2 'free-text' questions regarding destination country and length of stay. Previous literature, suggests learning environments can differ in four primary contextual ways (118). In order to understand these differences, variables from the meta-synthesis were presented concerning the following components of an international placement: social (n=19), material/organisational (n=9), intra-psychological (n=13) and opportunity (n=6). There were 47 items in total, some items were measured

using a Likert scale, others a tick-box. Table 28 presents the items in each category and how they were measured.

Table 26: Each of the variable item and how they were presented

Item	Presentation
Social	
Received support from staff in the UK or other foreign nationals working abroad	Tick
Received support from local staff	Tick
Local staff were critical of project	Tick
There was frequently a more clinically knowledgeable person around	Tick
There was frequently a more culturally knowledgeable person around	Tick
Local staff adopted knowledge from British staff	Tick
Felt encouraged by local staff	Tick
Had a local role model	Tick
Stayed in touch with local staff after placement	Tick
Engaged frequently with local staff	Tick
Shared values with local staff	Tick
Mentor in the UK (remote)	Tick
Mentor in the LMIC	Tick
Supervision from HMIC staff	Tick
Supervision from staff in LMIC	Tick
Formal support structure in LMIC	Tick
Support in country from other volunteers	Tick
Frequent feedback from a local senior colleague	Tick
Frequent feedback from a western senior colleague	Tick
Intra-psychological	
Learnt the host language	Likert
Felt skills were best utilised on placement	Likert
Found oneself attempting to make sense of the environment	Likert
Copied Behaviours of staff in the host country	Likert
At least one opinion or perspectives changed in a significant way	Likert
Accommodate new experiences into own view of reality	Likert
Understood the local context	Likert
Reflection	Tick
Reflection during placement	Tick
Reflection upon return	Tick
Formal Reflection	Tick
Informal Reflection	Tick
No reflection	Tick
Material and Organisational	
Local staff had adequate resources	Tick
Local staff were under time pressures	Tick
Staff frequently left (quit) the facility during my stay	Tick
Leaders engaged with the project	Tick
Licensing similar to UK/NHS	Tick
Health and Safety similar to UK	Tick
Culture similar to UK/NHS	Tick

Ethics similar to UK/NHS	Tick
None of the above similar to UK/NHS	Tick
Opportunity	
Interacted with more patients than in the UK	Likert
Interacted with more conditions than in the UK	Likert
Experienced Communication Difficulties	Tick
Opportunities to lead and have responsibility	Tick
Opportunities to explore outside of the hospital	Tick
Opportunities to visit more than one health facility	Tick

4. Measuring negative outcomes

Participants that were due to depart were presented with three questions, the remainder were only presented to returned participants. Items were measured on the 7-point Likert scale described in measure 1, tick boxes or free-text. These 22 items were developed from the meta-synthesised potential costs presented in chapter 5. Many of the items were developed in order to measure the absence of something that is considered a cost, for example recognition and accreditation.

Table 27: Each of the negative outcome items and how they were presented

Item	Presentation	PRE/POST
Lost interest in profession because of placement	Likert	Post
Want to leave NHS because of placement	Likert	Post
Unable to cope with UK paperwork because of placement	Likert	Post
Experienced Health Consequences (injuries, illness etc.)	Tick	Post
Loss of earnings	Tick	Post
Loss of pension	Tick	Post
Exposure to corruption	Tick	Post
Informal Recognition from seniors	Tick	Post
Informal Recognition from colleagues	Tick	Post
Formal Recognition	Tick	Post
Accreditation	Tick	Post
No Recognition or Accreditation	Tick	Post
Involved in returners scheme/help back to work/support on reintegration	Tick	Post
Employment upon return: (Locum/agency/bank work)	Tick	Post
Overall the experience was: (positive/negative/neutral)	Tick	Post
Financial cost (High = more than £2000/Low= less than £2000/ No financial cost)	Free Test	Post
Skills applicable to current stage in career	Tick	Post
Skills applicable to UK position	Tick	Post
Skills not applicable to current stage in career or UK position	Tick	Post
Comfortable to work outside competence	Likert	Pre
Comfortable to work in high risk situations	Likert	Pre
Used Annual leave for trip	Tick	Pre

9.2.5. Analysis

9.2.5.1. Costs/negative outcomes

Research Questions:

How often do negative outcomes occur on international placements?

What proportion of participants experience the negative outcomes?

Planned analysis

I wanted to quantify the number of negative outcomes that were experienced in the sample of returned volunteers. Therefore, the analysis concerned calculating the sum of the number of participants that reported each outcome. I then conducted a percentage calculation to understand what this meant proportionally.

9.2.5.3. Contextual factors

Research questions:

At what frequency do contextual factors occur on international placements?

What proportion of participants experience each contextual factor?

Planned analysis:

I wanted to quantify the number of contextual factors that were experienced in the sample of returned volunteers. Therefore, the analysis concerned calculating the sum of the number of participants that reported each factor. I then conducted a percentage calculation to understand what this meant proportionally.

With a select few of the frequency calculations I also conducted cross-tabulations to ensure that any differences were representative of the population (profession, career stage etc.).

Tables are presented for any cross-tabulations that are relevant for the results.

Research question:

Is there any emerging evidence that the contextual factors affect scores on any of the PPD domains?

Planned analysis

This was not an experimental design, but rather an exploration of emerging relationships and future hypotheses to test. I wanted to see if there was any emerging evidence of relationships between any of the variables described in the literature and any of the PPD domains that can be measured using the tool. To do this I wanted to compare the scores of those who reported a particular factor on their recent placement and those who didn't, or those with high levels to those with medium or low levels. I therefore, planned a series of multivariate analysis. I was previously aware that the data were non-parametric from the

analyses in chapters 7 and 8. Chapter 8, also describes how a domain score can be generated for each participant: an average score across the items within that domain. The domain scores were used to conduct this analysis. As there were so many analyses conducted across the 10 domains and each of the variables, I only reported the statistically significant relationships, as these are the relationships of interest to develop future hypotheses.

I conducted Mann Whitney U tests on 38 contextual factors with each of the ten domains. These tests were conducted on items that were presented with a tick box response format (see table 28). This involved comparing those who reported a certain factor to those who didn't. For example: those who interacted with more patients than in the UK and those who didn't. Hence, I tested 10 exploratory 2-tailed hypothesis for each domain. Did those who experienced X (e.g. low resources, opportunity to lead) have different scores on Y (domain: e.g. Management, Teaching and Confidence).

I conducted additional Mann-Whitney U tests on nine factors with each of the 10 domains, these tests were conducted on items with a Likert scale response. I converted the scale data into nominal data of three groups: agree, disagree, neither. I chose to exclude the neither responses as these were always a small group and compare scores of those who agreed with those who disagreed. For example, testing whether there was a difference in scores between those who agreed they learnt the host language and those who disagreed.

I conducted three Kruskal Wallis H Tests, by combining responses to individual questions into categories. Support from HIC staff was created using responses to four items, support from local staff (6 items) and reflection (4 items). Those categorised as having a high level answered yes to the majority of questions concerning that factor, those categorised as low answered yes to 0-2 questions.

I then conducted two additional Kruskal Wallis tests on the length of stay and destination variables. Length of stay data were collected in a free-text box, this was converted to nominal categories (low- less than 2 months, medium 3-11 months, high 12 months and over). This decision was made in line with the literature reviewed in chapter 2: a short term stay was generally described as around a month, whilst a long term stay was generally at least a year and a medium stay was around six months. I found that the destination

countries were so vast it was difficult to categorise. So I conducted Kruskal Wallis H tests on the three most frequently visited destinations: Uganda, Malawi and Sierra Leone. I conducted an additional post-hoc Mann-Whitney U test on the groups from Uganda and Malawi as these groups had the greatest difference in the multivariate analysis.

9.3. Results

9.3.1. Participants

Of the participants that responded in the pilot, only two groups were used for the secondary analysis in this chapter. For the questions relating to past experience 169 participants with international experience responded. For the questionnaires relating to potential negative outcomes, responses were received from 53 participants that were due to depart. The largest group in each sample was medical and dental, closely followed by nursing and midwifery. There were no support staff in this sample.

Table 28: Participant professional groups

Professional Group	Returned	Due to Depart
Medical and Dental	77	29
Nursing and Midwifery	51	13
Allied Health Professionals	23	6
Healthcare Scientists	6	1
Ambulance	2	0
Support to Clinical Staff	0	0
NHS Infrastructure	1	0
Other Scientific	8	4
Other	1	0
Total	169	53

9.3.2. Negative outcomes/costs

The results provided an indication of the frequency that negative outcomes happen. Some of the costs were experienced by the majority of participants: lack of formal recognition (77.8%), lack of accreditation (99.4%), a financial cost (68.1%). Whilst others happened less frequently: a reliance on agency or locum work (7.1%), loss of pension (18.3%), health consequences (15.1%), and loss of interest in profession (10.8%). In general 94.1% reported that the experience overall was positive.

9.3.2.1. Financial

In terms of actual financial cost, for 31.9% there was no cost at all, the majority spent less than £2000 (45.2%) and 23% spent over £2000. More distal indicators of financial cost

also happened relatively infrequently only 18.3% reported a loss of pension and 31.9% reported a loss of earnings. Of those due to depart, 41.5% reported using Annual Leave to go on the trip.

9.3.2.2. Recognition and accreditation

Only one participant in the whole sample received formal accreditation, 99.4% did not. However, most received informal recognition from colleagues (63.7%), about half received informal recognition from seniors (43.9%). Formal recognition was reported by 22.2% of sample, whilst 22.8% reported no recognition or accreditation at all.

9.3.2.3. Return to the UK

When staff returned to the UK, only 7.1% relied on locum or agency or bank work. But on the other hand, only 7.7% were involved in an official program that supported the transition back to back. In terms of their UK position 36% reported feeling unable to cope with NHS paperwork upon return. A loss of interest in ones profession as a result of the placement was reported by 10.8%. A third of participants reported wanting to leave the NHS because of their placement (35.7%).

9.3.2.4. Exposure

Almost one third of participants reported being exposed to corruption (29.6%) but only 15.4% reported a health consequence.

9.3.2.5. Skills

From an educational perspective, 32% of participants believed the skills they gained were not applicable to their UK position. It was reported by 24.9% that the skills gained were not applicable to their current career stage. Only 10.7% found that skills were applicable to neither their current career stage nor their UK position.

9.3.2.5. Pre-departure expectations

Before departure almost half of the participants reported feeling comfortable working outside of their competence on their upcoming trip (49.1%). A similar amount reported feeling comfortable working in high risk situations (56.6%).

Table 29: The percentage of participants that reported each negative outcome

Statement	Agree/Yes	Neither	Disagree/No
Returned Professionals			
Lost interest in profession because of placement	10.8% (n=18)	12.1% (n=21)	77% (n=130)

Want to leave NHS because of placement	35.7% (n=60)	21% (n=36)	43.3% (n=73)
Unable to cope with UK paperwork because of placement	36% (n=61)	21.1% (n=36)	43.9% n=72)
Experienced Health Consequences (injuries, illness etc.)	15.4% (n=26)		84.6% (n=143)
Loss of Earnings	31.9% (n=66)		60.9% (n=103)
Loss of pension	18.3% (n=31)		81.7% (n=138)
Exposure to corruption	29.6% (n=50)		70.4% (n=119)
Informal Recognition from seniors	43.9% (n=75)		56.1% (n=96)
Informal Recognition from colleagues	63.7% (n=109)		36.3% (n=62)
Formal Recognition	22.2% (n=38)		77.8% (n=131)
Accreditation	0.6% (n=1)		99.4% (n=170)
No Recognition or Accreditation	22.8% (n=39)		77.2% (n=132)
Involved in returners scheme/help back to work/support on reintegration	7.7% (n=13)		92.3% (n=156)
Locum/agency/bank work	7.1% (n=12)		92.9% (n=157)
Overall the experience was positive/negative/neutral	94% (n=159)	4.2% (n=7)	1.8% (n=3)
A financial cost (of some kind)	68.1% (n=92/135)	Neutral	Negative 31.9% (n=43/135)
High more than 2k/Low less than 2k/No financial cost	High=23% (n=31)	Low=45.2% (n=61)	No= 31.9% (n=43)
Skills applicable to current stage in career	75.1% (n=127)		24.9% (n=42)
Skills applicable to UK position	68% (n=115)		32% (n=54)
Skills not applicable to current stage in career or UK position	10.7% (n=18)		
Pre-Departure Questionnaire			
Comfortable to work outside competence	49.1% (n=26)	17% (n=9)	34% (n=18)
Comfortable to work in high risk situations	56.6% (n=30)	15% (n=9)	23.3% (n=14)
Used Annual leave for trip	41.5% (n=22)		58.5% (n=31)

9.3.3. Contextual elements of the placements

9.3.3.1. Destination

Data from the returned participants showed that the 169 participants travelled to many different countries for their international experience. The majority of participants travelled to Africa (66.9%) or Asia (23.1%). Uganda (21.9%), Sierra Leone (10.1%) and Malawi (5.9%) were the most popular countries for their most recent placement. Table 32 shows how each of the groups scored on the ten domains.

Those who visited Uganda had higher levels of confidence (6.2), than those who visited Malawi (5.6) and Sierra Leone (6.11) a Kruskal Wallis indicated this was the only significant difference when comparing the three groups, $H=6.8$, $p=.034$. However, in pairwise comparisons, those that visited Malawi generally had lower median scores on most domains than those that visited Uganda. Those that had travelled to Uganda scored significantly higher in Management (6, 4.7, $U=95.5$, $p=.018$), Team Work (6.3, 5.5, $U=95.5$, $p=.018$) and Confidence (6.2, 5.555, $U=81$, $p=.006$) than those who travelled to Malawi.

Table 30: Comparison of median scores when participants are grouped according to host country

Host Country	T	A	M	TW	BC	DC	SWL	CS	AC	C
Malawi (n=10)	5.2 (4.6-6.4)	5.8 (5-6.7)	4.7 (4-6.2)	5.5 (5-6.1)	5.4 (5-6.8)	4.5 (4-5.8)	5.7 (4.1-6.2)	5.7 (4.7-6.3)	5.7 (4.8-6.3)	5.5 (5.2-6.1)
Sierra Leone (n=17)	6.7 (4.5-7)	6 (5.3-6.5)	6 (4.5-7)	6.3 (5.3-7)	5.3 (5-7)	5.5 (4.2-7)	6 (5-7)	5.8 (5.3-6.7)	5.2 (3.3-6)	6.1 (5.3-6.7)
Uganda (n=37)	6 (5-7)	6 (5.2-6.7)	6 (5.3-7)	6.3(5.7-6.7)	5.8 (4.87-6)	5.3 (4.3-6.5)	5.5 (4.4-6.1)	6 (5.3-6.5)	6 (5.7-7)	6.2 (6-6.7)

T=Teaching, A=Adaptability, M=Management, TW=Team Work, BC=Behaviour Change, DC=Difficult Communication, SWL= Satisfaction with life, CS=Cultural sensitivity, AC= Adapting Communication, C=Confidence

9.3.3.2. Length of stay

Whether a participant had a short, medium or long stay on their most recent international placement resulted in no difference in the median scores for any of the nine of the ten domains. However, on the behaviour change domain, those with longer stays had lower median scores (5.25) than those who had medium (5.5) and those who had short stays (6) ($H=6.105$, $p=0.047$).

Table 31: Comparison of domain scores according to length of stay (short, medium or long)

	CS	TW	A	M	BC	DC	AC	SW L	C	T
Median <2 m (n=76)	6	6.3	6	6	6	5.7	6	5.5	6	6
IQR	1.7	1.6	1.7	2	1.5	1.6	1.7	1.5	1.1	1.3
Median 2-11m (n=47)	6	6.7	6	6	5.5	5.7	6	5.5	6.1	6
IQR	1.7	1	1.3	1.3	1.5	1.3	1.5	1.3	.9	1.7
Median 12m> (n=30)	6.3	6.2	6	5.7	5.3	5.3	5.3	5.9	6.1	5.5
IQR	1.7	1.7	1.7	1.8	1.3	2.1	2	1.2	.95	2.5
Kruskal Wallis H	1.97	2.05	1.75	.44	6.10	2.45	3.35	.92	1.03	1.96
Sig. (2- tailed) p	.375	.358	.416	.802	.047*	.294	.187	.63 3	.596	.376

T=Teaching, A=Adaptability, M=Management, TW=Team Work, BC=Behaviour Change, DC=Difficult Communication, SWL= Satisfaction with life, CS=Cultural sensitivity, AC= Adapting Communication, C=Confidence

9.3.3.3. Social, material/organisation, intra-psychological and opportunity elements of an LMIC environment that may affect PPD

Social

The 169 returned volunteers reported on various social components of a learning environment. Some contexts happened relatively infrequently, i.e. only 14.8% of local staff were critical of the project, whilst others happened more frequently, i.e. 77.5% engaged frequently with local staff. In terms of the relationship between the British staff and the local staff, for about half of the participants this was positive: 53.8% felt encouraged by local staff, 55% felt they had shared values with the local staff and 45.6%

stayed in touch after their placement. Only 29.6% reported having a local role model in the LMIC and 45.6% reported that local staff adopted knowledge from the British staff. 74% of participants felt they were frequently the most clinically knowledgeable staff member, with only 26% reporting a more clinically knowledgeable other being frequently present. Whereas 66.3% reported the frequent presence of a more culturally knowledgeable other.

Support

In regards to support, 26% had a mentor in the UK that they contacted remotely, but only 15.4% had a local professional as mentor in the LMIC. Some participants were supervised by staff from a HMIC whilst working in the LMIC (24.3%) others were supervised by local staff from the LMIC (30.8%). Only 8.3% reported a formal support structure in the LMIC. Many reported being supported in-country by other volunteers (39%). About a quarter of participants reported frequent feedback from LMIC senior staff (26%) and 24.9% reported frequent feedback from a HMIC national in the LMIC.

Social variables and PPD outcomes

Between-group comparisons were made using scores on the 10 domains between those with high, medium or low levels of a particular variable on their more recent placement or those with or without the presence of a particular variable. For a lot of the variables there were no significant differences in scores so these are not reported, as I was exploring emerging potential relationships that may warrant further study.

Those who received a high level or medium level of support from UK nationals on their placement had lower Adapting Communication scores (6) than those who received low levels of support (6.67) ($H=9.418$, $p=.009$). Similarly, those who received high levels of support from local staff had lower teaching scores (5) than those with low or medium levels (6) ($H=7.760$, $p=.021$). The same effect was seen with behaviour change (BC) those with high levels of local support had lower median scores on the BC domain (4.75), medium levels scored (5.5) and low local support was (5.75) ($H=6.068$, $p=.048$).

Participants that received local criticism for their most recent project had higher scores in Difficult Communication (6.33), than those who received no criticism (6) ($U=4.144$, $p=.042$). Interestingly, if the participant was the most clinically knowledgeable person on their most recent placement they had higher scores in adaptability (6) and teaching (6) than those that had a frequently more knowledgeable other present (5.5, 5.67 respectively) ($U=2184$, $p=0.041$) ($U=2060$, $p=0.021$).

Table 32: the percentage of participants who reported each social variable on past international experience and any domains that had significantly different scores for those who experienced it

	Disagree/ Low	Neither/ Medium	Agree/ High	Statistical relationships to latent traits. <i>Median score on trait for Agree group (AM), Disagree Median (DM)</i>
Received support from staff in the UK or other foreign nationals working abroad	27.8% (n=47)	40.8% (n=69)	31.4% (n=53)	Adapting Communication: H=9.418, p=.009, HM=6, MM=6, LM=6.67
Received support from local staff	41.4% (n=70)	54.4% (n=92)	4.1% (n=7)	Teaching: H=7.760, p=.021, HM=5, MM=6, LM=6 Behaviour Change: H=6.068, p=.048, HM=4.75, MM=5.5, LM=5.75
Local staff were critical of the project	85.2% (n=144)		14.8% (n=25)	Difficult Communication: U=4.144, p=.042, AM=6.33, DM=6
There was frequently a more clinically knowledgeable person around	74% (n=125)		26% (n=44)	Adaptability: U=2184, p=0.041, AM=5.5, DM=6 Teaching: U=2060, p=0.021, AM=5.67, DM=6
There was frequently a more culturally knowledgeable person around	33.7% (n=57)		66.3% (n=112)	
Local staff adopted knowledge from British staff	54.4% (n=92)		45.6% (n=77)	
Felt encouraged by local staff	46.2% (n=78)		53.8% (n=91)	
Had a local role model	70.4% (n=119)		29.6% (n=50)	
Stayed in touch with local staff after placement	54.4% (n=92)		45.6% (n=77)	
Engaged frequently with local staff	22.5% (n=38)		77.5% (n=131)	
Shared values with local staff	45% (n=76)		55% (n=93)	

Mentor in the UK (remote)	26%
	(n=44)
Mentor in the LMIC	15.4%
	(n=26)
Supervision from HMIC staff	24.3%
	(n=41)
Supervision from staff in LMIC	30.8%
	(n=52)
Support in country from other volunteers	8.3%
	(n=14)
Frequent feedback from a local senior colleague	39%
	(n=66)
Frequent feedback from a western senior colleague	26%
	(n=44)

Table 33: Cross-tabulation between career stage and the presence of a more knowledgeable other

Career Stage	No Clinical MKO (n=122)	Clinical MKO (n=41)
Early (<10 years since registration) (n=47)	31 (25%) (66% of early careers)	16 (39%) (34% of early careers)
Mid (<20 years since registration) (n=50)	38 (31%) (76% of mid careers)	12 (29%) (24% of mid careers)
Late (>21 years since registration) (n=56)	53 (42%) (80% of late careers)	13 (31%) (20% of late careers)

9.3.3.4. Intra-Psychological

From an intra-psychological perspective there were some behaviours, attitudes, emotions and thoughts that individuals exhibited frequently and others that happened less frequently. For example on 38.5% reported learning the host language, whilst 83.3% reported a significant change in opinion or perspective. A large proportion of the participants felt their skills were best used on the placement (81.5%) and large proportion felt that they understood the local context (77.4%). In terms of how they processed the new environment, 70.8% found themselves attempting to make sense of the new environment, 72.2% tried to accommodate the new experiences into their own view of reality and about half copied the behaviours of local staff (47%).

Reflection

When considering reflection, only four participants reported no reflection at all (2.4%). About half of the participants reported a formal reflection (44.4%) and greater number reported reflecting informally (76.3%). An almost equal number of participants reported reflection during the placement (86.4%) and upon return (82.8%). There were no significant differences between those who had high, medium or low levels of reflection on any of the domains.

Intra-psychological variables and PPD outcomes

There were distinct differences in domain scores of those who attempted to learn the host language and those who didn't. Those who learnt the language scored significantly higher on Adaptability (6), Behaviour Change (6), Adapting Communication (6) and Confidence (6.22) than those who didn't (5.33, 5.25, 5.33, 6 respectively) ($U=1615$, $p=.005$, $U=1135.5$, $p=0.000$, $U=1548.5$, $p=.022$, $U=1802$, $p=.047$). Those that copied the behaviours of local staff had higher levels of adaptability (6) and higher levels of satisfaction with life (6), than those that didn't (5, 5.5) ($U=1330$, $p=.012$) ($U=1424$, $p=.044$).

Table 34: Intra-psychological variables: frequencies and any significant differences between those with and without a particular variable

	Disagree/ Low	Neither/ Medium	Agree/ High	Statistical relationships to latent traits. <i>Median score on trait for Agree group (AM), Disagree Median (DM)</i>
Learnt the host language	48.1% (n=75)	13.5% (n=21)	38.5% (n=60)	Adapting: U=1615, p=. 005, AM- 6, DM- 5.33 Behaviour Change: U=1135.5, p=0.000, AM- 6, DM- 5.25 Adapting Communication: U= 1548.5, p=.022, AM-6, DM-5.33 Confidence: U=1802, p=.047, AM-6.22, DM- 6
Felt skills were best utilised on placement	7.7% (n=13)	10.7% (n=18)	81.5% (n=137)	
Found oneself attempting to make sense of the environment	14.9% (n=25)	14.3% (n=24)	70.8% (n=119)	
Copied Behaviours of staff in the host country	27.4% (n=46)	25.6% (n=43)	47% (n=79)	Adapting: U= 1330, p=.012, AM-6, DM- 5, SWL: U=1424, p=.044, AM-6, DM- 5.5
At least one opinion or perspectives changed in a significant way	5.3% (n=9)	12.4% (n=21)	83.3% (n=139)	
Accommodate new experiences into own view of reality	15.4% (n=26)	12.4% (n=21)	72.2% (n=122)	
Understood the local context	13.1% (n=22)	9.5% (n=16)	77.4% (n=130)	
Reflection	16% (n=27)	40.2% (n=68)	43.8% (n=74)	
Reflection during placement	13.6% (n=23)		86.4% (n=146)	
Reflection upon return	17.2% (n=29)		82.8% (n=140)	
Formal Reflection	44.4% (n=75)		55.6% (n94)	
Informal Reflection	23.7% (n=40)		76.3% (n=129)	
No reflection			2.4% (n=4)	

9.3.3.5. Material and organisational Organisational similarities

When participants were asked about organisational similarities around half felt that ethics were similar to the UK (44.4%). Much less felt that there were cultural similarities (9.5%), Health and Safety similarities (15.4%) and licensing and governance (21.9%).

Other material and organisational factors

Almost all of the participants felt that staff did not have adequate resources (89.9%) and around half felt local staff were under time pressures (53.8%). Around half also felt leaders were engaged with the project (46.7%) and 24.9% experienced staff frequently leaving (quitting/absenteeism).

Material and organisational variables and PPD domains

The participants that visited a resource poor environment had higher levels of adaptability (6) than those that visited environments with adequate resources (5.33) ($U=4.952$, $p=.026$).

Table 35: Material and Organisational variables: frequencies and any significant differences between those with and without each variable

	Disagree/ Low	Neither/ Medium	Agree/ High	Statistical relationships to latent traits. <i>Median score on trait for Agree group (AM), Disagree Median (DM)</i>
Local staff had adequate resources	10.1% (n=17)		89.9% (n=152)	Adapting: $U=4.952$, $p=.026$, AM= 5.33, DM= 6
Local staff were under time pressures	46.2% (n=78)		53.8% (n=91)	
Staff frequently left (quit) the facility during my stay	68.1% (n=127)		24.9% (n=42)	
Leaders engaged with the project	53.3% (n=91)		46.7% (n=79)	
Licensing similar to UK/NHS			21.9% (n=37)	
Health and Safety similar to UK			15.4% (n=26)	

Culture similar to UK/NHS	9.5% (n=16)
Ethics similar to UK/NHS	44.4% (n=75)
None of the above similar to UK/NHS	49.1% (n=83)

9.3.3.6. Opportunities

Opportunities to partake in particular things (that are generally different from a UK environment) were reported at different levels. Whilst 79.1% reported interacting with more conditions than in the UK, only 40.8% reported interacting with more patients. Around half of the participants experienced communication difficulties (55%). Interestingly, the majority of participants reported an opportunity to lead and have responsibility (79.9%), explore outside of the hospital (82.8%) and visit more than one health facility (74%).

Opportunity variables and PPD domains

Those that reported having opportunities to lead had higher levels of teaching (6) than those who didn't (5.67) ($U=4.649, p=.031$). There were distinct differences between those who saw more patients than the UK and those who didn't. Those who saw more patients generally had higher levels of Team Work (6.33), Difficult Communication (5.67) and Confidence (6) than those who didn't (6, 5.33, 5.89 respectively) ($U=1280.5, p=.029$) ($U=1286, p=.029$) ($U=1380, p=.015$).

Table 36: Opportunity variables: frequency and any differences between those with and without that variable

	Disagree/ Low	Neither/ Medium	Agree/ High	Statistical relationships to latent traits. Median score on trait for Agree group (AM), Disagree Median (DM)
Interacted with more patients than in the UK	36.9% (n=58)	22.3% (n=35)	40.8% (n=64)	Team Work: $U=1280.5, p=.029, AM= 6.33, DM = 6$ Difficult Communication: $U= 1286, p=.029 AM= 5.67, DM= 5.33$ Confidence: $U= 1380, p=.015, AM=6.33, DM= 5.89$

Interacted with more conditions than in the UK	8.6% (n=14)	12.3% (n=20)	79.1% (n=129)	
Experienced Communication Difficulties	45% (n=76)		55% (n=93)	
Opportunities to lead and have responsibility	20.1% (n=34)		79.9% (n=135)	Teaching: U=4.649, p=.031 AM=6, DM=5.67
Opportunities to explore outside of the hospital	17.16% (n=29)		82.8% (n=140)	
Opportunities to visit more than one health facility	26% (n=44)		74% (n=125)	

9.4. Discussion

I aimed to gain an understanding of how often negative outcomes happen for health professionals on international placements. To my knowledge this is the first study that aimed to quantify the extent of negative outcomes experienced by British professionals on international placements. I found that overall the experience was considered a positive experience for 94% of the participants. Only 2% of participants described the experience as generally negative. However, despite this positive affect towards health professional international placements (HPIPs), each negative outcome was reported in at least 10% of the cases, highlighting and quantifying what has been qualitatively reported in previous research. This provides further support for the importance recognising and reporting costs in research in this field (11,277). Understanding the frequency of such negative outcomes is important for trusts, policy makers, employers and academics understand how often negative things happen in order to balance this with positive outcomes described in earlier chapters.

I also aimed to understand the contextual components of international learning environments and how often social, material, psychological or opportunity factors occurred. This was an important component of understanding the differences between a UK and LMIC learning/working environment to try to understand what makes HPIPs a unique learning experience. I found that participants reported many contextual components that would be considered different from a UK/NHS environment. For example 89% of participants felt their host facility lacked resources; which is very different from an NHS environment. Similarly, 74% felt they were frequently the most clinically superior staff

member, indicating the hierarchy and support systems of the NHS are largely removed in an LMIC environment.

Finally, I aimed to identify any emerging relationships between variables and the PPD outcomes measured in the tool. Although this was a secondary analysis, with an exploratory rather than confirmatory, experimental design, I aimed to identify whether there was any emerging evidence that those who experienced a particular variable had higher scores on any of the domains than those who did not. The results provided evidence for the validity of the tool. The emerging relationships found in the data were in line with the relationships described in the qualitative research and anecdotal accounts, for example those higher adaptability scores, reported being in an environment with low resources, those with higher difficult communication scores had reported dealing with staff who were critical of the project (11,16,29).

9.4.1. Costs

The outcomes reported in this research quantify some of the concerns that have been raised in previous literature. Some literature argues that students work outside of their competence in HPIPs; which has dangerous consequences for both the students and the local patients (12). This research has highlighted equally how important this issue is with a professional population, as before departure 49.1% felt comfortable working outside of their competence on their upcoming trip. This research also quantifies the extent of this problem, it indicates that about half of potential volunteers, would be happy to work outside their competence. This quantification, is to my knowledge not present in the existing literature base and future use of the tool and the variable questions would add to this knowledge base. I think this finding has implications for everyone involved and highlights the importance of education of the disastrous ethical, emotional and professional implications for health professionals, particularly those planning HPIPs and working outside ones competence. A similar finding to consider in line with this is that 56% felt comfortable working in a high risk situation in their upcoming placement, this could be an indication of the positive, selfless character of staff that choose to undertake HPIPs, but it could also highlight the naivety and unpreparedness of staff and the necessity to implement future training about risk, competence and ethical implications.

Previous studies have quantified the health consequences of short term volunteers, however this was not specific to healthcare professionals, they found that 9.6% of

participants accessed medical care and that Diarrhoea was the most frequently reported health consequence by 23.9% of the population (104). My findings are somewhat in line with this suggesting that 15% of the health professional sample experienced some sort of health consequence (anything from insect bites to traffic accidents). By having this information readily available to prospective volunteers and their employers would allow them to predict risks associated with HPIPs. Future iterations of the tool may categorise the health consequences from less severe and temporary (diarrhoea, non-infectious insect bites) to fatalities or debilitating accidents.

Recognition and accreditation have been discussed in much of the past literature as both a negative outcome and a barrier for participation (271,276). However, some literature argues that some trusts are particularly good at formally and informally supporting international work, through health partnerships, for example (25). This research provides quantification of the extent of this problem, but also highlights the successes of some trusts. It indicates that formal accreditation is extremely rare, only 1 participant in the sample received this. Whereas, 63.7% reported informal recognition from colleagues. This study also highlights that the recognition is lower amongst senior colleagues happens less frequently, with less than half (43%) reporting recognition from that group. This highlights the need for further education amongst health professionals and managerial staff of the PPD benefits of international work.

Employers, some professionals and some policy makers argue that skills developed on international placement are of little use to the individual or the NHS (12,28). Either because the participants are too junior to use the leadership skills or they are not using the same skills, techniques, bad habits or equipment than they would in the NHS [12,15]. Whilst my research does not refute this argument, it provides some quantification, as 32% said the skills were not relevant to their UK position and 25% said they were not relevant to their career stage, it provides evidence for the frequency that this occurs. Around two thirds felt the skills were relevant to their position and career stage, indicating that extra efforts should be made to ensure staff chose relevant placements. This can only be done when LMIC environments are understood. With future use of the tool, a data set could be available to indicate which placements (i.e. country, town, provider) could be particularly useful to early career staff in terms of relevant skill development.

9.4.2. Contextual factors

Previous literature indicates that there are particular contextual components of an learning environment that facilitate student learning (118). I aimed to understand how these components relate to an international environment and how often particular components occur for qualified professionals. My second aim was to understand how the contextual factors might relate to PPD outcomes, measured within the tool. Throughout the literature reviewed in the earlier chapters, individuals describe components of an international environment that they felt resulted in a particular outcome. For example, they describe how working with a greater number of patient's increases confidence or working with less resources increases resourcefulness (18,68). My results provided quantitative indications that a) some of these anecdotal relationships may be amenable to psychometric measurement and b) that the tool may become a valid way of measuring such relationships. I was able to generate hypothesis concerning relationships that may be amenable to future quantification using the tool.

Some of the results are in line with hypotheses in the qualitative literature, whilst others refute it, almost 80% of participants reported interacting with more conditions than they would in the UK. Although there has been no attempt to quantify this, the findings support existing literature; which hypothesises individuals learn clinical skills concerning tropical diseases (16,76). However, much of the literature proposes that a main benefit of international experience, particularly for doctors, is brought about through increasing the volume of patients that they treat (24,48,68). In my review of learning theories, I explored whether the benefits arose through increased deliberate practice (section 2.8). I found that in more than half of international placements, health professionals do not report treating a higher number of patients per unit of time and therefore deliberate practice might not be accounting for the PPD benefits reported. Interestingly, those that interacted with a greater breadth of conditions, had similar scores on the 10 domains as those who didn't. Whilst the half of the sample that reported seeing more patients had significantly higher scores in Team Work, Confidence and Difficult Communication. This could indicate that deliberate practice is relevant for some domains more than others.

Previous literature suggests that professionals learn a variety of communication skills on HPIPs, through exposure to unusual situations that require such skills (13,18,21,24,26). More specifically, it is proposed that opportunities to engage in critical dialogue, may increase individual's ability to communicate in challenging or difficult situations (18,26).

This opinion was also held by stakeholders at the Delphi workshop, where participants repeatedly described the importance of ‘overcoming communication barriers’ as part of the learning process. My results found that criticism of the project, happened quite rarely, with only 15% reporting this contextual factor, however those that did had significantly higher scores on the difficult communication domain.

One factor that makes HPIPs in LMICs a unique learning environment and is described frequently in previous research is being ‘thrown in at the deep end’. Professionals of any level of experience often find themselves in a leadership role and are given responsibilities that they would not have in the UK (4,11,26,76). My findings confirm this and show that 75% of professionals on HPIPs were frequently the most clinically knowledgeable staff member. When cross-tabulated with career stage 66% of the early career staff reported being frequently the most clinically superior, 76% of mid-career staff and 80% of late career staff, despite a small increase of proportionality with experience, there was still a considerable proportion of early career staff in a clinically superior position. This supports previous literature suggesting that being the most clinically superior person in an LMIC can happen to any health professional on HPIPs. Furthermore, those who had higher scores on teaching and adaptability domains, reported frequently being the most clinically superior staff member on the HPIP. This indicates that the absence of a more knowledgeable other may be associated with greater learning outcomes. This therefore, suggests that learning from a more knowledgeable other, in a typical pedagogical way, may not be accounting for the PPD outcomes reported.

This effect of greater responsibility is sometimes characterised in the literature as a lack of support from local staff (26). Literature describes professionals learning despite a lack of support or supervision (4,11,26,76). My findings suggest that lack of support is evident in under half of the placements (41%). However, those that reported low levels of support from local staff, had higher scores on adapting communication, teaching and behaviour change domains than their peers with lots of support and supervision. This could again indicate that lack of support or structure in an LMIC learning environment can result in PPD outcomes; which reposes traditional pedagogical theory suggesting its importance (140,278,279).

From a material perspective, what is often reported to make LMIC working/learning environments unique is absence of resources. Much of the literature reviewed in chapter 2,

describes the impact of a low resource environment for the wellbeing of the local patients but also how being in a resource-poor environment provides a platform for comparison and results in innovation, resourcefulness and other PPD for British professionals (18,38,98). Literature proposes this absence of material resources results in is a necessity to determine the best use of limited resources and to adapt to the new environment (38). My results found that a lack of resources characterised almost 90% of HPIPs, supporting previous literature that suggests it's a relevant contextual component of an LMIC. Interestingly, those working in low resource environments had significantly higher levels of adaptability than the small amount of colleagues working in adequately resourced settings. This finding is a step towards to quantifying the anecdote and more importantly providing numeric support and metrics to the rigorous qualitative findings emerging recently elsewhere (11,26).

9.4.3. Limitations

The first limitation is that the majority of the data collected is frequency data, it can only indicate the number of people who experienced a variable or a cost, and how this relates proportionally to the rest of the group. This was a secondary analysis of a primary data set gathered for a different purpose and therefore not representative of the population of interest. Since this sample is not representative then generalisability to the population cannot be guaranteed. The sample was chosen to develop a psychometric tool (described in the earlier chapter). Due to sampling and design limitations the inferential data analysed in this secondary analysis are not intended to identify or evidence relationships, but rather give a preliminary indication of how the tool could function in the future and be used to evidence such relationships in a rigorously controlled large scale study.

As this was a secondary analysis, sample sizes were also not even in many of the comparisons and were particularly low in some comparisons. Therefore, the statistical tests conducted are not under ideal conditions. Furthermore, the study was not powered to compare, therefore I was looking for any patterns which would indicate avenues to explore in future studies, rather than experimental evidence.

Another limitation is that a multiplicity correction was not applied to the results of the multivariate analysis. A multiplicity correction is a way of reducing familywise type 1 errors that can occur when multiple analysis are conducted a data set (280). More simply, statistics can indicate that there is a significant result when there isn't. One way to combat

this is to use a multiplicity correction such as Bonferroni, where you divide the value of significance (the p-value) by the number of hypotheses tested (280). This means the significance threshold is reduced. This rigorous proceeding is strictly required in confirmatory analysis, whereby one (or multiple clear hypotheses are been being tested) (281). However, as this is an exploratory study, where significance tests are only used for a descriptive purpose only, rather than decision making, some researchers argue that applying a multiplicity correction is not always necessary. Either way, authors still reiterate that multiplicity problems in exploratory studies are huge, and that significant results from exploratory studies, should be labelled accordingly (281).

Chapter 8 showed that one of the limitations of the tool was that it was not sensitive to between-group differences in domain scores between those with international experience and those without international experience. I proposed that any effect of international experience was likely confounded by the effect of profession or career stage that was not matched in sample. Any results from this chapter use the same between-group analysis and could also be confounded by external variables or limited by the absence of experimental design. In chapter 8 I propose that the lack of between-group effects could be due to an imbalance in professional cadres, with the no international experience group having significantly less doctors and more support staff than the group with experience. I also propose that different professional cadres may have different thresholds or ideas about what it constitutes to be particularly good at something, making unmatched between-group comparisons difficult. However, in the returned volunteers sample used in the secondary analysis the effect of profession is somewhat removed, as almost all of the participants are registered health professionals educated to degree level. This sample included predominantly doctors, nurses and allied health professionals (AHPs), who in order to practice, would likely be much more familiar than support staff with reflecting and self-assessing one's ability as it is a component of health professional training and medical education.

The second confounding variable in the previous study was career-stage (or experience). This was not tested statistically in this study, one reason being regression analysis is difficult using a non-parametric data set. As such, career-stage could be responsible for the effects. For example, whilst the results indicate that a lack of support is associated with higher results on three of domains, it could be that those without support were the most experienced professionals and had higher scores due to their career stage rather than

international experience. Similarly, individuals who learnt the local language had higher scores on some of the domains, those who had time to learn a language likely had longer stays; which could be the reason for the higher scores. Hence, causality cannot be assumed from these results as confounding variables are not accounted for.

9.4.4. Future directions

Whilst not generalizable or indicative of causality, the statistical inferential relationships highlighted in this chapter are in generally in line with the qualitative research. In order to further explore these relationships future research should use an experimental design and controlled or matched sample when comparing between-groups. Ideally a within-participant design should be also used, sampling at least 1000 participants. It should also use the tool longitudinally to establish a baseline, then re-capture the outcome and variable data during the placement and upon completion. In future research every effort should be made to control or account for confounding variables, as the research in this thesis has highlighted that professional cadre and experience seem to be more predictive of domain scores than international experience, however a regression analysis should be used to test this hypothesis.

In terms of the frequency data generated about costs and variables, it is essential that costs are recorded alongside PPD outcomes in the future to allow stakeholders (policy makers, employers, educators) to undertake a thorough cost-benefit analysis before deciding the potential benefits for staff. This research gives a preliminary indication of the extent of costs and variables, but similarly a larger sample and rigorous empirical conditions are necessary to make results generalizable.

Future research should aim to test the reliability and validity of the tool as a measure of Health professional PPD in LMICs. The results of this chapter show that the tool has potential utility, but the tool is yet to be exposed to rigorous testing of psychometric properties. I hope that the tool will be used in future studies to begin to build a data set and evidence base of PPD outcomes, variables and costs associated with health professional international placements in LMICs.

9.5. Summary

This research has shown that there are many contextual components that may make an LMIC environment different from a UK learning/working environment. It has also shown that some of the presumed differences reported in the literature may not be applicable to

every international placement, as no contextual factor was present in all LMIC placements. The majority of contextual factors were present in around half of placements described. Furthermore, this research has highlighted some potential relationships between the contextual components of an international placement and PPD outcomes that warrant further study.

This chapter has described the data I collected during the pilot study about the contextual components of an international placement and the potential costs for British professionals working in LMICs. The results will be discussed more widely and collectively regarding each variable, cost and outcome in the next chapter. In the next chapter I describe and summarise my results in regards to the findings recorded in the past 5 data chapters, past research and educational theory.

10. Discussion

10.1 Introduction

In the previous five chapters I described the methods and results of a series of studies, in this chapter I consider the findings collectively and describe the results thematically in line with previous literature. I begin this chapter by summarising the impact of this research in regards to the research questions.

10.1.1. Impact of research

I commence this chapter by re-iterating the research questions presented earlier in the thesis, I briefly explain how my research answered each question. As this chapter progresses, I elaborate by discussing each question in further detail. The four research questions of this thesis are:

1. *What personal and professional development happens on international placements?*
2. *What are the negative outcomes of international placements?*
3. *Can we measure personal and professional development on international placements and which components are most amenable to quantification?*
4. *How do international contexts facilitate learning that is of benefit?*

The first issue my research aimed to address was the lack of clarity in regards to specifying personal and professional development (PPD) outcomes. My research synthesised the existing knowledge to provide understanding of the PPD, in a high-specificity manner. The second issue was little attempt had been made to understand or quantify the negative outcomes that occur as a result of Health Professional International Placements (HPIPs). I was able to synthesise the existing literature into a set of potential negative outcomes and I generated quantitative data in relation to the frequency that costs occur in a sample of British healthcare professionals on HPIPs. The next issue was that there is currently no tool that quantitatively measures PPD outcomes of HPIPs. My research successfully solved this issue by developing a 40 item tool; which was derived from the peer-reviewed literature and assessed by stakeholders. Finally, there was limited understanding of the contextual constituent components that differentiate the LMIC learning/working environment different from an NHS environment. I synthesised existing literature into 33 variables that potentially affect learning. I then generated quantitative data regarding how frequency of occurrence on HPIPs. A limitation of previous research was that the phenomenon of health professional learning on international placements had not been examined in line with educational theory. I reviewed educational theory and analysed my

results accordingly, I generated theoretical hypothesis for future testing and a heuristic model of learning on HPIPs. Finally, there is no experimental evidence that outlines the effect of contextual factors on PPD outcomes. My secondary analysis of the results highlighted some emerging relationships for future study.

10.2. What personal and professional development happens on international placements?

My research aimed to outline PPD outcomes of HPIPs. I began this process by extracting all of the potential PPD outcomes of HPIPs from the published academic literature. During this process I generated four higher order vague themes that were prominent in the literature: communication, leadership, cultural skills and personal development. I extracted and thematically synthesised all of the potential outcomes into a structured thematic framework. I also generated long lists of potential high-specificity PPD outcomes that were specific to individuals or professional cadres. I meta-synthesised these into high-specificity categories that were suitable for measurement but applicable across individuals and professions. I began to answer the research question in the early stages in a very expansive manner. To my knowledge, this was the first attempt to extract and collate every reported potential PPD outcome. The thematic outcomes included items such as ‘increased awareness of and knowledge about the cultural aspects of health’ or ‘understanding how to be a good teacher’.

Subsequently, I presented the outcomes to a group of stakeholders to decide which of the potential outcomes are relevant, agreed upon and core. At this stage my list of potential outcomes was further reduced to a core outcome set of 116. I was able to answer my research question through the process of elimination as 15 outcomes were removed. At this stage I had developed knowledge that ‘ability to listen’, ‘ability to give and accept praise’ and ‘improved research skills’ were not considered core PPD outcomes of international placements. ‘Ability to listen’ (a key component of the communication skill set) was removed. This supported my methodological decision to disentangle ‘communication’, this indicated that stakeholders do not consider all elements of the communication skill equally. As a result of the Delphi, I generated a list of 116 agreed upon core PPD outcomes of HPIPs. This provided an evidence-based, peer-reviewed, concrete list of

outcomes that answer the question of ‘what learning happens on international placements?’.

This thesis was also concerned with measurement and understanding of what elements of PPD are amenable to quantification and whether the learning that happens can be evidenced using metrics. Therefore, I statistically analysed responses to the items generated from the COS, to identify the items most amenable to psychometric measurement. This generated 40 items that measured 10 latent variables. This research used an underlying methodological approach of Item Response Theory; which attempts to model the extent to which questionnaire items represent latent variables. As the variables are ‘latent’, they are unobservable and not amenable to precise labels. Although, to avoid confusion I loosely applied the following labels; which seemed to encompass the corresponding items: Behaviour Change, Cultural Sensitivity, Teaching, Management, Adaptability, Difficult Communication, Adapting Communication, Team Work, Satisfaction with Life and Confidence. My research concludes that these 10 latent traits are believed by stakeholders to develop as a result of HPIPs and that these latent traits are more amenable to quantification than other items in the COS.

Figure 27 depicts the different levels of PPD outcomes generated as a result of my research. It begins with an overarching layer comprising the four key themes from the systematic review and meta-synthesis. However, in chapter 2 I describe the importance of considering PPD on a more measurable level. Therefore, the next layer shows the 10 domains; which my research proposes underlie PPD on HPIPs. On the final level, I present example constituent components of the domains, items that can be used to measure each domain. In terms of answering the research question regarding **what** learning happens, figure 27 provides a visual depiction of the learning outcomes and the items that can be used to measure it in a self-assessment tool. In section 10.2, I will address each of the ten domains individually and describe what my research adds to current knowledge of each PPD outcome in relation to health professional international placements.

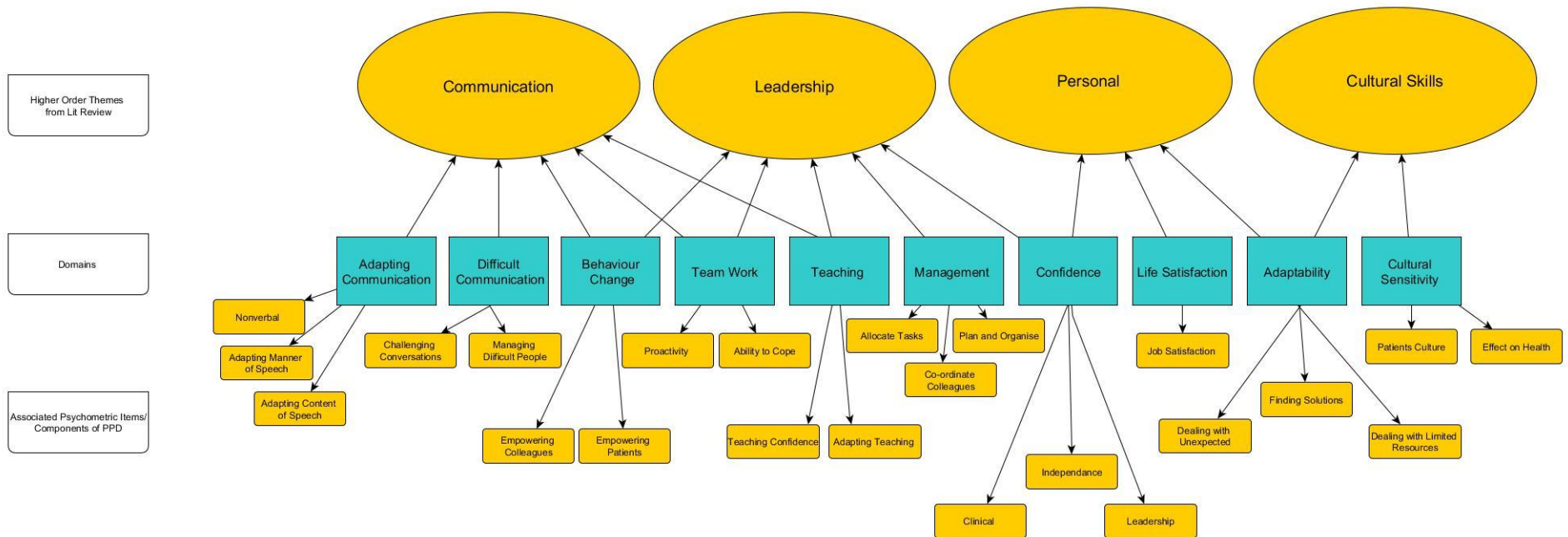


Figure 27: Levels of PPD outcomes found in my research

10.2.1. Behaviour change

Previous literature suggests that health professionals may learn skills in behaviour change (BC); which encompasses empowering local people and colleagues (17). Research also suggests professionals become more able to enable local staff to find solutions that work for them (17). Furthermore, emerging literature argues that behaviour change theory and behavioural science may be used to improve health partnerships in the future, for example by providing training interventions based on behaviour change theory (282).

In the Delphi workshop, participants stated that ‘empowering them [patients] to recognise their own strength’ was an important outcome of international placements. There were a number of items in the Delphi study that were presented to stakeholders in regards to BC. ‘Increased ability to change behaviour in colleagues or patients’ was agreed to be core by 73% of the group, whilst ‘understanding own potential to empower people’ was agreed to be a core outcome by 81%. ‘Understanding that changing behaviour is complex’ was agreed to be core by 85% of the sample.

Synthesised literature was converted into the following four items for the pilot study:

- Able to empower patients to help themselves
- Able to empower colleagues to help themselves
- I have demonstrated skills in changing colleagues behaviour
- In my work I have demonstrated skills in encouraging and support patients to change behaviour

During the Principle Component Analysis (PCA) and Multivariate Item Response Theory (MIRT) it was decided that these items would remain in the questionnaire as they have good psychometric properties and correlated with each other, indicating the existence of a latent variable; which I named ‘Behaviour Change’. Although this is not a definitive, static label, as it is an underlying latent variable (see chapter 7 for a description).

When comparing the 5 groups of international experience, there was a significant difference in BC domain scores, (see chapter 8). Those with no international experience (and no interest) scored themselves highest, whilst those currently overseas scored the lowest. However, in the longitudinal study there was an increase in behaviour change domain scores after an international placement, with a pre-placement median of 5.67 and post-placement median of 6. These results were not significant, but with a larger sample size and relevant design, this relationship should be further explored.

Behaviour change research in other health fields suggest an ability to communicate clearly results in better behaviour change outcomes (283,284). In the secondary analysis in chapter 9, there were 3 variables that had statistically significant relationships with scores on the BC domain. Firstly, those who learnt the host language had higher a median domain score than those who didn't. This finding is in line with previous literature, learning some of the host language may improve a health professional's ability to communicate with staff and patients. These findings provide a hypothesis for future research, as if there is a link between learning the local language and development of BC, a short language training course pre-placement could result in better outcomes for British and local professionals/patients.

Previous literature suggests that professionals learn through lack of supervision and higher levels of responsibility. For example one paper describes how British doctors are the often the sole decision makers in low and middle income countries (LMICs) regardless of experience and that this doesn't diminish care but rather changes attitudes and promotes continued learning (29). Therefore, some previous literature suggests that a lack of support in LMICS generates positive developmental outcomes. An interesting relationship exists between support from local staff and BC. Those who scored highly on the BC domain reported low levels of support from local staff, whilst those with high levels of support had a lower median score. However, contrasting literature argues the detriment of this approach to learning in terms of safety for all involved parties (26). For this reason this effect should be measured in naturally occurring environments and no assumptions made until a greater evidence base emerges.

There was a significant difference when comparing behaviour change scores of those with short, medium or long term stays. Those with higher BC scores, were most likely to report shorter stays compared to peers who experienced medium and long stays. This could provide preliminary indication that within 2 months people can understand the local context enough to change behaviour. This is in line with previous literature that suggests placements over 4 weeks are most successful (105,106,254).

In comparison to previous measures reviewed in chapter 2, behaviour change is not currently presented as a singular domain in any tool. However, Longstaff's tool uses elements of behaviour change across other domains (150). Within 'personal and people development', she measures 'giving feedback to support others to improve their

performance' (150). She also describes 'supporting colleagues to make changes to their ways of working' within service improvement and 'paying close attention to those I work with so that I can support each person effectively' within equality and diversity. To my knowledge, this measure has not been subject to any psychometric tests. It would therefore be interesting to test these items alongside the behaviour change items in my tool. This would provide further evidence for the existence of an underlying behaviour change latent variable, particularly if scores increased after international placements. In the IVIS, a tool that is implemented across professions, there is little mention of behaviour change, perhaps the closest item is 'contributing towards the personal development of others' (151). In the past systematic review framework described by Jones et al., (2013) there is also no explicit mention of behaviour change or any similar components (13).

In summary, in regards to behaviour change, this methodology may have uncovered a novel latent variable/domain that develops on HPIPs, as this is not an explicit component of other tools. My choice to use a method based in item response theory, allowed for the emergence of latent variables. Furthermore, there were no between group or longitudinal differences in the behaviour change domain. However, the results suggest that length of stay, levels of support and learning the host language may interact with the behaviour change domain, and future research should test these hypotheses.

10.2.2. Adapting communication

Communication was one of the key thematic outcomes of the synthesis in chapter 2. Much research in the field describes a development of communication skills of some kind as a result of HPIPs (11,13). In a previous study, the majority of doctors with international experience felt their communication skills were better than their peers as a result of international experience (24). However, my main rationale for extracting outcomes at a low-level was to identify the relevant constituent components of communication.

Interestingly, as a result of this research two thematic components of communication were discovered: adapting communication and difficult communication. Adapting communication has been presented in past literature in numerous ways. In one paper all of the nursing students interviewed reported adapting communication skills on HPIPs and subsequently developing nonverbal communication skills (46).

I was able to outline the constituent components of communication proposed in the literature during the meta-synthesis. There were a number of higher order themes that

emerged from the meta-synthesis in regards to adapting communication ‘increased awareness of how communication between two people can affect understanding’ (which included ‘effectively conveying ideas in a contextually appropriate way’) and ‘ability to communicate non-verbally’ (which included developing non-verbal techniques).

I was then able to understand which of the above outcomes were most important or relevant to those with knowledge. ‘Ability to communicate non-verbally’ was agreed upon by 76% of the stakeholders. ‘Understanding that words and behaviours can have different meanings’ was agreed upon by 91%. Understanding that speed and language competency affect communication was agreed upon by 86%, ‘increased awareness of how context affects communication’ was agreed upon by 84%.

In a pilot study, I was able to see which are most amenable to psychometric measurement. The items that emerged from the PCA and MIRT in chapter 5 were:

- I changed the way I speak so that somebody can understand me (e.g. purposely spoke slower and clearer).
- I changed the way I communicate to make it more contextually appropriate (e.g., to make it more culturally appropriate).
- I frequently relied on my non-verbal communication (e.g. hand gestures).

An increase in ‘adapting communication’; which is often reported in the literature, was not found in my results. There was no significant difference between those with and those without international experience and also no significant difference between pre and post placement scores. This hypothesis should be re-tested, as it is so prevalent in the qualitative literature. It could indicate that the tool is not sensitive enough to detect this change, or that the results are due to experimental conditions.

Previous literature proposes that learning the local language allows individuals to reach a higher level of cultural competence and succeed in developing relationships with local staff (259). My findings support components of this suggestion. Perhaps unsurprisingly, those who choose to learn the host language scored themselves significantly higher on adapting communication, than those who didn’t. Learning the host language could arguably be considered a component of adapting communication, but it could also be a way of improving one’s ability to be flexible with communication. As such, it presents an interesting hypothesis for future exploration.

There is discussion in the literature of how support from UK staff during the HPIP or upon return facilitates learning (285). Literature proposes that having a UK mentor or

supervision from British professionals locally can be beneficial (4,286). My results refute this finding, as adapting communication was the only domain to be affected by high or low levels of support from non-local staff. However, in opposition to literature those who received low levels of support scored significantly higher than those with high levels. Therefore, those without adequate support from British staff had higher adapting communication scores. Similarly to the effect of local support seen in other domains, this could indicate that learning happens in the absence of support, when professionals are ‘thrown in the deep end’ and learn through failure/practice. The confounding effect of experience should also be noted, it could be that those with no support are more senior/experienced and therefore have higher levels of such skills. However, the results provide an interesting hypothesis for future exploration.

Adapting communication is only captured in one of the existing tools. In the IVIS, one psychometric factor is entitled ‘social skills’, yet adapting communication is not mentioned explicitly (151). Communication is one of the 7 key domains in the Jones et al., (2013) framework and adapting communication does not specifically appear as a lower-order theme within the framework (13). Adapting communication is a component of Longstaff’s tool, the quantitative item is ‘I modify my way of communicating to deal with the more complex and difficult issues’. The reflective section of this tool asks participants to describe a time when they adapted their communication skills to overcome a barrier (150). Therefore, this domain may be more relevant to health professionals as communicating effectively is a major component of the professional role. Hence, communication is a key theme in other measures, but the specificity of the adapting communication domain is unique to my tool.

To summarise, literature suggests that individuals are better able to adapt communication as a result of international experience. My findings did not support this suggestion, as there were no significant differences in the between-group and within-participant analyses. Furthermore, literature suggests high levels of support, particularly from British staff, facilitates learning on HPIPs. My results also refute this finding in regards to adapting communication, as those with the lowest levels of support had the highest AC scores. My findings do support previous literature that suggests learning the host language is beneficial for PPD, as those who learnt the host language reported higher adapting communication scores.

10.2.3. Difficult communication

Throughout the literature, authors allude to the development of difficult communication skills as a result of being exposed to challenging environments, different people and testing situations. There is a suggestion in one paper that surviving a challenge makes professionals feel capable of dealing with future ones (45). The meta-synthesis captured the constituent components of this domain, the ‘ability to overcome communication challenges’; which was a higher order node in the meta-synthesis, consisted of ‘liaising between-groups’, ‘engaging senior people’ and ‘negotiating with senior people’.

In the initial Delphi stakeholder workshops (discussed in Chapter 6) participants described how HPIPS increase ‘ability to have challenging conversations about sustainable change’. The same stakeholder group proposed that professionals gained an ‘ability to deal with difficult senior figures’. In the online rounds of the Delphi ‘ability to engage senior people’ was on the cusp of consensus with 70% agreeing it is a core outcome. ‘Ability to overcome communication challenges’ was agreed to be core by 83% of Delphi participants. Ability to manage people (which included managing difficult people as an example) was agreed to be core by 76%. ‘Ability to challenge breaches of privacy and confidentiality’ did not meet consensus in the Delphi and was therefore removed. During the process of generating psychometric items, the ‘ability to manage difficult people’ item was created to combine some of the above core outcomes. Therefore, these core outcomes were converted into the following psychometric outcomes for the pilot:

- I demonstrated that I am skilled in challenging conversations, even in high pressure situations.
- I demonstrated that I am able to manage difficult people effectively.
- I frequently dealt with difficult people.

All three items were included in the final tool, after the PCA reduction technique. They were labelled as the ‘Difficult communication’ domain. The component had a Cronbach’s Alpha (a measure of internal consistency) of 0.86; which indicates that the items within this domain are amongst the most related. The highest loading estimate was ‘I demonstrated that I am skilled in challenging conversations’ (0.842) and the lowest was I frequently dealt with difficult people (0.774).

When conducting comparisons an opposite effect to what was expected was found. Those with international experience had a lower median score than those without. This indicates that HPIPs do not increase difficult communication skills. However, this is not in line with the literature or stakeholder opinion previously discussed. On the contrary, in the longitudinal study, the median score was lower pre-placement (5) than post placement (5.67), however the difference was not significant. This provides a greater indication that the initial results could be type 2 errors (false negative) due to the sampling and design limitations described in chapter 8. Whilst there was a small amount of preliminary data to indicate that 'Difficult Communication' may improve as a result of international placements, future research is needed to determine whether this is a relevant domain to test in regards to HPIPs. If future research continues to find a lack of variability between those with and without international experience or pre and post individual scores, then it could be a domain that is removed in future iterations of the tool.

There were three variables that related to development of 'difficult communication' (DC) on HPIPs. The first was interacting with more patients than in the UK, i.e. volume of patients. Those scoring highly on DC were more likely to report interaction with more patients than in the UK. Much of the literature proposes that a main benefit of international experience, particularly for doctors, is brought about through increasing the volume of patients that they treat (11,68). In my review of learning theories, I explored whether the benefits arose through increased deliberate practice (chapter 2) (131). In chapter 9 I found that in more than half of international placements, health professionals do not report treating a higher number of patients per unit of time and therefore deliberate practice might not be accounting for the PPD benefits. However, considering this finding alongside the significant increased DC score of participants who interacted with more patients could indicate that the opportunity to communicate with more patients provides a chance to practice skills in 'difficult communication', in line with deliberate practice theory.

A similar significant result is found with the variable regarding criticism of the project from local staff. Those with the highest DC scores reported experiencing criticism. This again could be due to the greater opportunity to practice 'difficult communication'; which would likely occur in an environment when staff are critical of the project.

Both of the variables that relate to ‘difficult communication’ indicate that opportunity (to either see more patients, or practice dealing with criticism) could be related to increased scores in the difficult communication domain. This indicates that deliberate practice theory may be of particular relevance when considering the development of DC skills as a result of HPIP. Future research should consider the effect of opportunity (to interact with more patients and to experience criticism) as a moderating or mediating factor in the development of difficult communication. If these factors are found to be relevant, it would have implications for PPD in LMIC; which could also be transferred to UK training (i.e. through simulations or placement learning mimicking LMIC environments).

In relation to existing measures and frameworks described in chapter 2, Jones et al., (2013) includes an element of difficult communication within the ‘Teamwork and communication’ domain: ‘improved skills of negotiation with multiple stakeholders’. However, the full spectrum of this domain is not included, neither is there a focus on the challenge or difficult individuals; which my research (in line with previous literature) seems to indicate is relevant. In the IVIS, the focus is on successful communication and social skills including items such as ‘I communicate effectively’ or ‘I am successful in social situations’. Whilst useful in other ways, these items also do not focus on the element of challenge or difficulty. There is one question within the Longstaff tool (150) ‘I modify my way of communicating to deal with more complex and difficult issues’ that concerns this element of challenge/difficulty. However, I would be interested to see if there is a ceiling effect on this item if it were to be tested psychometrically, as it seems a fundamental aspect of human communication that people would be unlikely to disagree with. Therefore, difficult communication is relevant to others measures, but items are presented in a different way than in my tool.

In summary, difficult communication does appear within a number of existing frameworks and tools, but I would argue that the level of specificity is not sufficient, nor is the absence of a direct focus on challenge. The results suggest that deliberate practice may be somewhat responsible for learning on international placements; which is in line with anecdotal reports in the literature, however this hypothesis needs further testing (45,131). There is an indication that opportunity variables are most aligned with the development of DC, most specifically volume of patients and criticism; which also warrants future study. Unlike many of the other domains, there is no positive significant within-participant or

between-group effect of international experience. Therefore, future research should now focus on whether difficult communication does develop as a result of HPIPs and subsequently whether DC is a relevant domain to measure, if not it could be a candidate for removal from future iterations of the tool.

10.2.4. Team work

Much of the literature I reviewed suggested that teamwork is a key outcome of international placements, (13,81). There is a general consensus in the literature that HPIPs enhance team working skills (25). Some authors describe how international experience enhances team working, when considering outcomes from an NHS perspective (25). Three items were coded within the high order node of ‘ability to work as part of a team’ in chapter 5: understanding team group norms, perceptions of role within the group, managing personal objectives within a group.

I will later discuss how this Team Work (TW) domain also included ‘ability to cope’ and ‘being proactive’, both of which are prominent throughout the literature. Qualitative data in the literature indicates that professionals are aware of their increased ability to adapt and cope (25). Four themes were coded within ‘ability to cope’ in the meta-synthesis: ability to deal with knock backs, better coping strategies, being unfazed by things, learning to deal with stress. Proactivity was an important outcome stated throughout the literature and was synonymous with using ones initiative (285).

‘Ability to work as part of a team’ was considered a core outcome by 81% of Delphi stakeholders. ‘Ability to cope’ was (in ranked categorical terms) the third most agreed with statement, as 93% agreed it was a core outcome. A similar number of stakeholders (88%) agreed proactivity was a core outcome of HPIPs. Therefore, items in this domain were highly agreed upon by stakeholders.

When the items were converted into psychometric statements they were presented as:

- I was frequently proactive at work (e.g. used my initiative, got on with things, thought on my feet).
- I demonstrated that I am able to cope in work (e.g. able to deal with stress).
- I demonstrated that I am particularly good at working as part of team.

All of these items remained after iterations of principle component analysis and the items had a high measure of inter-reliability (Cronbach’s Alpha 0.82). In comparison to some other domains, whilst being above the threshold for inclusion, the estimated loadings are

average. Being frequently proactive was the highest at 0.778, whilst the lowest was being able to cope at 0.763. This domain was the most problematic in terms of finding a label for the latent trait, team work was chosen as this was the most comprehensive the team could find. However, it is not entirely accurate as ‘proactivity’ and ‘ability to cope’ could be considered peripheral rather than core components of Team Work. This further highlights the interesting findings and relationships that can emerge using an item response theory approach. Future research should explore how team work, coping and proactivity interact and further investigate the latent variable responsible for this relationship.

Regardless of international experience, ‘Team Work’ was the domain for which the whole sample scored highest. The median (6.33) was only 0.67 from the maximum possible amount, indicating that regardless of international experience people consider themselves to be ‘very good’ at team work. In the between-group analysis those without international experience scored significantly higher than those with international experience. On the contrary, in the longitudinal study the median team work score generally increased significantly after an international placement. The two studies provide different assumptions regarding the effect of HPIPs on team work, therefore future well-planned, experimental research is needed. However, one explanation may be that the high scores for those without international experience could be attributed to meta-cognition and self-awareness of what it means to be good at team work, (see section 10.5.8.). As team work, is a fundamental component of an NHS professional role (287).

There were two variables associated with ‘Team Work’: interacting with more patients than in the UK and destination. Those who scored highly on the TW domain, reported interacting with more patients than in the UK. An explanation of this could be that with such a huge volume of patients, professionals are forced to find ways to work together to manage the load. For example, there are lots of attempts, successful and unsuccessful, of volunteers implementing new human resource initiatives, systems or processes in an attempt to manage the vast amount of patients in LMIC facilities (256,288). The effect of volume of patients could (similarly to difficult communication) indicate that deliberate practice is responsible for some of the learning.

Another variable that interacted with Team Work was the destination country. Those who reported high levels of TW were more likely to have travelled to Uganda than Malawi. It’s difficult to further interpret this finding as there were only 10-30 participants in each group

and the tests were not powered. However, it is interesting to see that there may be an effect of the destination country and further research should look at the specific components in the environment that could explain this difference. As there is an existing emerging relationship with ‘number of patients’, it could be those who travel to Uganda interact with more patients than those in Malawi, which results in an increase in TW scores, however this is purely speculation.

In regards to existing measures and frameworks, Jones et al., (13) combines teamwork with communication into a single, higher-order theme and codes ‘multi-disciplinary working and cross-sectoral teams’ within it. This evidences the far spread interpretations of what team working entails, particularly as this differs from the items within my tool. In Longstaff’s measure she describes ‘considerable collaborative working (beyond normal team working)’ but does not quantify it (150). This is important from a psychometric perspective as there was a ceiling effect on this domain in my pilot. Future iterations of the tool may benefit from the additional clarification: that what we are looking to measure is above and beyond team work that is necessary for the role. The IVIS uses a similar approach by using ‘I am very good at working as part of a team’; which is almost identical to my item ‘I demonstrated that I am particularly good at working as part of a team’. This is interesting as the IVIS is the existing measure that has been developed with the most amount of psychometric scrutiny. Hence, it’s reassuring to see that the items are analogous, indicating that the items may have utility. Therefore, all of the tools acknowledge that team work is a key component of a health professional’s role and attempts are made in all measures to highlight that the skill they are looking for is beyond the necessary level. Future research could test the differences in response to the way this item is worded (‘very good’ compared to ‘particularly good’).

In summary, ‘Team Work’ was the domain with the highest scores regardless of international experience, hence most of the participants strongly agreed with the items in this domain. There was a significant increase in the ‘Team Work’ domain scores of participants after their international experience, indicating that ‘Team Work’ may increase as a result of international placements. There were two variables that interacted with TW scores: destination country and volume of patients. Indicating that opportunity variables in the LMIC may be responsible for some of the PPD in regards to team work. The differences between interpretations of the definition of team work across the existing measures, highlights further the importance of my rationale to identify latent traits rather

than pre-defined descriptive categorical labels; which are interpreted differently by everyone. Additionally, all existing measures include a descriptor to indicate they are looking to measure Team Work, beyond a 'normal' level, something that is not used in other items.

10.2.5. Cultural sensitivity

Perhaps not surprisingly, one of the key reported outcomes in the literature is a development of cultural sensitivity, awareness and knowledge (13,22). Some authors describe how the experience of being a foreigner allows professionals to be more sensitive to issues concerning culture (21). Others describe how HPIPs contribute to the development of cultural competence, including personal growth, cultural knowledge and a change of practice (4,22,90).

The cultural higher order themes that emerged from the meta-synthesis were categorised as attitudes: increased cultural sensitivity (characterised by sensitivity to reasoning behind cultural differences, sensitivity towards feelings of minority groups and sensitivity towards language barriers) and increased respect for other cultures. However, culture was, not surprisingly, a common feature of many of the themes in the meta-synthesis, with cultural learning described in numerous ways. Therefore other relevant higher-order themes included 'increased awareness about cultural aspects of health' (characterised by appreciation of health promotion; understanding how culture affects daily occupation; understanding cultural differences in health; understanding the effects of politics on health; understanding how culture affects one professionally; understanding how to incorporate health beliefs into a shared decision and greater understanding of sustainable healthcare) and increased awareness of cultural differences and similarities (characterised by understanding key issues within a culture; understanding culturally acceptable behaviour; learning about other cultures; being more attentive to subtle clues about cultural differences, understanding the cultures of UK immigrants and changed assumption of culture).

Statements concerning such cultural learning also had the highest consensus in the Delphi study. Awareness about 'cultural differences and similarities' and awareness of the 'cultural aspects of health' were the only two statements to reach 100% stakeholder agreement. 'Increased cultural sensitivity' also had 91% agreement. Hence, almost all of

those with specialised knowledge consider cultural learning a key outcome in its multiple forms.

Despite being a largely agreed upon component of the Delphi, the cultural element of the tool was reduced to the following 3 statements:

- I demonstrated a good awareness about how culture influences health.
- I frequently demonstrated cultural sensitivity.
- I was constantly conscious of culture when working with patients.

Therefore, when developing the tool, the many different components of cultural learning described in the meta-analysis had to be combined to make it more manageable. So ‘increased awareness of cultural differences and similarities’ was combined with ‘increased awareness of/knowledge about the cultural aspects of health’ and ‘increased respect for people from other cultures’ into ‘awareness of how cultural differences influence health’. However, the three items relating to culture remained as a result of the PCA and were not removed, indicating that they are related and have adequate psychometric properties (variability of responses).

This strong association between HPIPs and the development of cultural sensitivity described in the literature was not as prominent as expected in the results. There was no significant difference in levels of cultural sensitivity between those with and without international experience in the between-group analysis. However, when comparing individual scores longitudinally there was a significant difference, with medians increasing post placement. The longitudinal data therefore supports the ideas presented in numerous papers that HPIPs may increase cultural sensitivity within an individual.

On the contrary, it was also suggested that international placements can cause cultural insensitivity and a retreat back to culture of origin or even extreme nationalism, particularly when professionals develop negative feelings towards host cultures (46). An example is reported in Romania, whereby British nurses felt angry towards the way local staff treated the orphans and reported frustration and anger as they were not able to get involved or apply their own practices (289). However, I chose to remove the ‘extreme nationalism’ statement from the tool, after receiving negative feedback during cognitive interviews. The proposal that in a small number of cases international experiences may develop the opposite of cultural sensitivity, should also be acknowledged and could even

potentially provide some explanation of the non-significant findings in the between-group analysis as some participants may return with lower cultural sensitivity scores.

There were no emerging relationships between cultural domains scores and any of the social, material, opportunity or psychological variables, consequently any hypothesis for future research concerning cultural PPD should be exploratory.

In the literature review I discussed how much of the literature suggests that a single international placement can develop skills such as increased knowledge and appreciation of other cultures (13). However, I questioned this logic, as visiting a single country would presumably only directly develop knowledge and appreciation about that one particular culture. It seems there is an underlying assumption in the literature that skills concerning culture are flexible and can be adapted, so the cultural development that occurs during a placement in Uganda could be easily transferred to another culture. There is an assumption that the skills around tacit knowledge and the experience of adaptation to a new culture are more important than understanding the specific cultural practices of a nation (i.e. that cows are sacred in India). This is evidenced by the 100% stakeholder agreement with cultural items in the Delphi. This then raises the issue of meta-cognitive awareness of skills, whether those who travel to LMICs to work have a greater understanding of what it means to be culturally sensitive, that isn't detected within psychometric items that exemplify a ceiling effect. Therefore, my results collectively suggest that cultural learning may not be as definitive as the 100% of stakeholders believe, or that there are subtleties in the types of knowledge, skills and attitudes that could be developed in an LMIC environment.

The existing measures all encompass cultural learning as a major component. This is interesting, as it's not the predominant domain within my psychometric tool, nor is there a between-group difference between scores of those with and without international experience. Jones et al., (13) do not have a domain with the word 'culture' in the title, instead it is present across domains, predominantly 'patient experience and dignity', where it falls within 'appreciation of factors influencing health in other countries' and 'increased knowledge and appreciation of other cultures'. On the IVIS there is a section about exposure to diversity, where individuals must rate how often they interact with different minority groups (e.g. disabilities, minor ethnic groups) on a Likert scale (151). It is used as a frequency outcome measure in this tool. However, this may be an alternative way to assess opportunity variables – i.e. interaction with people from another culture. There are

also three distinct sections about global identity, intercultural relations and international understanding. This tool is developed to be used across professions (outside of healthcare) so this is likely why it has such a large focus on culture as there can be no profession specific items. However, as it's such a big component of some other measures, it could suggest that future iterations of the tool should look at expanding some of the cultural items from the Delphi to see how they fit psychometrically with the other items within this domain (i.e. understanding cultural differences and similarities, or even more specifically how to incorporate culture into a shared decision). As the meta-synthesised items and COS already exist there is always an option of referring back to them in future iterations; which is one of the benefits of the progressive methodology chosen.

10.2.6. Teaching

There is a notion in the literature that international placements develop the teaching skills of health professionals (19,38). Some literature describes how professionals are given opportunities to teach that would not likely be present in a UK environment (11). It is hypothesised that skills develop when professionals adapt their teaching to the local context, and through necessitation, must be innovative with teaching techniques (112,290).

One of the major outcomes synthesised from the literature review was 'understanding how to be a good teacher'; which encompassed 'understanding how to target training most effectively', 'ability to suggest and acknowledge improvements in teaching' and 'understanding the importance of experiential learning'. In the Delphi workshop participants described how nurses developed confidence in teaching, as they 'don't do teaching in the UK'.

During the Delphi process all of the items concerning teaching were considered core, 90% of participants agreed 'confidence in teaching ability' was a core outcome of international placements. Additionally, 93% agreed 'ability to be adaptable and innovative in teaching' was core. Improvement in teaching skills was agreed upon by 84%, whilst 74% agreed 'understanding how to be a good teacher' was core. No statements related to teaching did not reach consensus; which is interesting as it implies that the majority of stakeholders may consider teaching a core component of a HPIP. The pilot revealed no significant difference in teaching domains scores of those with or without international experience nor was there a difference in teaching scores in the longitudinal study.

There were three items concerning teaching that were used in the pilot study:

- I demonstrated I'm a good teacher.
- I adapted the way I teach to make it better for the learner.
- I am confident in my ability to teach others.

All three of the items remained after the iterations of principle component analysis. There were also three variables that could be hypothesised to moderate or mediate the relationship between international placements and the development of teaching. The first is level of support from local staff: those with the highest levels of support from local staff had the lowest scores in teaching. Similarly, the presence of a more knowledgeable other (MKO) was significantly related to teaching, those with the highest scores on the teaching domain reported not having a clinical MKO present. Hence both related variables indicate that a lack of support or supervision may be associated with higher levels of teaching.

The final related variable was opportunity to lead, those with higher scores on the teaching domain, reported greater opportunities to lead. The results collectively highlight a potential connection between increased responsibilities, decreased supervision and increased teaching scores. However, it is not clear from these results, whether this connection is confounded by the effect of seniority, experience of profession; which may also relate to increased teaching scores. My results indicate that opportunity to practice teaching skills, without supervision, develops teaching domain scores. This could be in line with deliberate practice theory. More specifically, cognitive deliberate practice theory; which denotes that errors result in adequate feedback to improve performance (132). This is in lieu of expert feedback that is hypothesised to be imperative in behavioural deliberate practice theory (132). Hence, the connection between teaching skill development on HPIPs and cognitive deliberate practice theory should be tested in future research.

Formal teaching is not a necessary component of all international placements. Therefore, it's interesting that stakeholders consider it core, future research should reconfirm that this finding is not a result of misunderstanding the Delphi question. Future use of the tool could include a filter question to ask participants if teaching is included/expected in the placement. If it's not, data from such participants should be excluded from the analysis. The results could also be indicative of a shift in perspective in regards to what teaching means in a modern society. Perhaps professionals are more aware of experiential and informal teaching theories and could be inadvertently widening the definition of teaching to include mentoring and informal knowledge transfer. To test this wider definition, it may be useful to consider informal teaching and mutual learning; which is considered a major

component of HPIPs. Lord Nigel Crisp, chair of All Party Parliamentary Group on Global Health, argues that British professionals and local professionals should work together under the expression ‘mutual learning’ (14). Future iterations of the tool could perhaps look at capturing the skills developed surrounding ‘mutual’ or collaborative learning as well as formal teaching skills.

10.2.7. Management

Leadership and management skills are another of the key concepts discussed throughout this thesis and within the literature. In fact, it is one of the only thematic outcomes that has been tested empirically and quantitatively in past research (44). Past research surveyed over 400 doctors with international experience about their leadership development in line with the Medical Leadership Competency Framework (MCLF). They found that doctors that travelled to low and middle income countries had greater opportunities for leadership development than those that travelled to high income countries. Other literature proposes that professionals return to the UK with enhanced leadership, management and organisation skills (13,17,38). One key proposal is the development of an ability to manage a resource poor environment (44). During the systematic review, I extracted 17 statements referring to the opportunities for leadership, management and responsibility for professionals at any career stage (13,24,75,112).

There were a number of higher-order meta-synthesised themes that related to leadership that emerged in my results: ‘ability to fulfil future leadership roles’, ‘ability to plan and organise’, ‘ability to make decisions’, ‘ability to give and accept praise’, and ‘ability to lead by example’. There were also a number of themes related to management: ‘ability to manage self’, ‘ability to manage projects’, ‘ability to manage risk’ and ‘ability to manage time and prioritise’. Furthermore, ‘Ability to be adaptable when leading’ was the most agreed upon item by 88% of stakeholders in the Delphi study. One item had no consensus in the Delphi: ‘ability to give and accept praise’. The remainder of items had between 70 and 85% consensus.

The following four items were included in the tool as a result of the principle component analysis:

- I allocated tasks.
- I co-ordinated colleagues.
- I demonstrated I am able to plan and organise.

- *I am confident in my ability to be adaptable and innovative as a leader (in confidence domain).*

Therefore during the PCA, one domain emerged concerning management and leadership. In addition, ‘adaptability’ as a leader fell within the confidence domain. Items such as ‘ability to manage risk’ and ‘ability to manage projects’ were removed from the tool, as they lacked utility in a psychometric scale due to a lack of response variability.

Interestingly, the link between leadership and HPIPs found in previous literature was not explicitly supported in my results (13,17,44). There was no difference between those with and without international experience, or pre and post scores in the longitudinal study. In the longitudinal study, the means for pre and post placement were identical. As this is a major theme in the literature. Further exploration should look to see whether these results are a true representation of no difference in the development of ‘management skills’ or whether with a more relevant sampling and design an effect may be present.

No variables presented in this study had a significant relationship with the management domain, besides travelling to Uganda (as opposed to Malawi and Sierra Leone). Those who travelled to Uganda had significantly higher scores than those who travelled to Sierra Leone or Malawi. As previously stated, this result was gathered around the time of the response to the Ebola crisis in Sierra Leone. Hence, many of the participants were delivering a service in a response to a crisis, rather than integrating into an existing hospital. Therefore, future research should look to compare the PPD of crisis response HPIPs to capacity building HPIPs. I would anecdotally hypothesise that as the context would be different, it is likely that capacity building placements would present more opportunity to lead, work on projects and integrate into a pre-existing health facility than crisis response (rapid service delivery). As such I think the resulting PPD would also be different.

Leadership and Management occurs to some degree in all of the other measures, management skills is one of the key domains in the Jones framework (13). Project management and leadership skills are also key components of the Longstaff tool (150). Interestingly, there is only one item concerning leadership in the IVIS and this falls within the social skills factor (151). This could indicate that management development is more prominent in health professionals than other professionals. This could suggest that the learning/working environment and contextual factors of LMIC health facilities are

different from schools, building sites or offices, more specifically lack of supervision and opportunity for responsibility may occur less frequently outside of healthcare environments.

In summary, there were many elements of management and leadership that were extracted from the literature and agreed upon in the Delphi. Only one component 'ability to give and accept praise' did not meet stakeholder consensus. A number of further items were excluded due to lack of psychometric variability. The results of my study (in regards to leadership) refute previous literature, in which PPD outcomes of HPIPs are characterised by increased leadership and management ability. I found no significant between-group or within-participant differences. However future research should reassess this relationship using an experimental design. Future research should also look at alternative ways of measuring the constituent components of leadership and management that were removed due to psychometric properties. This could be one explanation of the non-significant result, perhaps the components of leadership that develop most on international placements are not amenable to psychometric measurement. Or they could be captured elsewhere in other domains, as the most agreed upon core outcome was 'adaptability in leadership' and this was encompassed within the confidence domain.

10.2.8. Satisfaction with life

Throughout the literature the life-changing effect of HPIPs is reported. This was often characterised as an escape from one's normality or an exposure to increased satisfying life opportunities (41,45). Ninety percent of volunteers interviewed in one study reported greater personal and job satisfaction as a result of their international experience (25). Others describe the experience as comparable to a holiday, with great opportunities to learn (82).

Increased job satisfaction was a higher order theme developed during the meta-synthesis, characterised by 'increased motivation and morale within profession', 'renewed passion for work' and 'sense of reward'. Similarly personal satisfaction was another higher-order theme, characterised by 'personal achievements and challenges', 'new experiences', 'experiencing a different lifestyle', 'a holiday' and 'personal fulfilment'. Hence, there many reasons stated in the literature as to why life satisfaction may increase as a result of international placements.

‘Personal satisfaction’ and ‘Job satisfaction’ were both agreed to be core outcomes by 81% of the Delphi Stakeholders. As an existing validated measure of life satisfaction existed, I chose to use this within the tool. Therefore the items included in the tool after the PCA were those from the validated measure in addition to ‘job satisfaction’:

- In most ways my life is close to my ideal.
- The conditions of my life are excellent.
- I am satisfied with my life.
- So far I have gotten the important things I want in life.
- If I could live my life over, I would change almost nothing.
- Taking everything into consideration, I am satisfied with my job.

Refuting past research, an increase in life satisfaction after an international placement was not present, as there was no significant difference in pre and post placement scores. There was also no significant difference between those with and without international experience. This could mean that international placements have no effect on life satisfaction. It could be the type of life change or satisfaction associated with international placements is not best measured within a psychometric tool or using an existing psychometric measure. Like other results throughout this thesis, an experimental design was not used and confounding variables were not controlled. There is evidence to suggest that later career stage is associated with higher life satisfaction (291). Therefore, other variables could have more of an effect on life satisfaction than international experience.

Satisfaction with life exemplified an emerging relationship with one variable: copying the behaviours of local staff. Copying the behaviours of local staff was included in the pilot to assess whether British volunteers, learnt from their local peers in the way they may do in the UK, by mimicking and modelling behaviours. There was no expectation that this variable would relate to life satisfaction, yet those with the highest life satisfaction scores copied the behaviours of local staff on their most recent placement. There is a body of literature in psychology that describes the positive effects of mirroring body language associated with positive rapport, feelings of high positive affect, motivation and interest (292). Mirroring behaviour is also associated with rapport, so it could be that the high satisfaction with life is a product of rapport with local staff (293). As this was an unexpected finding, future research should look to see if it’s replicated and develop a hypothesis for this relationship, perhaps it is related to the positive affect associated with mirroring others that are valued.

The satisfaction with life scale, is an existing validated scale that has been used for decades, indicating it has utility to measure life satisfaction (242). However, in other tools this specific scale is not used. The IVIS, encompasses components of life satisfaction but does not address it explicitly (35). Within the Jones framework and Longstaff tool, personal development/personal satisfaction are described (13,150).

In summary, satisfaction with life is described as an outcome in much of literature (13,41,45,82). However, the results of this study refute this finding as there was no differences or within-individuals longitudinally as a result of international experience. As such, future research should test this hypothesis experimentally. If there is no difference using the tool in a controlled manner, then other measures of satisfaction, specific to international placements should be developed perhaps focusing on the ‘holiday’, ‘escapism’ and ‘new experience’ elements.

10.2.9. Adaptability

Adaptation and flexibility are a metaphorical ‘golden thread’ that run throughout the international placement literature. Sometimes it is described generically and categorically (adaptation or flexibility) (13), other times it is presented as an adjective/adverb used to describe another key skill e.g. adaptive communication, flexible teaching, adapting leadership (46,112). There is a hypothetical anecdotal notion across the literature that once somebody has worked in an international environment they become flexible and adaptable. For example, they learn to accept differences, adapt to new environments and cultures (46,74,86).

Flexibility and adaptability was a higher order theme in the meta-synthesis, coded within this were: ‘acceptance of other ways of working;’ adaptation to responsibility;’ able to adapt more easily to unfamiliar situations;’ able to cope more easily with change;’ ‘able to manage change;’ ‘gaining a wider perspective’; understanding the flexibility of roles’.

In the Delphi 91% of stakeholders agreed that ‘improved flexibility and adaptability’ was a core outcome of HPIPs. ‘Ability to work with limited resources was the third most popular outcome, with 95% consensus. ‘Ability to work with resources available in specific contexts’ was also highly agreed upon, with 88% consensus. ‘Ability to deal with the unexpected’ had 84% consensus. Therefore, all components of adaptability were highly agreed upon in the Delphi round, indicating that it is a frequent and highly regarded PPD outcome.

The three items that emerged from the PCA and MIRT as having high psychometric properties were:

- I demonstrated I'm good at dealing with the unexpected.
- I frequently had to find solutions despite limited resources.
- I demonstrated I am able to find solutions despite limited resources.

When I tested the hypothesis proposed in the literature using the developed tool the assumption that those with international experience have greater adaptability was refuted. There was no difference in adaptability scores between those with and without international experience. There was however a 1 point difference in medians between pre and post scores within the longitudinally study (5.34-6.34), although this was not statistically significant. A follow up study using a larger sample size and increased power may find a statistically significant difference as compared to other domains. Descriptively there is a relatively large difference between the median scores; which provides hypothetical reasoning to continue to test the relationship between the two variables.

Many variables related to the adapting domain, perhaps due to its inherent nature, presented as a 'golden thread' across other skill sets. Arguably the most interesting and relevant being the relationship between adaptation and adequate resources. Those who reported adequate resources on their international placement had significantly lower adaptability scores than those who reported limited resources. This hypothesis is continually proposed in the literature and anecdotally in meetings of stakeholders, but to my knowledge there is not quantitative comparison of the learning that happens in low and high resource international setting (16,98,112,272). The findings of this research provide preliminary support for this hypothesis and reason to conduct future research into this field. It may suggest that learning 'adaptability' happens through a lack of resources and such findings could be imperative to health professional training, particularly as so many policy documents report the necessity and relevance of this skill set in the modern NHS (62,294). Future training programmes may wish to harness low-resource international placements as a vehicle for 'adaptability' training or even to simulate such an environment in the UK.

Literature suggests there are many behaviours that people might exhibit to facilitate learning in an unfamiliar environment. Copying behaviours of local staff or role modelling is one such way (295,296). I included this variable in the analysis to see what percentage of people use this technique, as literature suggests that LMICs environments may refute

pedagogical theory, as learning is often described through exposure to bad practice and therefore a lack of role modelling, for example people report an renewed appreciation for the role that nurses perform in the UK (90). However, in my secondary analysis, those with the highest adaptability scores reported copying the behaviour of local staff. It could be that mimicking how others behaviour in an unfamiliar environment is a component of adaptability.

In summary, adaptability is a metaphorical ‘golden thread’ that runs across the other domains and is highlighted in the literature frequently as an outcome of international placements. Stakeholders highly agreed that outcomes concerning adaptability were core. However, there was no significant difference in between-group or within-participant scores in the pilot. My results suggest that copying behaviours of local staff and working with low resources could be beneficial in terms of increasing adaptability, but future research is needed.

10.2.10. Confidence

Similarly to adaptation, confidence is another metaphorical golden thread used both generally (general confidence) and as a descriptor to other skills (clinical confidence, communication confidence, confidence to lead). Literature suggests that the frequency of novel opportunities and experiences presented in an international environment increase health professionals self-confidence and self-awareness (23,94).

In the meta-synthesis, increased confidence was a higher-order theme, within this I coded ‘self-confidence’, ‘confidence in professional ability’, ‘confidence in ability to address challenges’, ‘confidence in caring for clients from another culture’, ‘confidence in quality improvement methods’ and ‘confidence to take bolder steps’. ‘Confidence to work in other locations’ was a separate higher-order theme.

In the Delphi study, 90% of stakeholders agreed ‘increased confidence’ was a core outcome. The constituent components of the confidence domain were then developed in chapter 7, whereby items were deemed to be either confidence, attitudes or experience for measurement purposes. For example, I am confident in my ability to change behaviour, in the last month I have changed a patients behaviour, changing behaviour is complex. Therefore, many of the items within other domains were converted into confidence statements.

After the PCA and MIRT, the following nine items were included in the confidence component:

- I am confident in my ability to manage myself in a clinical environment.
- I am confident in my abilities to work independently when necessary.
- I am confident in my ability to deal with the unexpected.
- I am confident in my ability to be adaptable and innovative as a leader.
- I am confident in my ability to adapt and be flexible clinically.
- I am confident in my ability to adapt and be flexible in general.
- I am confident in my ability to find solutions despite limited resources.
- I am confident in my ability to apply clinical skills to another context.
- I am confident in my work.

Confidence was the factor with the best psychometric explanation of the results to emerge from the PCA and MIRT. This is likely because there is already a strong theoretical basis for self-efficacy as a domain, whereas the other domains were more exploratory (297). What this research adds, is that it applies the existing understanding of self-efficacy to an international environment. Confidence was also the factor with the greatest number of corresponding items in the MIRT, indicating that there are multiple items to assess this latent variable.

Interestingly, the hypothesis presented in previous literature that international placements improve confidence was not supported in my results, as there was no difference in confidence s with and without international experience. Within-participants confidence levels also did not increase longitudinally after an international placement.

Confidence was however, significantly related to a number of contextual variables. Literature explicitly states that the sheer volume of patients interacted with in many HPIPs develops clinical confidence (24,68). My results supported this hypothesis, those with the highest confidence scores reported greater interaction with more patients. Future research should consider the learning that happens because of interacting with a great volume of patients and whether this can be emulated in a domestic environment, or whether there is something in addition to volume that makes international placements unique. Interestingly, interacting with a greater breadth of conditions did not have any significant relationships with confidence, suggesting depth may be more important for learning than breadth.

Previous literature suggests learning the host language enables staff to succeed in developing relationships with patients and colleagues (22). However, it has not to my knowledge, been described in regards to confidence. My results suggest that there may be

a relationship between 'learning the host language' and scores on the confidence domain, as those with the highest confidence scores, reported learning the host language on their most recent placement. This suggests that confidence may be one of the PPD outcomes that improves when an individual makes an attempt to learn the language. Future research is needed to test this hypothesis.

Literature suggests that travelling to different countries has different PPD outcomes (94). My results provide preliminary support for this hypothesis, as those that travelled to Uganda had higher confidence scores than those that travelled to Malawi. There was also a significant difference in confidence scores between those who travelled to each of the three main countries: Malawi, Uganda and Sierra Leone. Indicating that future research should test the effect of destination on confidence.

Confidence does not feature in the Jones et al., 2013 framework (13), however this could be because it's a latent variable that may underpin other domains, rather than a specific skill set. In the Longstaff tool, confidence features twice (150). In the reflective component she asks 'Has your international experience had any effect on your personal confidence or self-esteem?' In the quantitative component she asks 'Do I have the self-confidence to question the way things are done in my area of work?' Therefore, the two aspects of confidence focused on are self-confidence to question authority and personal confidence/self-esteem. Hence, only a small component of the confidence domain that features in my tool is present in this tool. This may be because Longstaff's tool is not based in item-response theory, so is not attempting to measure latent traits, but rather individual questions and acting as framework for reflection. Confidence also doesn't feature in the IVIS, authors mention that self-confidence is a relevant outcome, but chose to exclude it due to the realistic limitations of the length of surveys, perhaps indicating that they consider confidence of lesser importance/psychometric utility, than I found (151).

In summary, confidence was considered an important PPD outcome through the research, previous literature stated its importance and it was reported to underpin many of the other PPD outcomes. Psychometrically, confidence was the domain with the most utility, arguably due to the theoretical underpinning. However, there were no between or within participant effects of international placements on the confidence domains. I also found emerging relationships between destination, learning language and number of patients interacted with.

10.2.11 Summary

In regards to outlining the learning that happens on international placements, the COS provides a list of agreed upon core outcomes. My literature review found 4 key themes: communication, leadership, cultural skills and personal. Psychometrically, I found 10 latent traits that are amenable to measurement in a psychometric tool. However, it is not yet proven that there is a quantitative difference between those with and without international experience in any of these traits. From a longitudinal perspective, my results found a significant increase in ‘Team Work’ and ‘Cultural Sensitivity’, providing numerical evidence for the beneficial effect of HPIPs on these domains. My results also highlighted a number contextual factors that may moderate or mediate the development of each of the 10 PPD domains.

10.3. What are the negative outcomes of international placements?

This section of the chapter relates to the research question: What are the negative outcomes of international placements? I will discuss the costs highlighted in this research in line with existing literature and how my research contributes to this.

Despite the majority of participants describing the overall experience as positive (95%), my research found many costs or negative outcomes involved with international placements. From literature included in the systematic review, 49% of the papers reviewed reported at least one negative outcome (cost). In total, 28 negative outcomes emerged from the systematic review and meta-synthesis. However, stakeholders in the Delphi study agreed that only 1 outcome (health consequences) was core and 4 outcomes were not, there was no consensus on the remaining outcomes. Whilst such outcomes were not included in the core outcome set, many were still measured in the tool to gauge the extent of the potential costs.

Previous literature argues that for some individuals the skills developed are not relevant for their current NHS career. This was either because they are undertaking tasks outside of their professional remit (e.g. doctors undertaking nurse roles), or that they are working at a different level than in the UK (e.g. trainee doctors working at consultant level) (4,11). A survey of doctors HPIP experiences argued that some skills developed are more transferable to the UK than others, for example ‘working with others’, whereas others were not relevant to a UK environment, for example ‘delivering clinical care in basic facilities’

(44). My research supported previous findings as 10.7% of respondents proposed that the skills developed on the HPIP were not relevant to their current position nor career stage. When depicted separately, 32% believed the skills were not relevant to their UK position and 24.9% not relevant to their career stage. These findings support previous literature that argues some skills are more transferable than others (44). It also provides quantitative evidence to support previous arguments that some of the skills developed are not relevant. However, skills developed in another environment, country and system are unlikely to be fully relevant to an NHS position. Whilst not explicitly stated in previous literature that HPIPs develop latent traits, it seems this could be how some participants understand the learning, for example one participant in previous literature described ‘I worked in a rural hospital with very basic facilities so most clinical care was not relevant to GP work in the UK but confidence, flexibility and ability to keep calm was all very useful’ (44). My findings could provide further support for the application of a latent variable framework that underpins the learning on HPIPs, highlighting the importance of inherently acquiring underlying non-clinical skills as opposed to explicitly learning or being taught highly-relevant applicable skills. Therefore, whilst this may be portrayed as a cost, it may provide more of an insight into health professionals perspectives of learning and what is relevant, those with a high-level of reflection may consider how non-clinical underlying skills are relevant, whilst those thinking on a purely clinical basis, may consider the procedures and clinical skills irrelevant to UK practice. Throughout the literature, it is never argued that professionals should travel to LMICs explicitly to develop clinical skills. However, as redundant skill development is reported by 10-30% of professionals, it may be useful for policy makers to consider ways to mitigate this if they were to introduce international placements as a means of learning.

Another negative outcome widely reported in the literature was reduction in staff competence, characterised by staff choosing to leave the NHS after placement or being unable to cope with NHS paperwork. Current literature is differentiated about this effect, whilst some papers acknowledge that it is a frequent outcome (13), others suggest it is a myth (38). Participants in the workshop described a ‘brain drain reversal’, where NHS staff are lost as they chose to stay in LMICs. Interestingly, relatively high numbers of participants in the pilot agreed with these outcomes, 36% of staff felt unable to cope with NHS paperwork upon return. More surprisingly, 35.7% of respondents wanted to leave the NHS as a result of their international placement. A ‘loss of interest in profession’,

whilst not a large percentage, still happens relatively frequently, 10.7% of participants reported losing interest in their profession. If this result is a true representation of those who want to permanently leave, then it is important that policy makers conduct further research as it may not be an effective potential CPD method if it results in the loss or disengagement of 1/3 of staff. Measures should demarcate temporary and permanent resignations from the NHS, as there could be confusion in the responses. After undertaking an international placement, it's common for staff to leave the NHS temporarily for another period of time. This is often referred to as 'repeat volunteering' and means staff return for subsequent short-term temporary visits, rather than a permanent move from the NHS (48,73).

Previous literature has categorised and quantified the health consequences of short term volunteer placements (104). However, this has not been considered in relation to healthcare professionals, a population which will presumably have different risks due to being in a hospital environment with unwell individuals. 'Health consequences' was considered a core outcome by stakeholders. However, in the pilot only 15.7% of individuals reported a health consequence during a HPIP. This ranged from less severe consequences like insect bites (non-infectious), to road accidents. My results suggest that either stakeholders did not understand the core outcome definition in the Delphi, as discussed in Chapter 6, or that stakeholders overestimated the frequency of health consequences. Pilot data conflicts with the Delphi results and suggests that health consequences are not core, as they were reported relatively infrequently.

Previous research indicated that reliance on bank/agency work upon return was a common barrier preventing some staff from undertaking international placements. In one study 26% of doctors interviewed suggested this was a barrier for them (44). An earlier study found that 23% of returning GP volunteers had to work as locums as a result (48). My results support this, considering health professionals at a population level, only 7.1% of the population were working in locum/bank or agency positions. This difference could be due to sampling all health professions, as medics have a more rigid recruitment cycle, especially for speciality training (298). Also, individuals may have undertaken their international work years before the cross-sectional data collection; which did not test participants immediately upon return. The measure was designed to be used immediately upon return, so future experimental use of the tool would be more relevant than secondary analysis in understanding this negative outcome.

The results of the secondary analysis have greater utility in providing data to answer the hypothesis regarding loss of pension. Previous research suggested that 22% of doctors surveyed in a previous study reported loss of pension as a barrier to international work (44). My research was in line with this, 18.3% of the 169 returned volunteers stated that their international experience resulted in a loss of pension. This sample includes many cadres of professionals so indicates that this problem is relevant across health professional cadres. My results add to previous knowledge by assessing whether this happened, as opposed to whether it is a barrier. Further research should look at the conditions that result in loss of pension and consider policy change to prevent potential loss. I would hypothesise that length of stay would have a considerable impact, as may profession or career stage.

Previous literature suggests that the financial cost of international placements is two-fold, participants often spend large sums of money on flights, accommodation and project fees, in addition to the loss of earnings for the time spent abroad (41,44). Previous research suggests that 21% of doctors saw loss of earnings as a barrier to international work (44). My results suggest that 31.9% report loss of earnings due to their international placement. Whilst this seems significant, it indicates the remaining 68.1% did not lose any income; which is a relatively high and potentially positive finding. However, this could be due to many individuals using annual leave or having short placements. I believe it is unlikely that 68% were on fully-funded or integrated placements. In terms of the computable financial cost 31.9% of those able to provide a figure for the cost of the international placement reported £0. This indicates that 68.1% spent some of their personal income. The mean total financial cost of an international placement in this study was £2105.70 with a standard deviation of 3605.28, the minimum was 0 and the maximum reported cost was £20,000, the median was £1000. Suggesting that the financial cost varies considerably, but it could be concluded that within this sample the average is between £1000-£2000, 23% of the sample spent more than £2000 and 45.2% spent between £1-2000. This research adds to previous literature as it provides descriptive statistics to outline the explicit financial cost. It also adds to current knowledge by quantifying the more distal financial costs, like loss of earnings in terms of actual experience rather than quantifying barriers.

Another cost often reported is the lack of recognition or accreditation for the work once back in the UK/NHS (38,46). Whilst literature suggests that some placements, trusts and projects have formal recognition and accreditation schemes in place, the vast majority do

not (25,81). My results support this notion, 22.8% of the sample reported no recognition or accreditation upon return. Only 1 participant (0.6%) reported formal accreditation and 22.2% formal recognition. However, the majority reported informal recognition from colleagues (63.7%) or seniors (43.9%). Literature suggests that formal recognition may make placements more attractive (69,102). If policy makers intend to attract more staff into international placements for learning purposes, providing more accreditation and formal recognition would be a viable option.

Another similar outcome and organisational barrier that is discussed in the literature is annual leave (276). Previous research qualitatively describes annual leave as a way of breaking through bureaucratic barriers to enable staff to undertake international placements. For example, staff in one study describe facing organisation resistance; which they overcome by choosing to undertake this work in their 'own time' which the organisation has little control over (276). Research argues that having holiday as the only time available to undertake such work makes longer term placements unattainable (276). My study does not outline how annual leave is used, but my results add to current knowledge by indicating that almost half of the sample intended to use annual leave for their upcoming trip. If international placements have the profound PPD outcomes described in the anecdotal accounts (41) then it seems unfair that staff should sacrifice time with family and friends to undertake this experience.

There are numerous arguments in the literature for the effect of professionals working outside of their competence (28,30,38). Costs are highlighted in respect to the negative effects on patients in the LMIC, for example being treated by somebody without the correct skills, but also for the British professional, often exemplified in terms of ethical dilemmas, e.g. loss of confidence (28,30,38). My results indicate that this is a reasonable concern as 49.1% of those due to commence an international placement agreed they would be comfortable working outside of their competence. As this is associated with negative costs for both parties, this should be addressed by policy makers to ensure staff are warned of the dangers.

Another proposed cost in the literature is the exposure to high risk situations and corruption (4,73,112). Literature suggests exposure to risk or corruption is a common occurrence on LMIC international placements (4,73). Although, 56.6% of those due to

depart agreed they would be comfortable working in a high-risk situation, the remaining 43.4% did not. This could be problematic if participants feel uncomfortable working in high risk situations as 29.6% reported they were exposed to corruption.

There are a number of ideas presented in the literature that may mitigate some of the costs associated with international experience. One of these associated with difficulties finding work on return are retainer/returner schemes. Previous literature found that these are very useful but uncommon (69). My study found that only 7.7% of the sample had been involved in a return to work scheme, this included 4 doctors, 6 nurses/midwives and 2 allied health professionals. These results therefore suggest that although returner schemes are uncommon, they are available to numerous professionals so must exist in various capacities. Further research should look to assess the impact of such schemes; which could be of interest to policy makers looking to make placements more attractive to professionals.

10.4. Can personal and professional development on international placements be measured and which components are most amenable to quantification?

This section of the discussion relates to the research question: *Can personal and professional development on international placements be measured and which components are most amenable to quantification?* In order to do this I will discuss what the tool does, what it doesn't do and the limitations of it.

10.4.1. What the tool does

The tool is a 40-item questionnaire that has been developed from an academic evidence base. The tool was developed as a result of a rigorous systematic review and meta-synthesis of 55 papers. The items that were considered for inclusion in the tool were agreed on by 45 stakeholders as part of a core outcome set. From these 116 core outcomes, I conducted a principle component analysis to see which of the items are most amenable to psychometric self-assessment measurement. More specifically, which items had the most variability and were indicative of latent traits. I have created a measure to generate future large scale metrics that can be used to compare and contrast health professional learning experiences on international placements.

To date, my results show that the tool has utility to measure differences that develop within an individual as a result of HPIPs. This effect is significant on the ‘Team Work’ and ‘Cultural Sensitivity’ domains and there is a large but not statistically significant difference with ‘Adaptability’. Whilst I have not shown significant differences between-groups, I feel that with more stringent experimental design the tool may also be sensitive to detect between-group differences in matched groups. The tool can also be used to collect data about contextual factors and analyse the relationships between these and the outcomes. Although only on an experimental level within this thesis, the tool has shown promising indications of utility as it has detected many relationships that are in line with previous qualitative findings.

The existing similar measures that are reviewed in chapter 2, have different scopes and focuses. For example, the IVIS has a wide scope and is intended to be used by any professional (151), my tool is different as it focuses specifically on patient facing healthcare professionals, this means that the questions can have a higher level of specificity relevant to the population, this is highlighted throughout this chapter. For example, I propose that adapting communication does not feature as much in the IVIS similarly to my tool, because it a major component of healthcare professional practice. My tool also considers all health professional volunteer projects, unlike the framework proposed by Jones that concerns only health partnerships (13). My tool is developed from an evidence-based and tested psychometrically, unlike Longstaff’s tool; which can be used primarily to aid reflection (150).

10.4.2. What the tool does not do

What the tool doesn’t do and was never intended for, is to represent learning on an in-depth individual level, comparable to qualitative research. I am aware that much better ways of analysing and understanding personal learning experiences exist and qualitative data has been presented in recent literature including a book published by the MOVE team (11).

As there were 110 core outcome items and only 40 items in the psychometric tool it could be argued that the tool does not adequately measure the core outcome set. However, during

the progressive increments of PCA and MIRT, I found that the 70 excluded core outcome items were not amenable to measurement using a psychometric tool, this is either because there was no variability (e.g. everyone strongly agreed) or they were not representative of a factor (they did not correlate with other items). Therefore, the tool does not measure the outcomes of the COS that would not be best measured using a psychometric tool.

The tool cannot be used to measure vague concepts like ‘communication’ generically. For example, ‘adapting communication’ and ‘difficult communication’ emerged as separate factors in the MIRT. The tool does not measure clinical skills nor profession specific skills as these were removed during the early stages, however I would urge specific professional groups to consider administering domain-specific professional measures alongside the 40-item tool. This would provide a more balanced approach to clinical and non-clinical learning.

For some items, past research has shown some traits cannot be accurately measured using self-assessment, for example situational awareness (299). Despite being a core outcome after the Delphi, this item was excluded as it was already known to lack psychometric utility. Similarly, organisational outcomes cannot be measured on a self-assessment for, for example ‘reduction in NHS drop-outs’.

Finally items with low psychometric utility, primarily a lack of variability of response, can also not be measured adequately using this tool. Despite being one of the most agreed upon core outcomes in the Delphi ‘increased understanding of basic skills and ideas’ was not included in the final iteration of the tool, as it did not show optimal psychometric properties. Many of the items in this tool presented ceiling effects, this is one of them. Almost all of the participants strongly agreed with it. This is not surprising, as ‘understanding basic skills’ is likely be a fundamental component of one’s professional role. Therefore, future research should go back to the original qualitative literature base, that described the importance of re-engaging with basic science- biology, psychics etc. Sometimes this outcome was described in terms of a transformational realisation, that what they do in the UK is actually now so far removed from the basic science due to technological advances, a reliance on clinical tests and time pressures, that staff appreciated the back-to-basics approach and re-learnt basic techniques and knowledge. Its only once one is put in this situation that they realise they have in-avertedly forgotten or

neglected basic skills. Attempts could be made to measure this comparison and realisation by asking staff to retrospectively compare levels of skills pre and post placement.

10.4.3. Outcomes that were removed during the research process

This research project focused on reduction of PPD outcomes, therefore outcomes were removed throughout the process. In the first instance, the meta-synthesis, items that were extracted at a very specific or very vague level were removed. Therefore, ‘communication’, ‘leadership’ and ‘management’ were too vague to be included. On the contrary ‘doctors honing their clinical diagnoses’ became ‘ability to observe and examine patients’, therefore any profession specific or individual outcomes were simultaneously removed.

The second stage of outcome reduction was the Delphi. In this stage any outcomes that were extracted from the literature but were not agreed upon by over 70% of stakeholders were removed. There were 15 PPD outcomes removed during the Delphi, as stakeholders did not consider them core. Table 37 shows these items. This list is dominated by items that do not apply to everyone, for example outcomes concerning medical schools would not be relevant to most professionals, and research is also not a constituent element of each HPIP. Spiritual development is similarly something that may only be relevant for individuals with a particular belief, escapism is likely to be only referred to by those who have something to escape.

Table 37: Items removed during the Delphi

Number	Removed Item
1	Reinforced ethnic and cultural identity
2	Ability to listen
3	Increased awareness of/knowledge about the importance of assessing healthcare on an individual basis
4	Ability to apply evidence based practice
5	Ability to give and accept praise
6	Ability to encourage others to take responsibility for own health
7	Ability to speak the host language
8	Ability to challenge breaches of privacy and confidentiality
9	An upper hand when competing for careers

10	Spiritual development
11	Escapism
12	Improved research skills
13	Ability to present work
14	Ability to write reports and academic pieces
15	Medical school more attractive to students

The next stage of reduction was the Principle Component Analysis and Multivariate Item Response Theory. I used a principle component analysis, to determine which items had the most variability in responses and correlated with one-another into a component. Such items therefore displayed most utility for psychometric measurement. I also wanted to understand which items were representative of latent variables and clustered together, so I used the MIRT to confirm that the components from the PCA were factors. 110 items were reduced to just 40 in this stage, meaning 70 items were removed. It would be exhaustive to list each one, however table 38 shows any items that had considerable stakeholder agreement in the Delphi that were removed during the PCA and MIRT.

Table 38: Most agreed upon items in the Delphi and whether there were included in the final tool

Item	Included/ Excluded
Increased awareness of/knowledge about cultural differences and	Included- cs
Increased awareness of/knowledge about the cultural aspects of	Included- cs
Ability to work with limited resources	Included- a
Increased awareness of/knowledge about culture in practical assessments	Not included
Ability to apply clinical skills to another context	Included - c
Ability to be adaptable and innovative in teaching	Included - t
Increased awareness of/knowledge about how other healthcare systems function	Not included
Ability to cope	Included team work
Increased cultural sensitivity	Included - cs
Understanding that words and behaviours can have different meanings	Included – ac
Ability to apply knowledge across systems	Included -c
Development of a new perspective	Not included
Improved flexibility and adaptability	Included - a
Ability to be innovate when overcoming challenges	Not included
Increased respect for other cultures	Included - cs
Increased understanding of basic skills and ideas	Not included
Confidence in teaching ability (e.g., being more comfortable around others, confidence in public speaking, confidence in transferring knowledge)	Included-t

Improved confidence (e.g., in caring for clients from another culture, in quality improvement methods, to take bolder steps, to address challenging situations, self-confidence, confidence in professional ability,)	Included-c
Confidence to work in other locations (e.g., confidence to move to another city/country, working with UK multicultural/underserved populations)	Not included
Increased awareness of/knowledge about global issues (e.g., re-evaluating world issues, shared purpose)	Not included

Table 38 shows the 20 most agreed upon core outcomes in the Delphi, eight of these did not feature in the final version of the psychometric tool. Even though these items are indisputably considered core by stakeholders, they are not best measured using a psychometric self-assessment. As the COS, has highlighted the importance of these outcomes it might be useful to consider other ways of measuring them. For example: confidence to work in other locations, could be measured using specific quantitative longitudinal data collected (i.e. number of cities/countries worked in compared to a matched sample). Increased understanding of basic skills could be tested by developing an educational assessment of basic science for health professionals that features key elements of science, that professionals have likely not engaged with since university/school, scores could be compared pre and post placement. Ability to be innovative when overcoming challenges could be measured through observation or performance in team building tasks that measure innovative problem solving upon return.

10.5. Limitations of the tool

10.5.1. Effectiveness of self-report measures

As stated in earlier chapters, self-report measures are often highly criticised. In this study, the absence of differentiation between the group median scores of those who have and haven't had international experience could be caused by numerous things. Firstly, it could be that there is genuinely no difference between the groups, that international experience does not increase performance in the 10 latent traits. Thus, the results of this study are not in line the previous literature reviewed. Or it could be that the method used to develop the tool (cross-sectional design, no participant matching) meant that a difference in group medians was not present in the data. This would imply that learning on international placements is not amenable to measurement using a cross-sectional design and self-report measure. However, I will present some arguments to contest this and believe that with

several design improvements, using this self-assessment tool in future research should be an effective way of measuring development on international placements.

10.5.2. Self-selecting bias

One explanation could be that in order to succeed in health professions, individuals must display high baseline levels of the qualities tested in the tool. It could be that individuals with high levels of the 10 domains tested in the tool, choose health professions: self-selecting bias. The absence of variation in the results, could indicate that all health professionals have high existing levels of the measured qualities and international placements do not cause significant differences in these. In addition to self-selection, trusts and health professional educators are starting to use values-based recruitment, to ensure trainees values are in line with the NHS (300). As such, newly trained healthcare professionals are likely to hold high levels of many of the attributes tested within this study; which are representative of the future ideal NHS workforce (62,294).

10.5.3. Performance vs self-assessment

The relationship between actual performance and self-assessment was discussed in earlier chapters. For example, how individuals are more able to accurately assess traits that are restrained in meaning, as opposed to traits that are less defined in meaning (155). Typically, the relationship between self-assessment and performance is not correlational. For example, family practice GP's self-rated interviewing skills correlate roughly .30 with ratings by their instructors (301). Nurse's confidence in basic life-support tasks fails to correlate at all with their actual level of knowledge (302). Surgeon's views of their surgical skill also fail to correlate with their performance on a standardized exam (303). Yet, although the self-assessment of surgeons does not predict their performance on standardized board exams, their supervisor's ratings and the ratings of their peers who are similarly inexperienced do (303). As stated in earlier chapters, literature suggests that under average conditions, health professional's ability to judge their own performance is flawed. This study aimed to improve psychometric utility of the tool with carefully considered techniques, such as using time markers, asking about specific behaviours, skills and knowledge etc. However, despite this self-assessment may still suffer from the flaws in the following subsections following.

10.5.4. Unrealistic optimism

Individuals frequently overestimate themselves, holding overinflated views of their expertise, skill, and character. For example, when comparing what people say about themselves against objective markers, or even against what might be possible, the claims people make about themselves are too good to be true (155). This could provide reasoning for the ceiling effect in the literature, rather than all professionals truly exhibiting above average performance on each of the domains, this could instead hold unrealistic optimism. Rather than highlighting a real effect of over-achieving professionals in the sample, it could indicate that the results are confounded by unrealistic optimism.

10.5.6. Above-average effects

Similarly, all individuals tend to believe they are above average; which obviously violates the tenets of mathematics. Above-average effects are seen across the board. When using self-assessments, motorcyclists think they are less likely to cause an accident than peers (304), business leaders believe their company is more likely to succeed than average (305). In regards to judging one's own ability, 70% of high school students stated that they had "above average" leadership skills, whilst only 2% felt their leadership skills were "below average" (306). This is again, potentially explanatory of the results of this study, whereby only 0.9% ($n=4/436$) of participants in the whole pilot scored themselves below 4 (on a 7 point Likert scale) in the management skills domain, even though a large proportion of the sample were inexperienced or in their early career.

10.5.7. Overconfidence effect

A similar phenomenon is known as the overconfidence effect. Individuals overestimate the probability that their answers to general knowledge questions are right (307). This overconfidence effect could also be present in the current study, with only 0.2% ($n=1/436$) of the pilot population scoring themselves lower than 4 (out of 7) on the confidence domain.

It seems that any combination of the above three flaws in self-assessment could be responsible for the ceiling effect seen in the results. Participants seemed to be overconfident or believe they are above average, very few participants gave a neutral or negative response to each statement, and it seems highly unlikely that the whole population would be above average on every domain.

10.5.8. Metacognition

Meta-cognition is the awareness and understanding of one's own thought processes. I propose that some of the results could be due to a lack of meta-cognitive awareness. Perhaps individuals do not know they are not good at something until they become better at it. It could be that the international placements cause individuals to reflect on their current ability; which may result in learning or adaptation of skills and behaviour. If that same individual had stayed in the UK they may not have reflected on that particular skill or evaluated it. The pilot results suggest that 89% of those who undertook international placements reflected in either a formal or informal manner. It could be the reflection that allows them to realise their weaknesses in a particular area and improve them during or as a result of an international placement. This could also be related to unrealistic optimism, described above, everybody could believe they are good at something until new information is presented to make them question their 'unrealistic optimism' (155). This integration of new information resulting in greater meta-cognitive awareness could also be related to transformational learning, see section 10.6.1 for greater discussion.

This phenomenon of not understanding one's own ability until you improve it, is sometimes referred to as *Unknown Errors of Omission* (155). For example, when attempting to solve a problem, individuals are not always aware of all the potential solutions they could generate, but don't (their errors of omission). For example, when asking participants to list as many English words as possible from the letters in the word 'spontaneous' (e.g., spoon, ten, out) an individual who found 50 may describe their performance on the task as good. However, performance is dependent on the numbers of potential solutions, and it is unlikely anybody would have a precise intuition of what that number is. More than 1,300 English words can be created from these letters, thus, 50 is not a high proportion. When applying the 'unknown errors of omission' phenomenon to the results of the pilot, an individual may feel that they demonstrate high levels of cultural sensitivity are, until they are in a situation where levels of cultural sensitivity beyond their own understanding/ability become apparent (or they generate an understanding of what high level of cultural sensitivity may encompass). Therefore, the lack of difference between scores of those with and without international experience, could potentially be explained by the fact that internationally experienced individuals have more knowledge about the full-spectrum of such skills. Furthermore, those without international experience comprehend a less varied spectrum of a particular skill and subsequently consider

themselves better than they really are. Hypothetically, such individuals may not have a concrete example of what high levels of cultural sensitivity and therefore overestimate their own ability, through unknown errors of emission.

One of the ten latent variables was labelled confidence and asked individuals to rate their confidence in regards to many non-clinical skills. The results of my study may be related to a phenomenon described above as the overconfidence effect. When individuals overestimate the probability that their answers to questions are correct, they were often wrong (307). Even when people are extremely confident, this certainty is not correlated with accuracy. Those who expressed absolute (100%) certainty in their answers were wrong 20% of the time (307). This effect is also seen in health professionals, when doctors diagnosed their patients as having pneumonia, predictions made with 88% confidence turned out to be right only 20% of the time (308). Hence, the ceiling effect in the confidence domain could be due to over-confidence effects.

10.5.9. Lack of theoretical basis for PCA

One criticism of the tool, is that there was no underpinning theoretical framework ahead of the PCA and MIRT, therefore it was difficult to find items that correlated into a component or factor (this is discussed in chapter 7). Consequently, confidence which has an existing theoretical framework, emerged as the main factor with the most psychometric utility, and other factors had less psychometric utility. However, very little is known or empirically evidenced in regards to PPD on HPIPs, so an exploratory approach was necessary initially. In the future, researchers should readdress the 70 removed core outcomes and develop multiple items to represent each core outcome using a theoretical framework. Subsequently, more latent traits (that are amenable to psychometric measurement) may emerge.

10.5.10. Summary

There are many limitations concerning using a tool to measure learning on international placements, as with any method. However future research should look at ways of mitigating or reducing the limitations, for example finding ways to get people to accurately reflect on their level of a skill, this is more important for between-group comparisons than within-participant. As when measuring within-participant the overconfidence effect (and similar effects) would likely be present at both time points, so it would have a less confounding effect than when comparing groups. One way of adding this extra level of

reflection would be to get people to readdress their original high scores, in light of new knowledge. Another is to conduct further research into the 70 removed core outcomes, by creating multiple items for the most agreed upon core outcomes, meaning there would be more chance of factors emerging.

10.6. Limitations of Findings

10.6.1. Transformational learning and meta-cognitive awareness

Perhaps the reason for some lack of variability and some items having ceiling effects could be attributed to transformational learning theory. Previous research shows that many participants reported a new found engagement with and understanding of basic skills and science. The skills measured in this tool are key components of NHS professional skill sets, chapter 1 highlighted how important these skills were to the NHS, staff are fundamentally optimistic that they possess high levels of these skills, as it is a component of their professional identity. I think it is unlikely that any professional would admit to not possessing fundamental basic skills. But, only when they are placed in transformational environments that prompt one to reanalyse and provide a platform for comparison, does one realise that they weren't as good at something that they originally thought. This is probably the reason for the ceiling effect in the team work domain, as it's also a fundamental professional skill. However, future research should look for innovative ways to capture this transformation in a numerical way. Perhaps capturing pre-placement data, post-placement data, then asking participants to reconsider and reflect on any items they strongly agreed with before they left.

10.6.2. Reductionism

I contemplate the fundamental opposition to the methods used and the outputs generated within this thesis would be that it is inherently reductionist. This was a deliberate choice. I felt there was sufficient previous research describing this learning from a qualitative and to a lesser extent, anecdotal perspective, that what was missing was a structured, standardised, quantification of PPD on HPIPs.

10.6.3. Size of the core outcome set

The core outcome set created as result of the Delphi was very inclusive. Stakeholders agreed almost all outcomes were core and I discussed the implications of this in Chapter 6.

However, in terms of being a general output from this thesis, it could be criticised for being too large. A core outcome set, is a set of outcomes that should be reported in each study that looks to measure a particular phenomenon. It would be impossible for researchers to report all of these outcomes, so future research should consider ways of minimising this list, in light of available measures- a good place to start would be to look at what can be measured within the tool, as this was developed from the core outcome set. Then to look for any additional vital outcomes and what the corresponding measures might be. An additional Consensus technique is needed, perhaps a RAND or nominal group technique with people knowledgeable about research and measurement primarily, to look at reducing the COS to a realistic number.

10.6.4. Core outcomes set not encompassed within tool

This limitation is derived from the previous limitation, whilst I developed a comprehensive core outcome set that was arguably over-inclusive. The resulting tool could be criticised as it does not include all of the core outcomes, this is described in section 1. However, one problem with psychometric tools is finding a balance between participant fatigue and collecting enough information. I chose the PCA as a method of item reduction, and I am confident that the items used have the greatest psychometric utility. I could have included additional items that were considered core in the tool, but if each of these had little variability with all participants in strong agreement, then I would be causing unnecessary work as the items would have little psychometric utility. I propose that future researchers and policy makers look at alternative ways to measure any missed important core outcomes alongside the tool.

10.6.5. Summary

In summary, this research has answered my research questions. However, many of the questions remain open to future research. The purpose of this thesis was to develop a measure and framework to be used in future research, therefore it is not surprising that more hypotheses are generated in this research than conclusions. However, the tool has developed a way of quantifying the PPD on HPIP's for future researchers; which was imperative.

10.7. How do international contexts facilitate learning that is of benefit?

In this section I will answer the following research question: How do international contexts facilitate learning that is of benefit to the NHS? Methodologically, to answer this question, I began with a systematic review of the literature. From this I extracted every potential variable and highlighted 33 contextual themes. These contextual variables ranged from something physical in the environment, to things that professionals do, who the professionals are or even logistical difference in international placements. These variables were translated into questions and asked to returned volunteers during the pilot. From this I was able to understand how often things happen and whether there are any preliminary indications of relationships between outcomes and variables. I will begin by describing 3 variables that are often discussed in the literature; destination country, length of stay and level of difficulty. I will then describe 4 contextual themes: material, social, intra-psychological and opportunity.

10.7.1. Destination country

As discussed at the start of the chapter there is literature to suggest that the destination country may have great influence on learning outcomes. Some literature argues that the destination country has a great effect on learning outcomes, whilst others argue that it has no effect (23,94). My results, provide some support towards for the effect of destination country upon PPD on HPIPs. Those that had travelled to Uganda scored significantly higher in Management, Team Work and Confidence domains than those who travelled to Malawi. However, as I recruited participants through some specific projects, some of these differences could be explained by the project as opposed to country.

10.7.2. Length of stay

There is great debate in the literature concerning length of stay. Some authors argue that shorter length of stays are sometimes detrimental to learning and to the host organisations (90,309). Others endorse short term placements, proposing that they have different merits, such as providing opportunities for people with family commitments (23). There is a general consensus that longer term placements are more beneficial for host organisations (23,90,309,310). My research found that the average length of stay was 53 days. It also found that those with short and medium length stays had higher scores on the behaviour change domain than those with longer stays. This finding provides support for the argument that shorter stays could be beneficial in terms of learning. It provides a

hypothesis for future research to look at the relationship between behaviour change and length of stay.

10.7.3. Level of difficulty

Much of the literature on international placements reports that the level of challenge experienced in work on international placements differs from that of the UK. In most cases authors report an international environment that presents different or more difficult challenges such as working without adequate resources or supervision (18,24,25). Authors subsequently hypothesise that facing various challenges improves problem-solving, decision making and coping skills (18,24,25). Educational theory proposes that there is a level of difficulty that provides the optimal difficulty for learning, this is ‘challenging but achievable’. My methods did not compare the LMIC environment to an UK environment, however, I did find that 91% of international placements were challenging but achievable’ indicating that the level of challenge on HPIPs is generally optimal for learning.

10.7.4. Discussing the unique components of an LMIC learning/working environment

In chapter two I described literature by Isba and Boor (2011) that highlights four components of a learning environment for medical students: material/organisational, social, intra-psychological, and measurement (118). I also outlined opportunity as an additional component as this is described in other work by the authors and I consider it particularly important in relation to HPIPs (123,311). Previous research highlights the importance of certain components of these five categories that can improve a learning environment, for example having new technology or adequate support from senior staff (118). My findings in relation to learning environments in HPIPs refute this literature and in many instances propose the opposite. I now describe the five components of a learning environment in relation to my results.

10.7.5. Material/Organisational

In literature concerning medical education, there is an assumption that improving the material environment improves learning, e.g. buying more computers or medical devices (118). This notion is echoed in literature concerning technology-enhanced learning (312). Even early psychological literature describes how one cannot begin to learn until basic needs such as security, shelter and food are met (124). However, my findings suggests that

in LMIC HPIPs, 90% of working/learning environments do not have adequate resources. But despite this, those with the highest scores in ‘Adaptability’ reported being in a low resource environment on their most recent placement. This refutes past literature as it suggests that individuals may learn, despite inadequate resources and actually, the lack of resources may increase learning in some domains. My research could suggest that whilst adequate resources are important for learning how to conduct clinical tests using the latest medical devices, that some non-clinical less specific skills, such as adaptability, may be enhanced in the absence of resources. This finding provides emerging quantitative evidence in line with qualitative accounts of learning on international placements (11,259).

There is an assumption in the literature that individuals learn, due to the organisational differences between the UK and LMIC learning environments, stark contrasts in terms of ethics, health and safety and risk are often described (286). When asked to compare the two environments, almost half of participants in the pilot with international experience described the environments as similar in regards to ethics. Whilst 22% considered the governance and licensing similar, 15% thought the health and safety was similar, only 9% thought the culture was similar and half of the sample considered none of the above similar. Therefore, only half of the LMIC learning environments were at complete contrast to an NHS environment and many similarities could be drawn between the two environments; which potentially refutes past literature. An assumption in past literature is that organisations exert strong influence on a learning environment, so organisations that value good teaching, will provide learning environments that reflect such values (118). There is an anecdotal assumption in the HPIP literature that individuals learn about health and safety, ethics, or the importance of governance through experiencing what happens when it’s not used or valued, this refutes literature describing UK medical student learning environments (286). My research provides evidence to show that the two environments are generally different in terms of ethics and health and safety, however these factors had no significant effect on PPD outcomes. Therefore, future research should study the relationship further.

10.7.6. Social

Much of the pedagogic and andragogic literature, describes the existence of a more knowledgeable other: sometimes this is in the form of a teacher, other times a mentor or a knowledgeable peer, some even describe the grandmother effect (where someone with no subject knowledge merely encourages and praises child learners) (121,140,278,313,314).

The social element of learning takes precedent in NHS systems, whereby students and inexperienced staff learn from those around them (314,315). However, literature suggests that an absence of supervision or support is common in LMIC HPIPs (12,26). My findings supported this notion as the majority of participants did not have access to a more knowledgeable other on their placement, meaning any learning was largely unregulated with a lack of expert feedback. However, those who reported less social support had higher scores on adapting, teaching, adapting communication and behaviour change. This supports the notion in the literature that HPIPs encourage adaptability by ‘throwing staff in at the deep end’ (4,11,26,76). This is in contrast to an NHS placement, where staff (unless highly experienced) would have access to a more clinically superior person through the NHS hierarchical structures (314–317).

10.7.7. Opportunities

In literature concerning the learning environment of healthcare professional students in the UK, opportunity to practice is a key component of any learning environment (123,318).

However, opportunities to practice should be at the appropriate level for the student (318).

On the other hand, literature concerning LMICs describes how professionals of any level of experience are ‘thrown in at the deep end’, often finding themselves in a leadership role and are given responsibilities that they would not have in the UK (4,11,26,76). This is confirmed in my findings that suggest 75% of professionals on HPIPs were frequently the most clinically knowledgeable staff member. I also found that 80% of the pilot participants reported opportunities to lead or have responsibility in the LMIC environment.

Furthermore, those that had the opportunity to lead, had significantly higher scores in the teaching domain than those that didn’t. Therefore, research into LMIC learning environments refutes previous literature that suggests opportunities based on experience are most facilitative of learning. It suggests that experiences to move outside of one’s comfort zones and to lead may be related to an increase in teaching scores. The results also show how often opportunities to lead happen in an LMIC environment, quantifying the notion that has long been described anecdotally and more recently in qualitative research.

Much literature proposes that a main benefit of international experience, particularly for doctors, is brought about through increasing the volume of patients that they treat (24,48,68). I found that in more than half of international placements, health professionals do not report treating a higher number of patients per unit of time. The half of the sample that reported seeing more patients had significantly higher scores in Team Work,

Confidence and Difficult Communication. This suggests that opportunity to interact with more patients only happens on half of international placements so all HPIP learning cannot be solely attributed to interacting with more patients; which has implications for applying educational theory, such as deliberate practice (discussed in section 10.8.2).

Similarly, interaction with more conditions is described frequently across the HPIP literature. For example, learning to manage diseases not encountered at home is a frequently cited educational outcome (4). Experience of tropical diseases is also cited as a contributing factor to the educational benefit of HPIPs (13). My research supported the notion that exposure to a greater volume of conditions is likely on HPIPs, as almost 80% reported this outcome. However those that reported greater interaction with more diseases did not have higher scores on any of the domains. This could indicate that interaction with more conditions does not have a considerable effect on non-clinical skills, it could be that it's largest PPD effect is from a purely clinical perspective.

Another mechanism through which learning is anecdotally proposed to happen on international placements, is opportunity to experience communication difficulties (16). However, my research suggests this does not happen frequently, only around half (55%) of participants experienced communication difficulties and those that did, did not have higher scores on any of the domains.

10.7.8. Intra-psychological

Reflection is considered a key component of learning in any environment (6,135,319,320). It is a frequently reported intra-psychological mechanism to facilitate learning on international placements that is described in HPIPs literature (6,319). The importance of reflection for learning is also echoed in the educational theoretical literature (33,135). Some researchers have attempted to analyse the effect of formal reflection on student elective learning and found that formal reflective presentations had learning benefits (6). My research found that the majority of professionals describe reflecting in some capacity, as only 2.4% reported no reflection. The majority of this reflection was informal (76%), however 56% described partaking in formal reflection exercises. This reflection happens both at the time of the placement and upon return, with over 80% reporting reflecting at both times. However, my results refute much of the existing literature, as no difference was found between those with high and low levels of reflection on any of the ten domains. However, I think it may be difficult to assess level of reflection in a psychometric tool;

which relies on reflection inherently. Therefore, I would propose using alternative measures to analyse the effect of formal reflection, an experimental design comparing the learning outcomes of those who undertook formal reflection exercises like those proposed in previous research (6), with those who didn't.

Another mechanism tested was copying the behaviour of local staff, literature suggests role-modelling happens in many learning/working environments and results in PPD outcomes (295,296). However, literature concerning international placements indicates that it might not happen in such a way in LMICs, as learning is often described through exposure to bad practice and therefore a lack of role modelling (90). My results suggest that only half of participants copy the behaviour of local staff and those that do had higher satisfaction with life and adaptability scores than those that don't.

In section 10.2, I describe the effect learning the host language has on adaptability, confidence and behaviour change. Whilst this variable is presented anecdotally in the literature, it has not been tested empirically to my knowledge (259). It is interesting that there are unanticipated emerging relationships between the three domains and learning the language. It could indicate that language learning is an important moderating variable. It could also show that language learning is indicative of a deeper level of engagement, or length of stay. Those who chose to learn a language show commitment and an attempt to integrate; which could be why such people have higher scores on some domains.

10.8. Educational Theories

Whilst I reviewed lots of literature regarding educational theories, three were of most relevance to my collective findings, so I will discuss these in response to my findings.

10.8.1. Transformational learning theory

Previous literature has argued that transformational learning may be a key component of PPD on international placements (33). It suggests that most of the learning that happens results in a transformational change of perspective, rather than the incremental development that happens with most pedagogic and andragogic development (33).

However, this theory has not (to my knowledge) been applied to a health professional population. I therefore, asked questions in the pilot regarding transformational techniques that could result in learning. Transformational theory suggests that profound learning happens when an individual tries to make sense of the international environment (33). My results supported this, as 71% of participants reported this intra-psychological variable.

Transformational learning theory also suggests that when learning happens on international placements, perspectives change in a significant way, 83% of participants in my pilot study reported this (33). This change is reported to happen when individuals attempt to accommodate new experiences into existing views of reality, 72% of participants in my study reported this (33). Therefore, the results of the pilot indicate that many of the key transformational learning processes are present on HPIPs.

Interestingly, one of the major limitations of the results from the pilot study is the ceiling effect, however this could be indicative of transformational learning. Professionals may not be meta-cognitively aware of what it means to be very good at something, as within the realms of their current knowledge, the levels they currently possess of the skill represent the maximum capacity. It's only once they are exposed to higher levels of a particular skill, that they realise they did not understand the full spectrum of that skill. Therefore, the disequilibrium caused by being placed in a foreign environment is a catalyst for meta-cognitive evaluation of the boundaries of one's ability. This could be the reason for the lack of variation in between-group scores, but also longitudinally. If individuals already strongly agreed with a particular statement pre-placement there is no space for them to indicate an increase in a domain post placement, as they have already reported full capacity. Longitudinally the only way learning could occur in individuals that believe they possess a full level of a skill, is if they were to have a transformational change of perspective and re-evaluate their perceptions of what it means to be very good at 'team work' (for example). Similarly, those who have not experienced the communication difficulties of working in a hospital with no spoken English, may not understand the level of non-verbal communication needed to effectively deliver care, those with international experience may have a different, and arguably deeper understanding of such skills, making group-to-group self-assessment comparison difficult.

I therefore propose, that future research should test this effect, by looking at the items with a ceiling effect and asking individuals to qualitatively describe whether they feel they have become better at something as a way of evidencing the transformational shift of perspective. This could be assessed quantitatively by asking individuals to reconsider the scores with a ceiling effect to see if their understanding of the spectrum of that skill has changes post-placement.

10.8.2. Deliberate practice theory

Deliberate practice theory argues that individuals learn through opportunity to repeatedly practice something (131). This can be further separated into behavioural deliberate practice, whereby feedback on performance comes from an expert, or more knowledgeable other (MKO) and cognitive deliberate practice, whereby errors provide feedback (132). Hence, cognitive deliberate practice is less reliant on the presence of or feedback from an expert. Literature indicates that most international placements have very little supervision or support from MKOs (12,26). This was evidenced in my results, whereby 74% reported no clinically knowledgeable other. Therefore, any PPD development is likely not be a result of behavioural deliberate practice, as there is little opportunity for feedback from an expert.

Similarly, literature proposes that a main benefit of international experience is brought about through an increase in the volume of patients treated (24,48,68). In my review of learning theories, I explored whether the benefits arose through increased deliberate practice (see section 10.8.2). I found that in more than half of international placements, health professionals do not report treating a higher number of patients per unit of time and therefore deliberate practice might not be accounting for the PPD benefits reported.

Literature also suggests that people develop ‘difficult communication’ skills in LMICs due to the opportunity to engage in challenging conversations with difficult people. There is a suggestion in one paper that surviving a challenge, makes professionals feel capable of dealing with future ones (45). My results support this finding, as those with high difficult communication scores reported dealing with criticism in their most recent placement.

When the results are considered collectively, it is unlikely that all of the skills developed on international placements happen as a result of deliberate practice. Firstly, because only half of the sample report interacting with more patients than in the UK and secondly because those who interacted with more patients only had higher scores in team work, confidence and difficult communication, but not in the remaining 7 domains. Therefore, this suggests that deliberate practice may be a component of PPD development on HPIPs, but it is not solely responsible for all PPD. It also suggests that some skills may develop more than others as a result of deliberate practice: namely difficult communication, team work and confidence. The results also suggest that any deliberate practice, is likely to happen in the absence of supervision, meaning cognitive deliberate practice theory is the

most applicable. It also raises ethical concerns about practicing without supervision on skills that can be potentially fatal.

As my research has provided support for the importance of cognitive deliberate practice theory for PPD on HPIPs, future research should focus on outlining this relationship more explicitly. Initially comparing those who interact with more patients and those who don't longitudinally with the tool. However, now that this relationship has been highlighted more work could be done qualitatively to understand why deliberate practice might be more important in some domains than others.

10.8.3. Zone of proximal development

It is proposed that there are optimal conditions within an environment that facilitate learning. One such condition is the level of challenge. Research suggests that in order for learning to happen, tasks should be challenging but not unattainable (321). Literature suggests that if a placement is too easy or difficult learning is less likely to occur (321). When applying this theory to international placements, many professionals reported culture shock or being 'thrown in at the deep end' (4,11,26,46,76), therefore I was concerned that learning might not happen under optimal conditions, i.e. overwhelming, frustrating or beyond participants capacity. However, only 5% of participants described the environment in this way, 91% agreed it was challenging but achievable. Interesting 4% felt it was too easy, boring or repetitive. Therefore, the results suggest that the majority of HPIPs, are in the zone of proximal development.

In order for learners to move from the theoretical zone of proximal development into mastery of skill, literature suggests the help of a more knowledgeable other is often necessary (121,321). A peer or teacher who has more knowledge about a particular skill, is a key component of this theory in terms of facilitating development. However, as stated throughout this chapter, clinical MKO's are not frequently present on HPIPs, therefore refuting the argument that MKO are a key component in learning on LMIC HPIPs. I also gathered data regarding a cultural MKO, somebody who was more culturally knowledgeable 66% agreed there was frequently somebody more knowledgeable about the host culture available, therefore this could suggest that the MKO that helps the learner transcend the developmental boundaries in this scenario is somebody with less clinical knowledge but more knowledge of the local context, this could be anyone from clinically inferior local co-worker, a patient or even a hospital cleaner.

In summary, this research suggests that HPIPs generally lie within the zone of proximal development as a large proportion of the sample considered it adequately challenging. However, the way learners move beyond the theoretical boundary of the ZPD may be different in LMIC than within the NHS, in the NHS staff may look to clinically superior staff for help, whereas in an LMIC clinically inferior, culturally knowledgeable others are more available, so it may be that these individuals facilitate learning. Future research should test this notion qualitatively, to understand how professionals gathered clarification about the unknown in an LMIC HPIP. Future research should also consider the specific tasks that may be within the ZPD, rather than assessing the difficulty of the placement on a global level.

10.8.4. Experiential learning

Previous literature concerning experiential learning, describes a learning cycle based on having an experience and reflecting upon and learning from it. I think my results are in line with previous literature concerning experiential learning as 86% reported reflecting during their HPIP (135). There is no denying that the learning on HPIPs is inherently informal and through experiences rather than formal lecturing, teaching or classroom methods. However, from a theoretical perspective I want to understand what makes the LMIC environment unique. In terms of experiential learning, the process of having an experience and reflecting upon it happens, however, I don't believe this learning process differs significantly from the UK. The context in which this happens differs (described in section 10.7) but the experiential learning mechanism is not unique.

10.8.5. Educational theory summary

My research found that most LMIC health facilities have fewer resources than their UK counterparts. It also suggested that generally there is a lower level of support and supervision. There is generally a greater opportunity to practice leadership and responsibility, or to interact with a greater number of conditions. Figures 28 and 29, depict the differences between an LMIC and NHS environment visually.

Generally, LMIC placements have greater opportunities to practice but lower levels of supervision indicating that cognitive deliberate practice theory may be responsible for some of the learning. Practice can happen successfully within the remit of this theory despite a lack of supervision, whereas within other theories social interaction with teachers and peers is necessary (Zone of Proximal Development, Communities of Practice). This is depicted in figure 28. In the next chapter I discuss the ethical implications of learning within this potentially dangerous zone, however from an educational theoretical

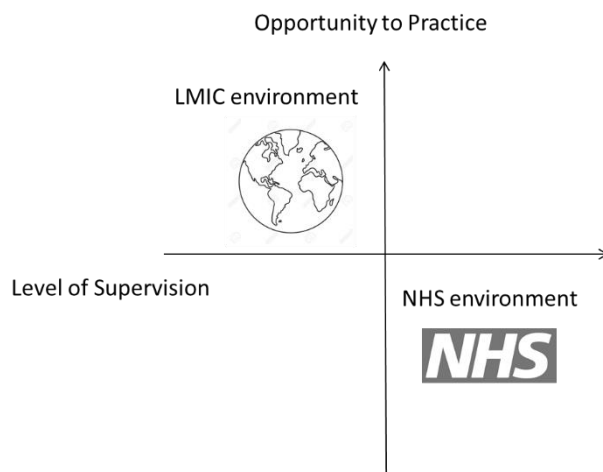


Figure 28: Visual depiction of each environment in relation to opportunity to practice and level of supervision

perspective, my research and review of previous literature suggests that this environment with high opportunity and low supervision can have potential benefits in regards to PPD.

Similarly, LMIC environments have lower resources and lower levels of supervision which also creates an interesting dynamic. Within an NHS environment, there is generally adequate resources and high levels of supervision, administration and management; therefore resulting in what can often be described as rigid structures or bureaucracy (13,20). In an LMIC environment, what is often described is a reduction in the hurdles of bureaucracy and an increased opportunity to innovate, lead and solve problems; which may be why there was a 1 point increase in adaptability scores longitudinally following a HPIP. It also suggests that whilst the NHS favours a high resource, high support learning environment, a low resource, low support environment can be facilitative of a different kind of learning and short breaks from the confines of a highly controlled learning environment may be not only refreshing but developmentally beneficial for health professionals.

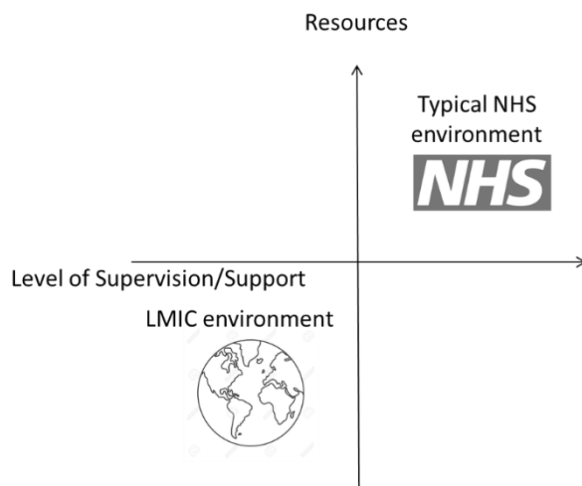


Figure 29: A visual depiction of both environments in terms of resources and level of supervision

In figure 30 I propose the following heuristic, simplified model to describe how learning might happen on an LMIC placement as opposed to the UK. The blue line depicts experiential learning, an incremental building of knowledge as time progresses that in this case represents PPD similar to everyday work in the UK. The red line is deliberate practice; this highlights the accelerated learning that happens when one is immersed into a new environment with greater opportunities to practice a particular skill. The green line depicts the effect of transformational learning, this happens when exposure to a new environments is a catalyst for professionals to reevaluate and therefore build upon existing knowledge and skills.

In terms of experiential learning, professionals are constantly learning from their everyday work experiences, be this in an LMIC or in the UK. Therefore, the blue line depicts PPD than happens incrementally as time progresses and represents learning from everyday experience in the LMIC or UK. However, one unique aspect of the LMIC in terms of learning mechanisms, is the opportunity for greater practice of skills, therefore there is an acceleration in development over time when one enters an international context at point D (figure 30). Finally, the green line depicts transformational learning. This begins at an already higher level, as the skills/knowledge that may be related to transformational learning are already possessed to a considerable degree by the professionals. However when a trigger event happens at point A, the staff must integrate the new knowledge into their existing knowledge B, resulting in a considerable, rapid change of perspective.

The letter C, is a label for the circle in the figure, this represents the context of the international environment and the five components described in section 10.7; which have a considerable impact on the way the learning happens at this stage. My research shows that many contextual components of the LMIC are different from the UK and this can have considerable effect on outcomes and the mechanism of learning. This circle also represents the zone of proximal development, in which my research has found that the majority of HPIPs lie.

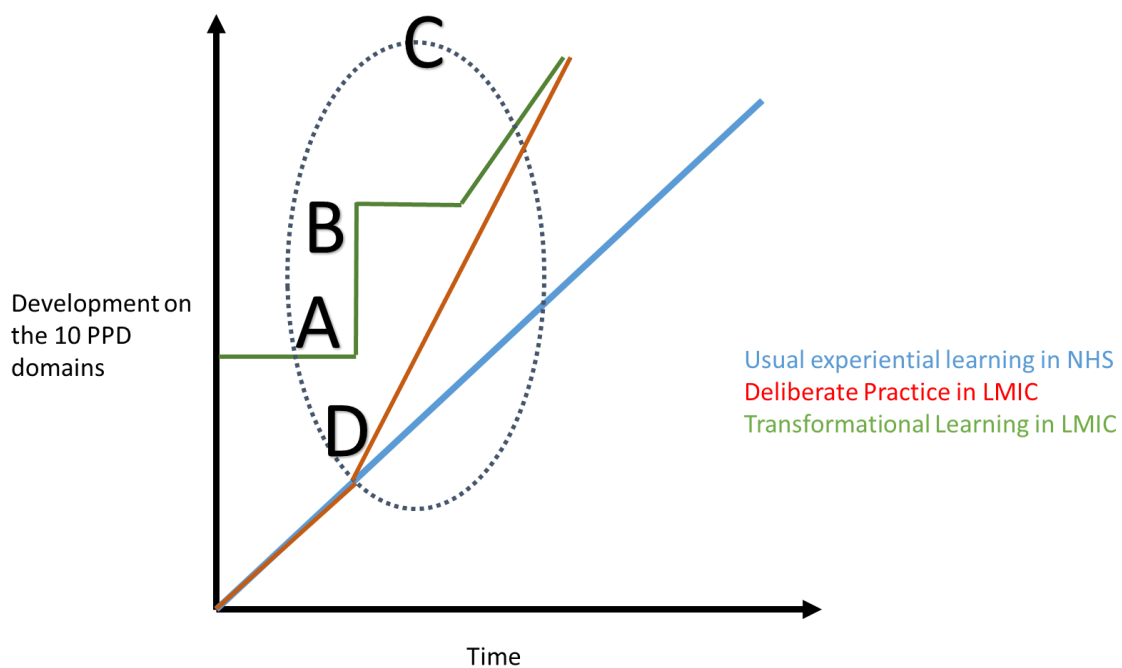


Figure 30: A graph to show my theoretical conclusion about PPD on international placements

In summary, I propose that no single theory can account for all learning on international placements, neither can it account for all learning across the ten domains. It is likely that different PPD outcomes develop in different ways. My research suggests difficult communication is linked to increased practice of dealing with criticism, therefore the development of difficult communication skills may be characterised by deliberate practice theory. Whereas, team work has the highest ceiling effect, indicating that professionals feel they have initial high levels of this skill set, I propose upon reflection, international experiences may provide a catalyst for them to question their understanding of that skill set, which results in transformational learning. Other skills may increase incrementally as

they would in the UK, for example confidence, there was no difference in confidence scores between-groups or within-participant, therefore confidence could be a skill that develops through experiential learning in the same way as it would in the UK. However, this is a heuristic model and has been developed based on preliminary results of a secondary analysis. It should be tested in future research, rather than be considered a concrete exemplification of my results.

10.9. Conclusion

My research has presented a core outcome set of 116 items that are agreed upon by stakeholders to happen as a result of international placements, thus providing an answer to the question of ‘what learning happens on international placements’. These outcomes were then assessed for psychometric utility and only 40 items remained, these items are representative of 10 latent traits. My research also found numerous costs associated with international placements, the most frequently recorded was lack of accreditation, and almost every participant reported this negative outcome. The research process reduced the tool to the 40 items with the most psychometric utility. However, future work is needed to identify the sensitivity of the tool to change. Therefore, my research found that some components of PPD are more amenable to quantification than others.

From a contextual perspective, the LMIC HPIP environment differs from an NHS environment across the five categories. From a material perspective, the LMIC environment typically has less resources than an NHS environment. From a social perspective, there is generally less support or supervision from clinically superior staff. In terms of opportunities, LMIC environments present some staff with opportunities to lead, interact with more and more conditions, however this is not true for all staff. From an intra-psychological perspective, there are some behaviours and attitudes that are believed to concern learning, however not all staff exhibit these. Finally, measurement was not a key component of HPIPs, however, with the new tool it could become one and LMIC environments could be measured, compared and contrasted. Despite all of these differences, my research and previous literature indicates that learning does happen, therefore it must happen in different ways to the UK. My results also highlight some emerging relationships to generate hypothesis for future studies.

10.10. Reflection on the work conducted within this thesis

The two most difficult parts of the PhD for me were in regards to demarcation 1) working on a multi-disciplinary project 2) working on a PhD attached to a research project. The multi-disciplinary element proved more difficult than I originally thought, having a multi-disciplinary supervisory team meant there were many times when it was hard to follow a distinct structure or path. Therefore, lots of my work involved pathing a new way that sat on the boundary between health psychology and social policy disciplines. I think this has been a tremendous learning experience for me, it was evidently beneficial as I am now employed as a researcher on a NIHR patient safety project that also sits on a multidisciplinary boundary between the medical, positivist approach and the social science approach. I also think I have engaged more deeply with the criticism of the psychometric approach and positivist fields due to my mixed supervisory team. The second blurred boundary was between my PhD and the MOVE project. The MOVE project had a qualitative and quantitative strand, my PhD was the primary methodological component of the quantitative strand, meaning it was difficult to demarcate the boundaries. On an individual level, I was not worried about the demarcation between the two I saw the project as PhD as one entity but for supervisors working outside of the project the demarcation was an issue. I had to frequently remove myself from the project to understand what was within the scope of my PhD thesis.

Upon reflection I would advocate for the methods that I used as a way of reducing a phenomenon that is not quantified into something that is measurable and comparable. I have since used the same methods (systematic review and Delphi) to develop a core outcome set concerning the behaviours of transformational educators and a COS of mental health discharge interventions. I therefore subscribe to the benefits of the methodology as a way of developing a quantified list of measurable outcomes.

The scope of this PhD meant that I could not test the tool beyond the initial pilot. I think it was somewhat an anti-climax from a personal perspective. When I began this PhD I thought that the data from the tool pilot would neatly map out the exact learning outcomes and each contributing moderating or mediating variable to provide a parsimonious model that reflects precisely how learning happens for every healthcare professional. Having engaged with the literature and attended numerous events at the beginning of this research,

I also had no doubt there would be a significant between-group effect on the domains of those with and without international experience. However, there was not a significant between-group difference in the pilot study and only one third of the domains were significant on a within-participant sample. I also did not develop a parsimonious model detailing the concrete effect of each variable of each outcome. I think since beginning this PhD my ‘black and white, outcomes and variables’ approach to research that I gained during positivist undergraduate training in experimental Psychology from the University of Birmingham, has become diluted. I was initially under the impression that the messy, social, living environment could be invariably successfully reduced to a series of outcomes, variables, numbers and statistics. I still advocate for the power of the positivist approach and the necessity for measurement to quantify, compare and contrast but being in a multi-disciplinary team has allowed me to see how difficult it is to be reductionist and has highlighted the value of qualitative research. Furthermore, I have a greater appreciation about the complexity and amount of rigor that is necessary to develop significant and generalizable quantitative results using psychometric tools.

I feel excited that I have developed a tool and core outcome set that will allow other researchers, project managers and individuals to record and monitor LMIC PPD and the variables that might affect it. I still am optimistic that my ideal of a beautiful, parsimonious map of learning on international placements is not too far in the distant future. My data at the end of chapter 9 highlighted emerging relationships. I hope that future research with the tool will build on the preliminary model I have developed in figure 31, (purely to exemplify what this tool could add to existing knowledge in the future). It is my hope that after gathering substantial data using the tool, a professional could decide *‘I need to build my adaptability skills’*, they could look at figure 31 and decide to go to Uganda and work in a facility with few senior staff and low resources. Whilst there they should attempt to copy the behaviours of local staff and learn the host language. As yet there is not enough evidence that the relationships depicted in this figure are accurate, but with considerable data, correlations and analysis this could be possible. An individual could see which country to visit, what should be present in the environment and how they should behave to increase their likelihood of developing a particular skill.

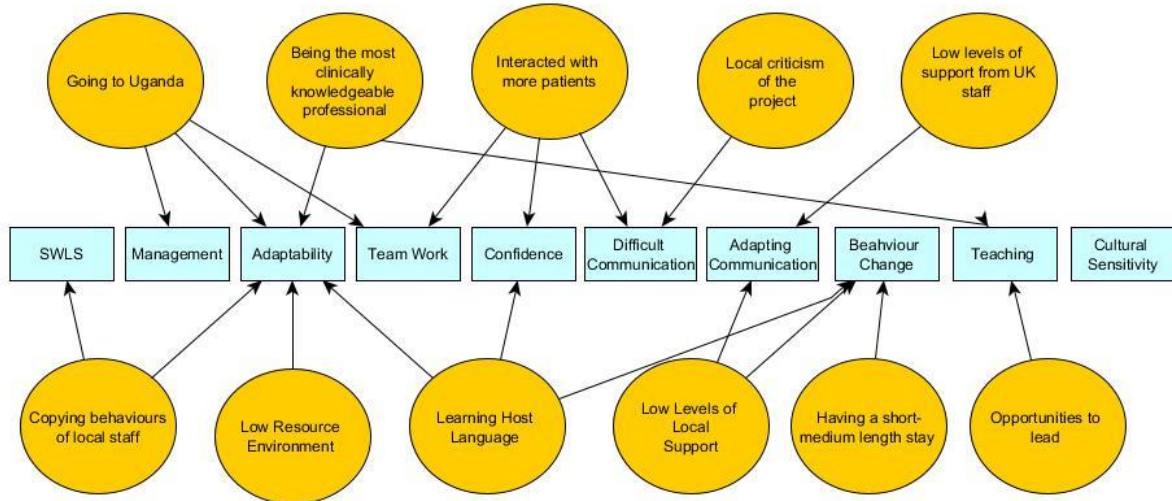


Figure 31: An example future model of interaction between outcomes and variables using the findings of this research

10.11. Summary

In this chapter I have described the results from the previous five chapters collectively in relation to previous research, literature and educational theory. I have discussed how my research answers the research questions proposed at the beginning of the thesis and the hypothesis that can be generated as a result of my research. I also propose a heuristic model of educational theory to describe learning on HPIPs. In the final chapter I will describe my scholarly contributions to research, recommendations for relevant stakeholders and future research.

11. Summary and Recommendations for Policy and Practice

In the previous chapter, I collectively analysed the results of the preceding chapters and how this related to the research questions. In this final chapter I summarise the key points from each chapter. I then highlight the distinct contributions to knowledge that this thesis makes. This is followed by recommendations for policy makers, employers, academics and individuals based on the results of this thesis. I then discuss potential future research using the tool.

11.1. Summary of the thesis

In chapter one, I discussed what health professional international placements (HPIPs) are and why they could be of benefit to the NHS by increasing personal and professional development. I also discussed some of the challenges with promoting HPIPs within the NHS. I then described the rationale for the thesis, the gaps in existing knowledge, aims and objectives. Chapter two was a literature review based on a systematic search, I began by describing some of the emerging themes in the literature in regards to personal and professional development (PPD) on HPIPs, primarily: communication, leadership, cultural skills and personal development. I then described the components of learning environment's and how these might be different in low and middle income countries (LMICs) compared to the NHS and any theories of education that might relate to this. I ended the chapter with a review of existing measures of learning on international placements.

Chapter three was a methodology chapter, this described the methodology that underpinned the research and why I chose to use a post-positivist, mixed-methods approach. Chapter four described the precise methods I chose to use and the rationale for choosing these methods. The studies were progressive, so in this chapter I also described the outputs at the end of each study; which provided the basis for the following study.

Chapter's five to nine described in detail the series of studies I conducted within this thesis. Chapter five described a systematic review and meta-synthesis of the outcomes, costs and variables extracted from the literature. This was meta-synthesised into three lists 1) a list of all of the potential PPD outcomes reported in the peer-reviewed literature 2) a

list of all potential costs and 3) list of potential variables that may affect these. In Chapter six I presented these outcomes to group of stakeholders to decide which of these outcomes should be part of a core outcome set (which were the most important to measure). The stakeholders reduced these outcomes to a set of 116 core outcomes that they believed should be measured in all research concerning PPD on international placements.

In Chapter seven I described how I used the core outcome set to develop a psychometric tool. I presented 110 of the outcomes within a psychometric tool and tested its utility on 436 health professionals. The results of the pilot study were analysed using principle component analysis to understand which of the items had the highest psychometric utility. The analysis looked to see which of the items had the most variability and which were clustered together. By the end of chapter seven I had developed a 40-item psychometric tool that can be used to assess ten PPD Domains.

In Chapter eight I described how I tested the utility of the tool using the data collected during the pilot study. I described a series of between-group comparisons, comparing those without international experience to those with. Unfortunately, there was no significant difference between the groups and potential limitations are discussed. The tool had higher utility for longitudinal within-participant data. This chapter also presents a short longitudinal test of the tool, where those participants who were due to depart at the time of the pilot were asked to re-complete the 40-item tool one year later. I found that scores on the cultural awareness and team work domains had increased after the international experience, however causality could not be assumed.

In Chapter nine, the secondary analysis of the pilot data, I explored contextual factors of an LMIC environment and negative outcomes. In this chapter, I aimed to understand the frequency and probability of either happening. I gathered data from returned professionals and professionals due to depart. Contextual data concerned the four different components of a learning environment: material/organisational, social, intra-psychological and opportunities. I then compared these factors with the PPD outcomes collected using the tool. I performed statistical analysis to see if people with high levels of a variable had different scores on the 10 domains than those with low levels. Many of the results provided quantitative support to the qualitative findings and anecdotal reports in the literature.

Chapter ten was the discussion chapter. In this chapter I analysed data from the five preceding chapters in regards to the four research questions. I answer the question of what are the PPD outcomes, what are the costs, what is the influence of context, and is the learning amenable to quantification. This is followed by limitations of the methods chosen and the tool. I then related these findings to educational literature and developed a heuristic model to explain PPD on HPIPs.

11.2. Important scholarly contributions

The major contribution to existing knowledge that this thesis makes is the development of the psychometric tool. I have developed a tool that can be used by any organisation as a way of gathering and comparing large amounts of data regarding the PPD on HPIPs. This tool, if used in the intended way by stakeholders, has the potential to make quantitative comparisons of learning and development both within individuals and when comparing groups or environments. It also provides a framework in which to generate and collate vast amounts of data to begin to understand many of the remaining questions regarding the learning outcomes and the variables that affect them. The tool has the potential to be used alongside existing qualitative measures, such as that developed by Longstaff (150). Professionals could use a qualitative tool, to record their experiences in depth, and reflect upon them, on an individual level. Whilst this quantitative tool creates a framework for metrics and quantitative comparison at an organisational or policy level.

I also developed a core outcome set, for the learning that happens on international placements. This is the first core outcome set concerning professional learning on international placements and has drawn on knowledge in the academic literature and the opinions of stakeholders and those with expertise in the field, to develop a list of the things that are considered to be core learning outcomes for international placements. This has utility for policy makers and educators and creates a point of reference for the development of future assessments, accreditation or learning outcomes. As it is not profession specific, it could be used for health professionals of any cadres and could potentially extend to other professionals with the right testing in the future.

Using the systematic review and meta-synthesis method, I generated a list of costs and variables associated with international placements. Similar reviews have synthesised data regarding specific projects like Health Partnerships, or researched specific professional cadres or students (4,13,254). But, this is the first time to my knowledge, an extensive list

of variables has been extracted from the literature regarding all British health professional cadres. The pilot study also generated data regarding how the variables and learning outcomes interact, to my knowledge this is the first study to quantitatively assess the effects of variables on learning for international placements.

Costs of international placements are less frequently mentioned in the literature than positive outcomes (35). To my knowledge this is the first study to extract each potential cost (for all health professional cadres on any project) from the literature. I also generated data regarding the frequency at which the costs happen. This is important information for policy makers, so that they can make a thorough cost-benefit analysis.

As a result of this research I developed 4 tangible outputs:

1. A psychometric self-assessment tool that has utility to be used to measure PPD on health professional international placements (HPIPs)
2. A core outcome set of personal and professional development (PPD) outcomes for HPIPs
3. A list of all potential negative outcomes of HPIPs that are discussed in peer-reviewed literature
4. A list of all potential variables that may influence learning on HPIPs that are presented in peer-reviewed literature

11.2.1. The importance of measurement

The next scholarly contribution, is that this research provides support for the importance of measurement in health professional working/learning environments. In chapter 2 I described Isba and Boors components of learning environments; which featured measurement as a key constituent component (118). The authors highlighted the importance of measurement of contextual components of learning environment for undergraduate medical education (118). This thesis adds to existing knowledge by highlighting, perhaps even to a greater extent, the importance of measuring international environments for their effect on learning, particularly as they can be incredibly varied and uncontrolled. I hope that this thesis begins a movement towards measurement of LMIC placements for three purposes 1) it may be possible to identify strengths and weaknesses of environments in terms of learning 2) quantification allows for cross-environmental comparison 3) measurement could become part of the learning and reflection quality cycle, with the potential for interventions and evaluations. I think this thesis adds to the existing

knowledge in the field by showing the relevance and importance of measurement alongside primary qualitative evidence base.

11.2.2. Importance of using mixed methods

Another scholarly contribution is that this research highlights the importance of using a mixed methods approach. Whilst I highlight the importance of using quantitative measurement, I do not discredit the importance of qualitative research. LMIC learning environments, like many areas of medical education are ‘messy’, they operate on so many levels and include many different people (118). It would be almost impossible to quantify the whole environment. Therefore, any research, evaluation or attempt to understand this phenomenon would benefit from the duality of mixed-methods. Previous research that has analysed medical education learning environments found that focus groups and interviews alongside quantitative measures give a more detailed account of the environment than a single methodological approach. I do not propose that this tool replaces this method of enquiry but instead provides a way of directly comparing and contrasting and developing metrics and evidence to support the emerging qualitative literature base.

11.3. Recommendations based on this research

The key recommendation of this thesis are:

- For future researchers to test the tool on a large sample size, both for validation purposes, to generate data about the phenomenon of interest and to generate metrics that can be used to evidence the benefits to NHS employers
- For volunteering organisations and other involved groups to encourage the use of the tool to generate the above-mentioned data set
- To ensure that any future research/use of this tool fully considers ethical implications and LMIC countries in all decisions

11.3.1. Importance of an ethical balance

Before making any recommendations in regards to health professional learning whilst (predominantly) volunteering in LMICs, the ethical implications must first be discussed. It is important to note that the principal purpose of a HPIP is rarely to learn, but primarily to ‘help’. As such any policy related to this phenomenon should not be solely focused on the learning of British professionals.

Any PPD that transpires for British professionals should also be balanced with any negative effects on the host country. For example, the results of this thesis, provide an

indication that largely unsupervised placements may result in increased PPD. This is reflective of existing literature: British staff are often given high levels of responsibility without formal support or relevant experience (24,322) . However, the existing literature also recognises that for students on international placements, poor supervision can put students in ethically and sometimes legally invidious situations (12,285). Professionals often report a feeling of discomfort, when they are working outside of their competency (112). If poor supervision can be dangerous or unethical for students, it is likely the same will apply to early career professionals; who make up a large proportion of those who work internationally (one third of those in the pilot). The ethical and legal consequences of learning in this way could be problematic for the professionals. Even more hazardous, is the risk it poses to patients in the host country. Some papers report that early career professionals and students use LMICs to practice skills without the strict legislation that dominates UK practice (12,112). Therefore, to make policy recommendations based solely on the learning needs of British professionals would be irresponsible, policy should always prioritise local patients and British professional learning should always be secondary. However, finding ethical ways to enhance or encourage international learning would be beneficial.

One example of the importance of this balancing act, comes from a recent news story concerning a team of American neuroscientists working in Uganda. The US team operated on numerous Ugandan patients during a two week ‘medical camp’ (323). Tragically, a number of the patients died unexpectedly and despite supervision from US surgeons, that US team and hospital which hosted them are under investigation. Hence, when considering the learning opportunity that is presented in an LMIC environment, and the factors such as ‘absence of a more knowledgeable other’; which may potentially enhance learning, ethical, moral and legal consequences should be fully considered. The detriment of ignoring such consequences can have negative consequences for both the local patients and the British professionals.

11.3.2. Applying the findings to a UK environment or controlled LMIC environment

The results of the pilot, Delphi and synthesis of existing literature, suggest that some of the PPD outcomes of HPIPs happen in an environment characterised by low resources, low supervision but greater opportunities. Whilst further research is needed to evidence this effect and the potential for harm, it could indicate that learning on both international and

national placements could be enhanced by providing staff with less supervision, opportunities to have more responsibility or be innovative with low resources. One way of reducing the ethical implications of evidencing this relationship is by using a controlled environment. For example, in training simulations or problem-based learning exercises. This could happen in a controlled NHS environment by providing staff with greater opportunities to lead, take responsibility or solve problems within a safe structure and may still result in enhanced learning outcomes comparable to those reported on international placements. A similar model could also be used in a structured ethical placement within a LMIC, staff could be formally given real-life problems to solve autonomously; which they can then liaise with more knowledgeable others (MKO's) before implementing. This would simulate the cognitive processes that exemplify decision making, responsibility and problem solving, but with supervision before implementation to reduce any potential harm to patients. However, logistically such a model may be difficult to implement and ethical placements are relatively rare (310,324). Furthermore, in reality a model based purely on the learning needs of British staff could be in itself considered unethical and at odds with many of the altruistic motivations of many international trips.

11.3.3. Recommendations for employers: trusts, the NHS and Health Education England

Throughout the literature there are descriptions of particularly supportive organisations/trusts/employers and particularly dismissive ones when it comes HPIPs (25). This thesis adds to the emerging body of research that highlights the benefits of HPIPs in terms of PPD. Trusts should therefore encourage and enable staff to partake in international activity and recognise the educational value of international experience. This research adds to the growing body of evidence that suggests HPIPs are of benefit to the NHS due to the fact that staff develop skills, knowledge and attitudes that are in line ideal NHS future workforce, i.e. culturally sensitive, adaptive leaders (21,44,46,52,62,64).

This research and other research by the MOVE project has found that recognition and accreditation are considerable barriers for staff looking to undertake such work (276). If employers acknowledge the value of this work staff may feel confident and able to undertake it. It would also be beneficial to staff if HPIPs were acknowledged for their developmental outcomes, meaning staff would not have to use their own personal time (annual leave), to work in another environment. This is important as half of the sample in the pilot study used annual leave for their HPIPs.

This research mirrors other findings that international work is most commonly undertaken by medical, nursing and allied health professional staff (253). No support staff in this study had international experience, very few expressed interest. However, if this work does have benefits in non-clinical skills development for patient facing health professionals, then it is likely of benefit to the NHS as an organisation if support, administrative and infrastructural staff had equal opportunities to engage.

Exceptional trusts and employers could go beyond the essential and support staff on reintegration by introducing returner's schemes (e.g. GP returners scheme), only 7% of participants experienced this but they are described in the literature synthesised as a good way of re-introducing staff to the NHS, they are beneficial for patient safety and staff self-efficacy (19). Such schemes also allow staff to reintegrate and use their new experiences, knowledge and skills. 32% of staff in chapter 9 reported that the skills they developed were not relevant to their current NHS position. Employers should be open to innovation, particularly frugal innovation (innovation with low resources) as a way of saving the NHS money in a time of financial crisis (11).

11.3.4. Recommendations for volunteering projects and those responsible for sending volunteers

It is important that projects that send volunteers recognise the importance of measurement for evaluation, evidence and comparison. As such, I propose that projects that send British healthcare professionals overseas use the tool invariably in a within-participant manner (testing pre and post placement). Ideally, a pool of evidence regarding the benefits of HPIPs in LMIC would grow considerably in a short space of time. In line with Isba's argument of the importance of measuring learning environments for evaluation (118), any data collected could then be used for within-project evaluation purposes, but it would also allow for national pooling of data across projects to enable the mapping and understanding of interactions between PPD outcomes, costs and variables.

Results from the Delphi indicate that stakeholders believe costs (negative outcomes) can be mitigated. It is therefore recommended that projects look at ways to mediate or remove the negative outcomes, especially now there is a definitive list of potential outcomes that provides a framework or point of reference to assess risks. It is recommended that projects use the list and look at ways of addressing each one. It would also be useful if project

shared innovative ideas for reducing costs using the same medium as they share the PPD data collected using the tool. Ideas could be similarly shared about ways to maximise PPD.

11.3.5. Recommendations for health professionals with an interest in international placements

Throughout this thesis reflection is mentioned as key process during learning on international placements. Some authors in the systematic review describe the importance of formal reflection exercises for students, others describe the importance of informal reflection and comparison of environments (4,6,21,46). There is an argument in the literature that individuals should compare and contrast, using the LMIC environment as a platform of comparison for the home NHS environment (6,13,46). Theoretical papers regarding education theory, also propose that reflection is a key component of experiential and transformational learning on international placements (33,116,319). Whilst there were no metrics from the pilot to evidence the importance of reflection, the data in the meta-synthesis should be considered relevant and health professionals should continue to be informally reflective whilst working in LMICs.

There is also a notion in the literature reviewed that being open to new experiences and immersing oneself in the culture is imperative for learning. In fact, in one existing psychometric tool described in chapter 2, openness to new experiences is a domain (151). Individuals currently on international placements or looking to undertake them in the future should be open to new experiences. Some of the emerging relationships from the pilot data suggest that those who learnt the host language or copied local staff had higher domain scores than those who didn't; which is in line with previous literature as those who attempted to immerse themselves and navigate the new environment may have better outcomes. Until further data is gathered this would be the current recommendation.

Finally, in regards to the costs and barriers to HPIPs. This research shows that no costs are inevitable. It also shows there is great variance amongst the frequencies that the costs happen. I would therefore urge those looking for a host project to look at all available options and make a decision by engaging with past volunteers and looking at the opportunities available and potential risk factors. In terms of the actual financial costs, this research showed that there are many options for low-cost and free HPIPs, 23 % of participants paid more than £2000, but the remainder paid less. Therefore, I would urge staff to look for all funding options and also present evidence to their employers about the

PPD benefits of HPIPs, in an effort to reduce the number of staff that must use annual leave for HPIPs.

11.3.6. Recommendations for academics and researchers

As a result of thorough review and expert engagement, have developed a core outcome set (COS) of learning on international placements. I would encourage all future researchers to use this COS as a structure to base future research into HPIP PPD. If the outcomes measured always fell within this COS than comparison between individuals, projects and countries would be easier. The tool only measures 40 items and 10 domains so efforts should be made to find the best measurement methods for the remaining core outcomes. The existence of this COS does not imply that outcomes in a particular study should be restricted only to those in the COS. Rather, there is an expectation that the core outcomes will be collected and reported, making it easier for the results of trials to be compared. This would mean all work can be compared in future systematic reviews. This would eventually lead to more metrics and hopefully evidence of the benefits; which would be important in future policy created by trusts or Health Education England.

I would also recommend that academics and researchers use the tool widely on different participant groups and projects to develop a large collaborative data set. It would also be important that the tool is tested further psychometrically, in terms of validity and reliability.

11.3.7. Recommendations for policy makers

In order facilitate and enable the recommendations throughout this subsection it is important that all interested parties and stakeholders work collaboratively. I hope that this will happen in the remit of the Global Health Exchange (<http://www.globalhealthexchange.co.uk/>): a HEE body that looks to make global health placements more accessible to health professional staff and students. This is particularly relevant as HEE funded this research.

The tool has the potential to generate huge data sets and collation of all future data gathered using the tool would allow policy makers and future researchers to answer many of the outstanding questions. It would also allow for careful study of the factors that might affect learning so that placements can be developed to best facilitate learning. Furthermore it allows for analysis of specific learning components and specific variables, so researchers can look to answer very specific questions within the database generated through use of

the tool. For example if a researcher wanted to look at the effect of local supervision on team working, they could easily isolate this variable and outcome to analyse the moderating and mediating effect. However, in order for this to happen policy makers need to agree on a set of variables/demographic data to gather alongside the 40 item psychometric tool. A further hosting space, would need to exist to allow for collation of data generated from different health projects in LMICs around the world. For this to be successful buy-in from health professionals and sending organisations would be necessary.

11.4. Future research

Throughout the findings chapters within this thesis I have made suggestions about future research. If this thesis were to develop into a post-doctoral research project I would propose the following project. A large-scale pilot of the tool with a larger sample and more control of confounding variables. I would conduct a large-scale between-group comparison of 1000 returned volunteers, using a matched sample in terms of career stage and profession. I would then run a within-participant longitudinal pilot on 1000 health professional's first international placement. I would administer the pilot within 2 weeks of departure, in the middle of the placement and within 2 weeks of return. Each questionnaire would include the 40-item PPD tool with additional questions about the variables and costs from the meta-synthesis. I would also change the Likert scale to a 10-point with an expectation to increase variability in answers, reduce the ceiling effect and move towards a parametric data set that would allow for regression analysis in SPSS.

In addition to a large scale general test. There are a number of hypothesis, for which emerging evidence was presented in chapter 9. I consider the following hypothesis most important to test in future research, comparing the change in scores (pre to post-placement) of groups who reported different contextual factors:

- Does exposure to criticism in an LMIC increase 'difficult communication' scores?
- Does working in a resource-poor environment increase 'adaptability'?
- Does working with low level of supervision increase 'adapting communication' and 'behaviour change' in early-career staff in an LMIC?
- Does learning the host language on a HPIP increase 'adaptability', 'confidence' and 'behaviour change'?

- Does interacting with more patients in an LMIC increase ‘Team Work’, ‘Confidence’ and ‘Difficult Communication’?

11.5. Conclusion

The assessment of the outcomes of international placements for UK healthcare professionals is desirable because understanding if and in what circumstances placements are beneficial to the individual. Furthermore, their employers would garner support for more volunteering. Quantitative measurement provides a way of assessing outcomes which allows for comparison between different placements so that the features of placements that are likely to improve outcomes can be understood and placements selected or improved accordingly. In This thesis I presented a core outcome set of 116 benefits of international Placements for healthcare professionals of any cadre in the UK; which was created from a meta-synthesis of literature and a Delphi study with experts. I also created the first list of variables of placements which were suggested by literature to influence the learning on placements. The outcome set was outcomes that were granular enough to be self-assessed by volunteers. I then developed, piloted and refined a 40-item measure using psychometric techniques. Comparison of scores on the tool with placement variables revealed that there is generally a longitudinal increase in scores across the domains after an international placement. This tool will enable future research to compare placement variables with their outcomes and its use has already been planned by Health Education England.

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13. Appendix

Appendix 1: Systematic review search criteria

<u>Cost/Benefit</u>	<u>What</u>	<u>Who</u>	<u>Where (Home)</u>	<u>Where (Away)</u>
Impact	“Health Link”	Doctor	UK	Overseas
Impacts	“Health Links”	Doctors	“United Kingdom”	Foreign
Benefit	“Health Partnership”	Nurse	Britain	International
Benefits	“Health Partnerships”	Nurses	England	“Low Income Countries”
Cost	‘International Placement’	“Health Professional”	Scotland	“Low Income Country”
Costs	‘overseas placement’	“Health Professionals”	Wales	“Lower Middle Income Countries”
Outcome	volunteering	University	“Northern Ireland”	“Lower Middle Income Country”
Outcomes	Volunteer	Universities	British	“Developing Countries”
Evaluate	Placement	Hospital	English	“Developing Country”
Evaluation	volunteers	Hospitals	Scottish	“Global South”
Evaluations	Placements	“Health Institution”	Welsh	Africa
<i>‘Moderating variable*’</i>	‘overseas placements’	“Health Institutions”	“Northern Irish”	Asia
<i>‘Mediating variable*’</i>	‘international placements’	NHS		“South America”
<i>‘Influential factor*’</i>	“gap year”	Medical		
<i>Factor</i>	“voluntary work”	Midwife		
<i>Variable</i>	“volunteer project”	Physiotherapy		
<i>Factors</i>		biomedical		
<i>Variables</i>		Pharmacy		
context		Therapist		
		Radiographer		
		radiography		
		Therapy		
		pharmacist		
		Podiatry		
		practitioner		
		Audiology		
		Orthotist		
		“healthcare scientists”		
		Dentists		
		Dentist		

		“nhs admin”		
		“nhs managers”		
		“nhs leaders”		
		“clinical Psychology”		
		Dental		
		“operating department”		
		“pharmacy technicians”		
		“health visitor”		
		“clinical support”		
		“healthcare worker”		
		healthcare		
		“clinical psychologist”		
		podiatrist		

(impact OR impacts OR benefit OR benefits OR cost OR costs OR outcome OR outcomes OR evaluation OR evaluate OR evaluations OR "moderating variable" OR "moderating variables" OR "mediating variable" OR "influential factor" OR "influential factors" OR factor OR factors OR variable OR variables OR context) AND ("health link" OR "health links" OR "health partnership" OR "health partnerships" OR "international placement" OR "international placements" OR "overseas placement" OR "overseas placements" OR "international volunteer" OR volunteer OR placement OR “gap year” OR “voluntary work” OR “voluntary project”) AND (doctor OR doctors OR nurse OR nurses OR "health professional" OR "health professionals" OR university OR universities OR hospital OR hospitals OR "health institution" OR "health institutions" OR nhs OR biomedical OR pharmacist OR pharmacists OR medical OR midwife OR midwives OR physiotherapist OR physiotherapy OR therapist OR Therapy OR Radiographer OR Radiography OR Podiatry OR Podiatrist OR practitioner OR audiologist OR audiology OR Orthotic OR prosthetics OR “healthcare scientist” OR Dentist OR Dental OR “NHS admin” OR “NHS manager” OR “NHS leader” OR “clinical psychology” OR “clinical psychologist” OR “operating department” OR “pharmacy technician” OR “health visitor” OR “clinical support” OR “healthcare worker” OR healthcare) AND (UK OR united kingdom OR britain OR england OR scotland OR wales OR "northern ireland" OR british OR english OR welsh OR scottish OR "northern irish") AND (overseas OR foreign OR international OR "low income country" OR "low income countries" OR "lower middle income country" OR "lower middle income countries" OR "developing country" OR "developing countries" OR "global south" OR Africa OR asia OR “south America”)

<u>Database</u>	<u>Number of hits</u>	<u>Number relevant</u>	<u>Date of Search</u>	<u>Other info</u>
Medline (Pubmed)	54		1/9/14	Activated field title/abstract
Cochrane Economic Evaluations	12 from trials, 0 from economic evaluations			Searched title, abstract and keywords None relevant have not included database

Health Management Information Consortium	0			Was 0 in Jones article too
Health Business Elite	45			Searched EBSCO for abstracts only (unable to access specific databases but hosted by EBSCO)
Scopus	488			Limited to UK as country and health professionals
Web of Knowledge (science)	314			Searched Topic field
PsychINFO	0			Was 0 in Jones article too
CINAHL	45			
AMED	0			Was 0 in Jones article too
International Bibliography of Social Sciences, Social Services Abstracts and Sociological Abstracts	6			Only searched Abstracts
Global Health	45			Searched EBSCO for abstracts only (unable to access specific databases but hosted by EBSCO)
JSTOR				Saying search criteria too long

Appendix 2: Benzie's Level of Evidence Table (251)

<u>Level of Evidence</u>	<u>Description</u>
Level I	Based on randomized, controlled trials (or meta-analysis of such trials) of adequate size to ensure a low risk of incorporating false-positive or false-negative results
Level II	Based on randomized, controlled trials that are too small to provide Level I evidence. These may show either positive trends that are not statistically significant or no trends and are associated with a high risk of false-negative results
Level III	Based on non-randomized, controlled or cohort studies, case series, case controlled studies, or cross-sectional studies
Level IV	Based on the opinion of respected authorities or that of an expert committee as indicated in published consensus conferences or guidelines
Level V (a)	Based on the opinion of those individuals who have knowledge in one particular field and are

<u>Level of Evidence</u>	<u>Description</u>
	applying that knowledge to another field; or summarizes the collective wisdom or experiences of others in the field
Level V (b)	Based on the opinion of those individuals who have written and reviewed the guidelines, based on their experience, knowledge of the relevant literature, and discussion with their peers

Appendix 3: Full Table of Delphi Results: percentage of consensus, whether the consensus was positive (should be a core outcome) or negative (should not be) and the overall rank in terms of stakeholder agreement

Statement	Percentage consensus	Consensus Type	Rank
INCREASED AWARENESS OF/KNOWLEDGE ABOUT CULTURAL DIFFERENCES AND SIMILARITIES (e.g., understanding key issues within a culture, culturally acceptable behaviour and cultures of UK immigrants, learning about, accepting and changing assumptions about other cultures)	100	+	1
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE CULTURAL ASPECTS OF HEALTH (e.g., greater understanding of health promotion, how culture affects daily life and professional work, cultural differences in health, the effects of politics on health, sustainable healthcare)	100	+	1
ABILITY TO WORK WITH LIMITED RESOURCES (e.g., being more resourceful, ability to target resources, ability to find solutions despite limited resources, making use of everything available, ability to work without reliance on technology, manage in a low resource setting)	95	+	3
INCREASED AWARENESS OF/KNOWLEDGE ABOUT CULTURE IN PRACTICAL ASSESSMENTS (e.g., the importance of collecting relevant cultural information about people's presenting health problems and learning how to conduct cultural assessments and culturally based physical assessments)	93	+	4
ABILITY TO APPLY CLINICAL SKILLS TO ANOTHER CONTEXT (e.g., a more challenging environment or a low resource setting)	93	+	4
ABILITY TO BE ADAPTABLE AND INNOVATIVE IN TEACHING (e.g., ability to transfer skills and knowledge to the most influential people or to another context, recognising different learning styles, being adaptable in assessment)	93	+	4
INCREASED AWARENESS OF/KNOWLEDGE ABOUT HOW OTHER HEALTHCARE SYSTEMS FUNCTION (e.g., developed insight into disparities within healthcare systems, understanding of other systems)	93	+	4
ABILITY TO COPE (e.g., improved coping strategies, ability to deal with lack of structure, knock backs and stress, being unfazed by things and taking things in stride, new approach to guilt for patients problems)	93	+	4
INCREASED CULTURAL SENSITIVITY (e.g., sensitivity to reasoning behind cultural differences, feelings of minority and language barriers)	91	+	9
UNDERSTANDING THAT WORDS AND BEHAVIOURS CAN HAVE DIFFERENT MEANINGS (e.g., understanding how words are perceived by others, understanding how to speak and behave so as not offend people)	91	+	9
ABILITY TO APPLY KNOWLEDGE ACROSS SYSTEMS (e.g., ability to apply knowledge from host system to UK and vice versa, using knowledge gained in system to improve/change another)	91	+	9
DEVELOPMENT OF A NEW PERSPECTIVE (e.g., revising assumptions, seeing things differently, changed world views and outlook, look at everything in a new light, openness to new experiences, put things into perspective)	91	+	9
IMPROVED FLEXIBILITY AND ADAPTABILITY (e.g., acceptance of other ways of working, adaptation to responsibility, being able to adapt more easily to unfamiliar situations, able to cope more easily with change, gaining a wider perspective, understanding the flexibility of roles)	91	+	9
ABILITY TO BE INNOVATE WHEN OVERCOMING CHALLENGES (i.e., finding unique ways of overcoming cultural and language challenges)	91	+	9

INCREASED RESPECT FOR OTHER CULTURES	90	+	15
INCREASED UNDERSTANDING OF BASIC SKILLS AND IDEAS (i.e., back to basics, e.g., basic observations using eyes, less reliance on lab tests and technology, basic clinical skills and science)	90	+	15
CONFIDENCE IN TEACHING ABILITY (e.g., being more comfortable around others, confidence public speaking, confidence in transferring knowledge)	90	+	15
IMPROVED CONFIDENCE (e.g., in caring for clients from another culture, in quality improvement methods, to take bolder steps, to address challenging situations, self-confidence, confidence in professional ability,)	90	+	15
CONFIDENCE TO WORK IN OTHER LOCATIONS (e.g., confidence to move to another city/country, working with UK multicultural/ underserved populations)	89	+	19
INCREASED AWARENESS OF/KNOWLEDGE ABOUT GLOBAL ISSUES (e.g., re-evaluating world issues, shared purpose)	88	+	20
INCREASED AWARENESS OF/KNOWLEDGE ABOUT CONDITIONS AND PROCEDURES RARELY ENCOUNTERED IN THE UK (e.g., greater understanding of procedures not used in the UK, unfamiliar equipment and delayed presentations, better management of conditions that are not common in the UK)	88	+	20
INCREASED AWARENESS OF/KNOWLEDGE ABOUT TROPICAL DISEASES	88	+	20
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF MUTUAL LEARNING AND RESPECT (i.e., greater understanding of reciprocal learning)	88	+	20
ABILITY TO BE ADAPTABLE IN LEADING (e.g., able to lead in complex novel situations, ability to compromise not dictate)	88	+	20
ABILITY TO WORK WITHIN A SYSTEM WITH UNFAMILIAR POWER DYNAMICS	88	+	20
ABILITY TO ADAPT SOCIAL NORMS TO MEET NEEDS OF ANOTHER CULTURE (e.g., change behaviours to fit into another culture, being aware of own social norms and adapting them)	88	+	20
ABILITY TO EXCHANGE IDEAS WITH THOSE FROM ANOTHER CULTURE	88	+	20
INCREASED SELF-AWARENESS (e.g., understanding own skills and limitations, how to challenge own beliefs and importance of reflecting on own situation)	88	+	20
PATIENCE AND TOLERANCE (e.g., accepting and working at other peoples pace, more tolerant)	88	+	20
PROACTIVITY (e.g., thinking on feet, using initiative, efficiency, get on with things rather than look for someone to blame)	88	+	20
ABILITY TO WORK WITH RESOURCES AVAILABLE IN SPECIFIC CONTEXTS (i.e., understanding the reasons behind lack of resources)	88	+	20
ABILITY TO WORK TOWARDS SOLUTIONS (e.g., solution focused approach)	88	+	20
UNDERSTANDING THAT SPEED AND LANGUAGE COMPETENCY AFFECT COMMUNICATION (e.g., awareness of how speed affects comprehension, understanding language differences and checking recipient comprehension, ability to use an interpreter)	86	+	33
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF COMMUNITY PARTICIPATION IN HEALTH (e.g., understanding the community and social influences on health, the role of the community in health, public health and the importance of community work)	86	+	33
ABILITY TO USE A BROADER RANGE OF CLINICAL SKILLS (e.g., enhancing existing skills and acquiring new clinical skills, greater all round competence)	86	+	33
UNDERSTANDING THAT CHANGING BEHAVIOUR IS COMPLEX (e.g., understanding how to make small changes and not to force your perspective onto others,)	86	+	33
ABILITY TO IMPROVE SERVICE (e.g., renewed enthusiasm for service improvement)	86	+	33
INCREASED STAFF KNOWLEDGE AND SKILLS (e.g., increased staff knowledge of low cost healthcare, more knowledgeable staff able to cover more areas, to discover better ways of doing things and more aware of waste reduction)	86	+	33
INCREASED AWARENESS OF/KNOWLEDGE ABOUT HOW CONTEXT AFFECTS COMMUNICATION (e.g., effectively conveying ideas in a contextually appropriate way)	84	+	39

INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE NEED FOR AND IMPORTANCE OF TRAINING (i.e., understanding how important effective training is in)	84	+	39
IMPROVEMENT IN TEACHING SKILLS (e.g., learning new techniques, greater training delivery skills, lecturing skills and small group teaching skills)	84	+	39
ABILITY TO DEAL WITH THE UNEXPECTED	84	+	39
ABILITY TO MANAGE PROJECTS	84	+	99
DEEPER ENGAGEMENT WITH ISSUES OF EQUALITY AND DIVERSITY	83	+	43
ABILITY TO OVERCOME COMMUNICATION CHALLENGES (e.g., ability to communicate effectively in high pressure situations, engage in challenging conversations and liaise between groups)	83	+	43
ABILITY TO BE INNOVATIVE WITH CLINICAL SKILLS (e.g., use of innovative techniques, finding new ways to approach a condition, new ways of working)	83	+	43
APPRECIATION OF HAVING THE RIGHT TOOLS AND EQUIPMENT TO BE ABLE TO DO THE JOB (i.e., resources: technical equipment, disposal equipment, cleaning products and protective equipment)	83	+	43
APPRECIATION OF EXCELLENT HUMAN RESOURCE IN THE NHS (e.g., multidisciplinary teams, HR structures, appreciation of own profession, understanding hierarchy and the importance of each person within it)	83	+	43
IMPROVED EMOTIONAL INTELLIGENCE (e.g., changed engagement with self, knowledge and world)	83	+	43
ABILITY TO IDENTIFY AND ANTICIPATE POTENTIAL PROBLEMS (e.g., identify problems when setting up a new project)	83	+	43
INCREASED AWARENESS OF/KNOWLEDGE ABOUT APPROPRIATE CLINICAL BEHAVIOUR (e.g., knowing when to stop and when to move forward, when to ask for help and different populations needs)	82	+	50
ABILITY TO MAKE INDEPENDENT CLINICAL DECISIONS (e.g., ability to make an urgent decision in an emergency, dealing with uncertain outcomes, evaluating risks to patients and self)	81	+	51
UNDERSTANDING OWN POTENTIAL TO EMPOWER PEOPLE	81	+	51
ABILITY TO WORK AS PART OF A TEAM (e.g., understanding team group norms, perception of roles within the group, managing personal objectives within a group)	81	+	51
ABILITY TO BUILD A GLOBAL NETWORK	81	+	51
ABILITY TO DISSEMINATION BEST PRACTICE GLOBALLY	81	+	51
APPRECIATION OF FREE UNIVERSAL HEALTH (e.g., the NHS system of free healthcare for all, privilege and opportunity, the expectations that are placed on NHS by service users)	81	+	51
IMPROVED SITUATIONAL AWARENESS (i.e., understanding your environment so you can understand what to do)	81	+	51
INCREASED JOB SATISFACTION (e.g., increased motivation and morale within profession, renewed passion for work, sense of reward)	81	+	51
PERSONAL SATISFACTION (e.g., personal achievements and challenges, new experiences, experiencing a different lifestyle, a holiday, appreciation of own life, personal fulfilment)	81	+	51
CAN-DO ATTITUDE	81	+	100
ABILITY TO PROVIDE BETTER CARE (e.g., ability to integrate primary and secondary care, to provide multicultural care, to develop most effective approaches to care and taking responsibility for providing quality of care)	79	+	60
ABILITY TO CO-OPERATE (e.g., willingness to see another point of view)	79	+	60
APPRECIATION OF CLINICAL GOVERNANCE PROCEDURES WITHIN NHS (e.g., waste disposal, audit, teamwork, education system, tests and investigations)	79	+	60

APPRECIATION OF THE IMPORTANCE OF CARE AND COMPASSION (e.g., ability to compare compassion in both systems, empathy and fairness)	79	+	60
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE POSITIVE IMPACT OF CLINICAL POLICIES AND GOVERNANCE (e.g., understanding the benefits of a comprehensive checklist)	78	+	101
INCREASED AWARENESS OF/KNOWLEDGE ABOUT ETHICS (i.e., experiencing ethical dilemmas, understanding the importance of ethics)	78	+	64
CHANGED PERCEPTION OF OTHERNESS (e.g., understanding importance of being a friendly stranger in UK, feeling like a foreigner)	78	+	64
INTEGRITY	78	+	64
INDEPENDENCE (e.g., lone working)	78	+	64
ABILITY TO PLAN AND ORGANISE (e.g., ability to set direction, improved audit skills)	78	+	64
ABILITY TO MAKE DECISIONS (e.g., understanding who the decision is for, taking action on decision, making judgements)	78	+	64
ABILITY TO MANAGE RISK (e.g., manage risk in advance, evaluation of environment, understanding the clinical importance of risk management and the wider implication of poorly managed risk)	78	+	64
INCREASED PATIENT SATISFACTION (e.g., staff better able to respond to UK multicultural populations, staff able to compare how systems affect patient satisfaction, have greater relationships with multicultural population, more in tune with patients and more aware of individual needs of patients).	77	+	71
ABILITY TO COMMUNICATE NON-VERBALLY	76	+	72
ABILITY TO ESTABLISH COMMUNICATION SYSTEMS (e.g., formal and informal)	76	+	102
INCREASED CLINICAL KNOWLEDGE IN RELATION TO OTHER PROFESSIONS (e.g., doctors understanding nurses and vice versa, multi-disciplinary awareness)	76	+	102
ABILITY TO GET THE MOST OUT OF PEOPLE (e.g., encouraging people to work together, recognise their own strengths and to take possession of their own work/projects, ability to assess the capability of others)	76	+	72
ABILITY TO MANAGE PEOPLE (e.g., able to allocate tasks and co-ordinate people, to deal with people with differing objectives, to negotiate with multiple stakeholders, to manage difficult people)	76	+	72
ABILITY TO DEVELOP FRIENDSHIPS (e.g., relationship formation skills, developing new friendships)	76	+	72
ABILITY TO MANAGE SELF (e.g., own expectations, self-reliance, self-management, self-assurance, reflexivity)	76	+	72
CHANGED JUDGEMENT (e.g., non-judgemental attitude, changed self-judgement)	76	+	72
DIPLOMACY	76	+	72
ABILITY TO FIND FACTS TO SOLVE PROBLEMS	76	+	72
DEVELOPING REDUNDANT OR BAD SKILLS/ATTITUDES (e.g., developing non-transferable skills, bad habits, deskilling, returning with overconfidence in own ability, poorer communication skills, loss of confidence)	76	-	102
FINANCIAL LOSS (e.g., costs of getting involved, loss of earnings, pension or employment entitlement)	76	+	112
REDUCTION IN NHS DROP OUTS (e.g., increased staff retention, when they volunteer and come back to NHS)	75	+	105
ABILITY TO OBSERVE AND EXAMINE PATIENTS (e.g., increased intuitive knowledge of clinical signs and clinical judgement ability to make diagnosis without investigations)	74	+	80
ABILITY TO WORK IN A PROFESSIONALLY COMPETENT WAY (e.g., having wider view of profession, intellectual development, reminder of professional responsibilities, stronger work ethic)	74	+	80

INCREASED UNDERSTANDING OF HOW TO BE A GOOD TEACHER (e.g., allowing students to learn from mistakes, ability to suggest and acknowledge improvements in teaching, understanding how communication affects learning, how to target training most effectively and the importance of experiential learning)	74	+	80
ACT AS A ROLE MODEL (e.g., lead by example)	74	+	80
INFLUENCES CAREER PATHWAY (i.e., affects specialism choice, exploration of potential career pathways, pursuing careers in primary care, family practice, public service, sub-specialism in global health, teaching)	74	+	80
ABILITY TO MANAGE TIME AND PRIORITISE (e.g., ability to respond quickly in an emergency, managing immediate need vs long term need, prioritisation of limited resources)	74	+	80
INCREASED ABILITY TO CHANGE BEHAVIOUR IN COLLEAGUES OR PATIENTS (e.g., ability to implement behaviour change and to assess the impact of healthcare systems)	73	+	113
ABILITY TO MANAGE TRAGEDIES	73	+	106
EXPOSURE TO ETHICAL DILEMMAS (e.g., expected to work outside of competency, to do clinical work, little regulation, little supervision, too much responsibility)	73	+	106
REDUCTION IN STAFF COMPETENCE (e.g., brain drain reversal: NHS loss of competent staff to overseas placements, staff unable to cope with paperwork on return)	73	-	113
NO RECOGNITION OR ACCREDITATION UPON RETURN	73	+	113
INCREASED INTERNATIONAL REPUTATION OF NHS (e.g., greater fulfilment of social responsibility)	73	+	86
INCREASED INTERNATIONAL REPUTATION (of UK)	73	+	106
ABILITY TO VERBALISE KNOWLEDGE (e.g., ability to verbalise core concepts and deep knowledge, ability to explain complex ideas to others)	72	+	87
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF TRUST BETWEEN COLLEAGUES WITHIN HEALTHCARE SYSTEMS	72	+	87
INCREASED AWARENESS OF AND KNOWLEDGE THE FUNCTIONING OF SYSTEMS (e.g., able to identify stakeholders and change agents, understanding influencing patterns of those in power, value systems and the difficulty of questioning organisations)	72	+	87
REFRESHMENT AND REINVIGORATION (e.g., chance to take time away to become refreshed and feel reinvigorated to work upon return)	72	+	87
ABILITY TO MANAGE HEALTHCARE ENVIRONMENTS (e.g., ability to manage wards and staff)	71	+	91
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF CONSCIOUSLY MAKING AN EFFORT TO GET ON WITH COLLEAGUES (e.g., learning colleague's names)	71	+	109
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE COSTS OF HEALTHCARE	71	+	91
ABILITY TO ACCEPT AND UNDERSTAND FAILURE (e.g., to continue with something that did not have desired outcome at first, learning to accept failure, thinking differently about failure, persistence)	71	+	91
HUMILITY (including professional humility)	71	+	91
ABILITY TO THINK THROUGH PROBLEMS IN A LOGICAL WAY (e.g., analytical/lateral thinking)	71	+	91
ABILITY TO ENGAGE SENIOR PEOPLE	70	+	96
HEALTH CONSEQUENCES (e.g., animal bites, tropical diseases, STD's, injuries and transport accidents, infection, jet lag, skin disease)	70	+	96
EXTREME NATIONALISM TOWARDS UK	70	-	110
LOSS OF INTEREST IN PROFESSION (e.g., not wanting to work in your profession when home)	70	-	114

NHS BECOMES A MORE ATTRACTIVE EMPLOYER (e.g., an employer that offers staff the opportunity to volunteer)	70	+	96
INCREASED WORKFORCE PRODUCTIVITY	70	+	110
REINFORCED ETHNIC AND CULTURAL IDENTITY (e.g., understanding of own ethic and cultural identity)	0	+	
ABILITY TO LISTEN	0	+	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF ASSESSING HEALTHCARE ON AN INDIVIDUAL BASIS (i.e. the uniqueness of each patient)	0	+	
ABILITY TO APPLY EVIDENCE BASED PRACTICE (e.g., understanding its importance (sometimes through being unable to apply it overseas), understanding how to apply it innovatively with limited resources)	0	+	
ABILITY TO GIVE AND ACCEPT PRAISE	0	+	
ABILITY TO ENCOURAGE OTHERS TO TAKE RESPONSIBILITY FOR OWN HEALTH	0	+	
ABILITY TO SPEAK THE HOST LANGUAGE	0	+	
ABILITY TO CHALLENGE BREACHES OF PRIVACY AND CONFIDENTIALITY (e.g., ability to stand up for patients/people's rights if they are jeopardised, increased awareness of human rights, ability to respect regulatory standards of home and overseas regulatory bodies)	0	+	
AN UPPER HAND WHEN COMPETING FOR CAREERS	0	+	
SPIRITUAL DEVELOPMENT	0	+	
ESCAPISM (e.g., freedom from bureaucracy, space outside of regular routine to clarify objectives, escape from agendas and workload, a chance to take time out of training and practice)	0	+	
IMPROVED RESEARCH SKILLS (e.g., grant application skills, research design and implementation)	0	+	
ABILITY TO PRESENT WORK	0	+	
ABILITY TO WRITE REPORTS AND ACADEMIC PIECES	0	+	
COSTS TO BRITISH PATIENTS (e.g., staff desensitised, staff less tolerant and patient, staff bringing tropical illnesses to UK)	0	+	
LOSS OF TRAINED STAFF (e.g., utilisation of key staff time, financial cost of losing staff, having to find cover for staff)	0	+	
NEGATIVE PERCEPTIONS OF NHS (e.g., NHS reputation jeopardised if a health link is badly organised)	0	+	
DISTRACTED STAFF (e.g., staff going on international placements coming back disengaged with UK work and pre-occupied)	0	+	
DIFFICULTY GETTING THE JOB OR TRAINING POSITION THAT YOU WANT UPON RETURN (e.g., returning to work in a locum position, not having a permanent job upon return)	0	+	
REDUCED EXPERIENCE AND EXPOSURE TO UK PROCEDURES, PROTOCOLS AND RESEARCH (e.g., NHS procedures that don't exist in host country, missing out on formal training and conferences, chronic disease management over time, health conditions that are common in UK and not in host country, NHS protocol and updates, loss of professional networks and relationships)	0	+	
AFFECTS PROFESSIONAL PROGRESSION (e.g., lengthens training, less time to prepare for exams, time for professional readjustment upon return, career suicide, loss of partnerships)	0	+	
NEGATIVE COLLEAGUE PERCEPTIONS (e.g., colleagues think its a holiday, colleagues have to cover)	0	+	
USE OF TIME (e.g., using annual leave to spend time on international placements, physically spending time on placements that could be spent in another way)	0	+	
PROFESSIONAL REVALIDATION ISSUES (e.g., gaps in consultants portfolio)	0	+	

LITIGATION (e.g., legal issues involving clinical/professional risk)	0	+
SECURITY (e.g., exposure to aggression, violence and death, becoming a victim of crime, political unrest)	0	+
CARBON FOOTPRINT	0	+
CULTURE SHOCK	0	+
ENVIRONMENTAL AND INFRASTRUCTURAL RISK (e.g., being in dangerous infrastructures and environments)	0	+
EXPERIENCING NEGATIVE FEELINGS (e.g., feeling as though imposing on UK colleagues to provide cover, feeling failure, feeling out of depth, frustration, guilt and regret about death)	0	+
PSYCHOLOGICAL CONSEQUENCES (e.g., depression, anxiety, stress, traumatisation and nervousness)	0	+
COMPROMISES OF HEALTH AND SAFETY	0	+
EXHAUSTION AND BURN OUT	0	+
LONELINESS (e.g., lone working, isolation, social isolation, no or few friends in host country)	0	+
MISSING THINGS AT HOME (e.g., missing home comforts, missing life in the UK, time away from family and friends)	0	+
LOSS OF INTEREST IN GLOBAL HEALTH AND INTERNATIONAL PLACEMENTS (e.g., not wanting to do it again, negative perceptions)	0	+
SOCIO-CULTURAL RISK (e.g., corruption, local resistance to western influence)	0	+
BECOMING JUDGEMENTAL	0	+
NEGATIVE FEELINGS TOWARDS THE NHS (e.g., questioning NHS, questioning the disposable culture of NHS, having a different system to compare to NHS)	0	+
MEDICAL SCHOOL MORE ATTRACTIVE TO STUDENTS (e.g., if allows students to go abroad)	0	+

Appendix 4: Descriptive Statistics for Each Statement in the Delphi across the three rounds

KEY

Low- Number of stakeholders who disagreed with this statement

Med- Number of participants who gave a medium score

High- Number of participant who agreed with this statement

IK- Number who reported having insufficient knowledge

Min- Minimum score recorded

Max- Maximum score recorded

IQR 25-25% Interquartile Range

IQR75- 75% Interquartile Range

SA- number of participants who strongly agreed

SD- number of Participants who strongly disagreed

	Round 1 (n=58)										Round 2 (n=49)								Round 3 (n=45)										
	Low	Med	High	IK	Median	Min	Max	IQR 25	IQR 75	SA	SD	Low	Med	High	IK	median	min	max	25 IQR	75 IQR	Low	Med	High	IK	Median	Min	Max	IQR 25	IQR 75
Increased awareness of/knowledge about cultural differences and similarities	0	0	58	0	7	5	7	6	7	36	0																		
Increased awareness of/knowledge about the cultural aspects of health	0	0	58	0	7	5	7	5	7	30	0																		
Increased awareness of/knowledge about global issues	3	4	51	0	6	2	7	5	7	18	0																		
Increased awareness of/knowledge about culture in practical assessments	1	3	54	0	6	1	7	5	7	21	1																		
Deeper engagement with issues of equality and diversity	3	7	48	0	6	3	7	5	6	13	0																		
Reinforced ethnic and cultural identity	17	14	26	1	4	1	7	3	6	4	1	18	18	12	1	4	1	7	3	4	17	13	15	0	4	1	7	2.5	5
Increased respect for other cultures	3	3	52	0	6	3	7	5	7	21	0																		
Increased cultural sensitivity	2	3	53	0	6	2	7	6	7	21	0																		
Understanding that speed and language competency affect communication	2	6	50	0	6	1	7	5	7	16	1																		
Understanding that words and behaviours can have different meanings	1	4	53	0	6	3	7	4	7	21	0																		
Increased awareness of/knowledge about how context affects communication	4	5	49	0	6	2	7	5	6	11	0																		
Ability to overcome communication challenges	3	7	48	0	6	2	7	5	7	15	0																		
Ability to engage senior people	8	9	40	1	5	1	7	4	6	9	2																		
Ability to communicate non-verbally	5	9	44	0	5	2	7	4.75	7	15	0																		
Ability to listen	6	13	39	0	6	1	7	4	6.25	14	1	12	3	34	0	5	1	7	3.5	6	15	3	27	0	5	1	7	3	5.5
Ability to verbalise knowledge	7	9	42	0	5.5	1	7	4	6	9	1																		
Ability to establish communication systems	4	14	40	0	5	2	7	4	6	13	0	6	6	37	0	5	1	7	4.5	6									

Increased awareness of/knowledge about conditions and procedures rarely encountered in the UK	3	4	51	0	6	2	7	5	7	28	0																														
Increased awareness of/knowledge about the importance of assessing healthcare on an individual basis	8	16	34	0	5	2	7	4	6	12	0	12	8	29	0	5	2	7	3.5	6	11	7	27	0	5	1	7	3.5	5												
Increased awareness of/knowledge about the importance of community participation in health	4	4	50	0	6	2	7	5	7	23	0																														
Increased understanding of basic skills and ideas	3	3	52	0	6	3	7	4	7	24	0																														
Increased clinical knowledge in relation to other professions	6	13	39	0	6	1	7	4	7	15	1	9	3	37	0	6	2	7	4.5	6																					
Increased awareness of/knowledge about the positive impact of clinical policies and governance	7	11	40	0	6	1	7	4	6	13	1	6	5	38	0	6	2	7	5	6																					
Increased awareness of/knowledge about tropical diseases	4	3	51	0	6	2	7	5	7	20	2																														
Increased awareness of/knowledge about appropriate clinical behaviour	5	5	47	1	5	1	7	5	7	16	2																														
Ability to apply evidence based practice	13	11	34	0	5.5	1	7	4	6	13	1	16	5	28	0	5	1	7	3	6	11	6	28	0	5	1	7	3.5	5												
Ability to observe and examine patients	11	4	43	0	6	1	7	4	7	15	1																														
Ability to be innovative with clinical skills	7	3	48	0	6	2	7	5	7	23	0																														
Ability to use a broader range of clinical skills	3	5	50	0	6	2	7	5	7	17	0																														
Ability to apply clinical skills to another context	2	2	54	0	6	2	7	5	7	25	0																														
Ability to make independent clinical decisions	4	7	47	0	6	3	7	5	7	2	0																														
Ability to work in a professionally competent way	6	9	43	0	5	2	7	4	6	12	0																														
Increased awareness of/knowledge about the importance of mutual learning and respect	4	3	51	0	6	2	7	5	7	16	0																														
Increased understanding of how to be a good teacher	7	8	42	1	6	2	7	4	7	16	0																														
Increased awareness of/knowledge about the need for and importance of training	6	3	49	0	6	2	7	5	7	16	0																														

Improvement in teaching skills	4	5	49	0	6	2	7	5	6	13	0																		
Ability to be adaptable and innovative in teaching	4	0	54	0	6	2	7	5	6.25	14	0																		
Confidence in teaching ability	4	2	52	0	6	2	7	5	6	9	0																		
Increased awareness of/knowledge about the importance of consciously making an effort to get on with colleagues	11	11	36	0	5	1	7	4	6	10	1	10	4	35	0	5	2	7	4	6									
Understanding own potential to empower people	3	8	47	0	6	2	7	5	6	13	1																		
Increased awareness of/knowledge about the importance of trust between colleagues within healthcare systems	5	11	42	0	5	2	7	4	6	13	0																		
Ability to get the most out of people	8	6	44	0	5	2	7	4.75	6	11	0																		
Ability to be adaptable in leading	3	4	51	0	6	2	7	5	7	17	0																		
Ability to manage healthcare environments	10	7	41	0	5	2	7	4	6	11	0																		
Ability to manage people	5	9	44	0	5	1	7	4.75	6	9	1																		
Ability to work within a system with unfamiliar power dynamics	4	3	51	0	6	2	7	5	7	19	0																		
Ability to co-operate	7	5	46	0	6	2	7	5	7	19	0																		
Ability to work as part of a team	5	6	47	0	6	1	7	5	7	16	2																		
Ability to develop friendships	10	4	44	0	5	1	7	4.75	7	16	2																		
Ability to build a global network	8	3	46	0	6	1	7	5	7	18	2																		
Ability to dissemination best practice globally	6	5	46	0	5	1	7	5	6	12	1																		
Ability to give and accept praise	10	16	31	0	5	1	7	4	6	11	2	13	10	26	0	5	1	7	3	5	15	6	24	0	5	1	7	3	5
Ability to adapt social norms to meet needs of another culture	3	4	51	0	6	1	7	5	7	16	1																		
Ability to encourage others to take responsibility for own health	14	16	27	1	4	1	7	3.5	6	9	1	13	12	23	1	4	2	7	3	6	13	12	20	0	4	2	7	3	5
Ability to exchange ideas with those from another culture	4	3	51	0	6	2	7	5	7	20	0																		
Act as a role model	7	8	43	0	5.5	2	7	4	6	13	0																		

																											7	5		
Refreshment and reinvigoration	8	8	42	0	6	2	7	4	6	13	0																			
Personal satisfaction	4	7	47	0	6	2	7	5	7	18	0																			
Development of a new perspective	2	3	53	0	6	2	7	5	7	20	0																			
Escapism	17	10	31	0	5	1	7	3	6	10	7	14	7	27	1	5	1	7	3	6	11	4	30	0	5	1	7	3	5	5
Changed perception of otherness	6	7	45	0	5	5	1	7	5	7	15	2																		
Appreciation of the importance of care and compassion	6	6	46	0	6	2	7	5	7	17	0																			
Improved emotional intelligence	4	6	48	0	6	2	7	5	6	11	0																			
Improved flexibility and adaptability	2	3	53	0	6	2	7	5	7	17	0																			
Improved confidence	2	4	52	0	6	2	7	5	7	20	0																			
Patience and tolerance	4	3	51	0	6	1	7	5	6	12	1																			
Proactivity	2	5	51	0	6	2	7	5	7	18	0																			
Changed judgement	6	8	44	0	5	2	7	4	7	10	0																			
Can-do attitude	5	13	40	0	5	2	7	4	6	13	0	3	6	39	1	6	2	7	5	6										
Humility	8	9	41	0	5	1	7	4	6	13	1																			
Diplomacy	6	8	44	0	6	2	7	4	7	19	0																			
Integrity	5	8	45	0	6	1	7	5	7	17	1																			
Independence	5	8	45	0	6	1	7	5	7	17	1																			
Confidence to work in other locations	2	4	51	1	6	2	7	5	7	19	0																			
Ability to be innovate when overcoming challenges	2	3	53	0	6	2	7	5	7	21	0																			
Ability to work with resources available in specific contexts	4	3	51	0	6	2	7	5	7	22	0																			
Ability to work with limited resources	2	1	55	0	6	2	7	6	7	26	0																			
Ability to plan and organise	7	6	45	0	6	2	7	5	7	18	0																			
Ability to deal with the unexpected	4	5	49	0	6	2	7	5	7	20	0																			
Ability to identify and anticipate potential problems	5	5	48	0	6	2	7	5	6	10	0																			

Developing redundant or bad skills/attitudes	39	6	13	0	3	1	7	1	4	2	15	37	4	8	0	3	1	7	2	3															
Difficulty getting the job or training position that you want upon return	23	10	22	3	4	1	7	3	5	3	8	17	14	16	2	4	1	6	2	5	15	16	14	0	4	1	6	3	5						
Exposure to ethical dilemmas	17	9	32	0	5	1	7	2	5	3	8	8	5	36	0	5	1	7	4	5															
No recognition or accreditation upon return	18	6	33	1	5	1	7	2	5	6	7	8	10	7	32	0	5	1	7	4	5	6	6	33	0	5	1	6	4	5					
Reduced experience and exposure to UK procedures, protocols and research	27	10	18	3	4	1	7	2	5	3	8	20	14	14	1	4	1	7	3	5	20	13	12	0	4	1	7	3	5						
Affects professional progression	31	7	18	2	3	1	7	1	5	1	15	26	7	15	1	3	1	7	2	5	28	7	10	0	3	1	7	3	4						
Negative colleague perceptions	25	8	24	1	4	1	7	2	6	4	7	18	9	21	1	4	2	7	3	5	14	12	18	1	4	2	7	3	5						
Use of time	21	17	17	3	4	1	7	2	5	2	6	12	21	15	1	4	1	7	3.2	5	11	19	13	2	4	1	6	3	5						
Loss of interest in profession	36	9	13	0	3	1	7	2	4	3	13	32	9	8	0	3	1	6	2	4	31	7	6	1	3	1	6	2	4						
Professional revalidation issues	28	8	18	4	3	1	7	2	5	2	10	20	11	17	1	4	1	7	3	5	11	15	18	1	4	1	7	3	5						
Litigation	29	12	12	5	3	1	7	2	4	3	10	25	13	8	3	3	1	7	2	4	27	6	10	2	3	1	7	3	4						
Security	21	11	26	0	4	1	7	3	5	4	6	15	13	21	0	4	1	7	3	5	6	10	29	0	5	2	7	4	5						
Carbon footprint	26	18	12	2	4	1	6	2	4	4	6	16	21	10	2		1	77	3	4	15	19	9	2	4	1	7	3	4						
Culture shock	20	13	24	1	4	1	7	3	5	2	7	16	17	16	0	4	1	7	3	5	15	15	15	0	4	1	6	3	5						
Environmental and infrastructural risk	19	9	29	1	5	1	7	3	5	3	5	8	8	33	0	5	1	6	4	5	8	6	31	0	5	2	7	4	5						
Extreme nationalism towards UK	32	15	7	4	3	1	7	1	4	1	14	33	12	2	2	3	1	6	2	4															
Experiencing negative feelings	26	12	19	1	4	1	7	2	5	1	8	18	14	16	1	4	1	6	3	5	13	16	13	3	4	1	7	3	5						
Financial loss (e.g., costs of getting involved, loss of earnings, pension or employment entitlement)	19	8	31	0	5	1	7	3	6	3	2	6	11	31	1	5	2	7	4	5	7	4	34	0	5	2	7	4	5						
Health consequences	9	8	40	1	5	1	7	4	5	3	1																								
Psychological consequences	14	13	29	2	5	1	7	3	5	1	2	12	11	23	3	4	1	6	3	5	8	8	26	3	5	1	6	4	5						
Compromises of health and safety	21	15	21	1	4	1	7	3	5	1	6	12	15	22	0	4	2	7	3.5	5	12	17	15	1	4	1	7	3	5						
Exhaustion and burn out	23	15	20	0	4	1	7	2	5	1	10	16	11	22	0	4	1	7	2	5	17	17	10	1	4	1	7	3	4						
Loneliness	21	10	27	0	4	1	6	3	5	3	8	12	16	21	0	4	1	7	3.5	5	11	17	17	0	4	2	7	3	5						

Missing things at home	18	11	29	0	4.5	1	7	3	5	7	3	11	15	23	0	4	1	6	4	5	14	11	20	0	4	1	7	3	5
Loss of interest in global health and international placements	37	7	13	1	3	1	7	2	4	1	13	32	7	9	1	3	1	6	2	4	28	4	12	1	3	1	7	3	5
Socio-cultural risk	27	11	18	2	4	1	7	2	5	2	7	18	19	10	2	4	1	6	3	4	12	15	15	3	4	2	7	3	5
Becoming judgemental	27	12	17	2	4	1	7	2	5	1	7	17	16	16	0	4	1	6	3	5	19	19	7	0	4	2	6	3	4
Negative feelings towards the NHS	31	7	20	0	3	1	7	2	5	1	10	28	8	13	0	3	1	6	2	5	27	8	10	0	3	1	6	2	4

Appendix 5: Each core outcome and how it was used in the tool

CORE OUTCOME	INCLU DE/RE MOVED /COMBI NE	Reason/changed to/combined into
INCREASED AWARENESS OF/KNOWLEDGE ABOUT CULTURAL DIFFERENCES AND SIMILARITIES	COMB	I have demonstrated a good awareness about how cultural differences influence health
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE CULTURAL ASPECTS OF HEALTH	COMB	I have demonstrated a good awareness about how cultural differences influence health
ABILITY TO WORK WITH LIMITED RESOURCES	COMB	I have frequently had to find solutions despite limited resources
INCREASED AWARENESS OF/KNOWLEDGE ABOUT CULTURE IN PRACTICAL ASSESSMENTS	INC	
ABILITY TO APPLY CLINICAL SKILLS TO ANOTHER CONTEXT	INC	
ABILITY TO BE ADAPTABLE AND INNOVATIVE IN TEACHING	INC	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT HOW OTHER HEALTHCARE SYSTEMS FUNCTION	INC	
ABILITY TO COPE	INC	
INCREASED CULTURAL SENSITIVITY	COMB	I have frequently demonstrated cultural sensitivity (e.g. understanding that words and behaviours can have different meanings)
UNDERSTANDING THAT WORDS AND BEHAVIOURS CAN HAVE DIFFERENT MEANINGS	COMB	I have frequently demonstrated cultural sensitivity (e.g. understanding that words and behaviours can have different meanings)

ABILITY TO APPLY KNOWLEDGE ACROSS SYSTEMS	INC	
DEVELOPMENT OF A NEW PERSPECTIVE	INC	
IMPROVED FLEXIBILITY AND ADAPTABILITY	INC	
ABILITY TO BE INNOVATE WHEN OVERCOMING CHALLENGES	COMB	I have frequently had to find solutions despite limited resources
INCREASED RESPECT FOR OTHER CULTURES	COMB	I have demonstrated a good awareness about how cultural differences influence health
INCREASED UNDERSTANDING OF BASIC SKILLS AND IDEAS	COMB	I have relied heavily on the basic skills of my profession (e.g. physical examination)
CONFIDENCE IN TEACHING ABILITY	COMB	In the last month I have demonstrated that I'm a good teacher I am confident in my ability to teach others
IMPROVED CONFIDENCE	INC	
CONFIDENCE TO WORK IN OTHER LOCATIONS	INC	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT GLOBAL ISSUES	INC	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT CONDITIONS AND PROCEDURES RARELY ENCOUNTERED IN THE UK	COMB	I have a good knowledge of conditions and procedures rarely encountered in the UK (e.g. tropical diseases, delayed presentations, old equipment)
INCREASED AWARENESS OF/KNOWLEDGE ABOUT TROPICAL DISEASES	COMB	I have a good knowledge of conditions and procedures rarely encountered in the UK (e.g. tropical diseases, delayed presentations, old equipment)
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF MUTUAL LEARNING AND RESPECT	INC	
ABILITY TO BE ADAPTABLE IN LEADING	INC	
ABILITY TO WORK WITHIN A SYSTEM WITH UNFAMILIAR POWER DYNAMICS	INC	
ABILITY TO ADAPT SOCIAL NORMS TO MEET NEEDS OF ANOTHER CULTURE	INC	
ABILITY TO EXCHANGE IDEAS WITH THOSE FROM ANOTHER CULTURE	INC	
INCREASED SELF-AWARENESS	INC	
PATIENCE AND TOLERANCE	INC	
PROACTIVITY	INC	
ABILITY TO WORK WITH RESOURCES AVAILABLE IN SPECIFIC CONTEXTS	COMB	I have frequently had to find solutions despite limited resources

ABILITY TO WORK TOWARDS SOLUTIONS	INC	
UNDERSTANDING THAT SPEED AND LANGUAGE COMPETENCY AFFECT COMMUNICATION	INC	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF COMMUNITY PARTICIPATION IN HEALTH	INC	
ABILITY TO USE A BROADER RANGE OF CLINICAL SKILLS	INC	
UNDERSTANDING THAT CHANGING BEHAVIOUR IS COMPLEX	COMB	In my work I have demonstrated skills in changing patients' or colleagues' behaviours
ABILITY TO IMPROVE SERVICE	INC	
INCREASED STAFF KNOWLEDGE AND SKILLS	REM	too vague and not based on individual
INCREASED AWARENESS OF/KNOWLEDGE ABOUT HOW CONTEXT AFFECTS COMMUNICATION	INC	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE NEED FOR AND IMPORTANCE OF TRAINING	INC	
IMPROVEMENT IN TEACHING SKILLS	COMB	In the last month I have demonstrated that I'm a good teacher I am confident in my ability to teach others
ABILITY TO DEAL WITH THE UNEXPECTED	INC	
ABILITY TO MANAGE PROJECTS	INC	
DEEPER ENGAGEMENT WITH ISSUES OF EQUALITY AND DIVERSITY	INC	
ABILITY TO OVERCOME COMMUNICATION CHALLENGES	INC	
ABILITY TO BE INNOVATIVE WITH CLINICAL SKILLS	INC	
APPRECIATION OF HAVING THE RIGHT TOOLS AND EQUIPMENT TO BE ABLE TO DO THE JOB	COMB	I have frequently had to find solutions despite limited resources
APPRECIATION OF EXCELLENT HUMAN RESOURCE IN THE NHS	INC	
IMPROVED EMOTIONAL INTELLIGENCE	INC	
ABILITY TO IDENTIFY AND ANTICIPATE POTENTIAL PROBLEMS	INC	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT APPROPRIATE CLINICAL BEHAVIOUR	INC	
ABILITY TO MAKE INDEPENDENT CLINICAL DECISIONS	COMB	I am confident in my ability to make appropriate independent clinical decisions
UNDERSTANDING OWN POTENTIAL TO EMPOWER PEOPLE	INC	

ABILITY TO WORK AS PART OF A TEAM	INC	
ABILITY TO BUILD A GLOBAL NETWORK	INC	
ABILITY TO DISSEMINATION BEST PRACTICE GLOBALLY	INC	
APPRECIATION OF FREE UNIVERSAL HEALTH	INC	
IMPROVED SITUATIONAL AWARENESS	REM	Research suggests self-report does not measure this effectively
INCREASED JOB SATISFACTION	INC	
PERSONAL SATISFACTION	INC	
CAN-DO ATTITUDE	INC	
ABILITY TO PROVIDE BETTER CARE	INC	
ABILITY TO CO-OPERATE	INC	
APPRECIATION OF CLINICAL GOVERNANCE PROCEDURES WITHIN NHS	COMB	I have thought about and appreciated clinical governance
APPRECIATION OF THE IMPORTANCE OF CARE AND COMPASSION	INC	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE POSITIVE IMPACT OF CLINICAL POLICIES AND GOVERNANCE	COMB	I have thought about and appreciated clinical governance
INCREASED AWARENESS OF/KNOWLEDGE ABOUT ETHICS	COMB	I have frequently experienced ethical dilemmas
CHANGED PERCEPTION OF OTHERNESS	INC	
INTEGRITY	REM	Too vague
INDEPENDENCE	INC	
ABILITY TO PLAN AND ORGANISE	INC	
ABILITY TO MAKE DECISIONS	COMB	I am confident in my ability to make appropriate independent clinical decisions
ABILITY TO MANAGE RISK	INC	
INCREASED PATIENT SATISFACTION	REM	Cannot be measured in professional self-reports alone
ABILITY TO COMMUNICATE NON-VERBALLY	INC	
ABILITY TO ESTABLISH COMMUNICATION SYSTEMS	INC	
INCREASED CLINICAL KNOWLEDGE IN RELATION TO OTHER PROFESSIONS	INC	
ABILITY TO GET THE MOST OUT OF PEOPLE	INC	

ABILITY TO MANAGE PEOPLE	COMB	Colleagues have noticed my abilities to manage difficult people
ABILITY TO DEVELOP FRIENDSHIPS	INC	
ABILITY TO MANAGE SELF	INC	
CHANGED JUDGEMENT	INC	
DIPLOMACY	REM	Too vague
ABILITY TO FIND FACTS TO SOLVE PROBLEMS	INC	
DEVELOPING REDUNDANT OR BAD SKILLS/ATTITUDES	INC	
FINANCIAL LOSS	REM	Too contextual- add to variables
REDUCTION IN NHS DROP OUTS	REM	Cannot be measured in professional self-reports alone
ABILITY TO OBSERVE AND EXAMINE PATIENTS	COMB	I have relied heavily on the basic skills of my profession (e.g. physical examination)
ABILITY TO WORK IN A PROFESSIONALLY COMPETENT WAY	REM	Too vague
INCREASED UNDERSTANDING OF HOW TO BE A GOOD TEACHER	COMB	In the last month I have demonstrated that I'm a good teacher I am confident in my ability to teach others
ACT AS A ROLE MODEL (e.g., lead by example)	INC	
INFLUENCES CAREER PATHWAY	REM	Went into variables
ABILITY TO MANAGE TIME AND PRIORITISE	CHANG	In my ability to manage myself and prioritise (e.g. time management, managing emotions, responding an emergency, prioritising workload)
INCREASED ABILITY TO CHANGE BEHAVIOUR IN COLLEAGUES OR PATIENTS	COMB	In my work I have demonstrated skills in changing patients' or colleagues' behaviours
ABILITY TO MANAGE TRAGEDIES	INC	
EXPOSURE TO ETHICAL DILEMMAS	COMB	I have frequently experienced ethical dilemmas
REDUCTION IN STAFF COMPETENCE	REM	Cannot be measured in professional self-reports alone
NO RECOGNITION OR ACCREDITATION UPON RETURN	REM	Put into variables
INCREASED INTERNATIONAL REPUTATION OF NHS	REM	Cannot be measured in professional self-reports alone
INCREASED INTERNATIONAL REPUTATION (of UK)	REM	Cannot be measured in professional self-reports alone
ABILITY TO VERBALISE KNOWLEDGE	INC	

INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF TRUST BETWEEN COLLEAGUES WITHIN HEALTHCARE SYSTEMS	INC	
INCREASED AWARENESS OF AND KNOWLEDGE THE FUNCTIONING OF SYSTEMS	INC	
REFRESHMENT AND REINVIGORATION	INC	
ABILITY TO MANAGE HEALTHCARE ENVIRONMENTS	COMB	Colleagues have noticed my abilities to manage difficult people
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE IMPORTANCE OF CONSCIOUSLY MAKING AN EFFORT TO GET ON WITH COLLEAGUES	INC	
INCREASED AWARENESS OF/KNOWLEDGE ABOUT THE COSTS OF HEALTHCARE	INC	
ABILITY TO ACCEPT AND UNDERSTAND FAILURE	INC	
HUMILITY	INC	
ABILITY TO THINK THROUGH PROBLEMS IN A LOGICAL WAY	INC	
ABILITY TO ENGAGE SENIOR PEOPLE	INC	
HEALTH CONSEQUENCES	REM	Went into variables
EXTREME NATIONALISM TOWARDS UK	INC	
LOSS OF INTEREST IN PROFESSION	INC	
NHS BECOMES A MORE ATTRACTIVE EMPLOYER	REM	Cannot be measured in professional self-reports alone
INCREASED WORKFORCE PRODUCTIVITY	REM	Cannot be measured in professional self-reports alone

Appendix 6: How each statement was framed within the pilot: experience, confidence or attitudes

Statement	Area of Interest
awareness about how cultural differences influence health	Experience
ability to find solutions despite limited resources	Confidence
find solutions despite limited resources	Experience Confidence
conscious of culture when working with patients (e.g. the importance of collecting cultural information)	Attitudes
ability to apply clinical skills to another context	Confidence
teach clinical colleagues	Experience
adapt the way I teach to make it more valuable	Experience
knowledge about how healthcare systems outside of the UK function	Attitudes
ability to cope in work (e.g. ability to deal with stress)	Experience
cultural sensitivity (e.g. understanding that words and behaviours can have different meanings)	Experience
apply my clinical knowledge in any health system	Confidence
developed a new perspective (e.g. changed my outlook)	Experience
ability to adapt and be flexible in work	Confidence Experience
thinking about basic sciences (e.g. physiology, cell biological, biochemistry)	Experience
relied basic skills profession (e.g. physical examination)	Experience
rely more on laboratory tests than physical examination	Attitudes
confident in workplace	Confidence
confident to work in another country	Confidence
knowledge about global issues	Attitudes
knowledge of conditions and procedures rarely encountered in the UK (e.g. tropical diseases, delayed presentations, old equipment)	Attitudes
ability to work within an unfamiliar power dynamic	Confidence
adapting my social norms to meet the needs of another culture	Experience
leader in work	Experience
my abilities to be adaptable and innovative as a leader	Confidence
thought about my own skills, limitations and beliefs	Experience
patient and tolerant	Experience
proactive at work (e.g. used my initiative, got on with things, thought on feet)	Experience
someone who focuses on solutions not problems	Attitudes
changed the way I speak so that somebody can understand me	Experience
community participation is crucial for the health of the individual	Attitudes
clinical skills that I have hardly ever used before	Experience
difficult to change someone else's behaviour	Attitudes
skills in changing patients' or colleagues' behaviours	Experience
improved the healthcare service I work in	Experience
changed the way I communicate to make it more contextually appropriate	Experience
good teacher	Experience

ability to deal with the unexpected	Confidence Experience
ability to manage projects	Confidence Experience
deeply engaged with issues and equality and diversity	Attitudes
highly skilled in challenging conversations and effective communication, even in high pressure situations	Experience
glad that I have access to the right tools and equipment to do my job	Experience
thought about and appreciated the excellent teams, structures and individuals I work with in the NHS	Experience
good understanding of my own thoughts, feelings and behaviours	Attitudes
I am good at anticipating future problems	Experience
ability to make appropriate independent clinical decisions	Confidence
ability to empower others to help themselves	Attitudes
good at working as part of team	Experience
professional network that includes people from all over the world	Attitudes
confident in my ability to disseminate UK best clinical practice globally	Confidence
thought about and appreciated free universal health	Experience
gone about my daily work in a fairly automatic way	Experience
satisfied in job	Attitudes
satisfied in personal life	Attitudes
'can-do' attitude	Experience
provide excellent, high quality care	Experience
willingness to see someone else's point of view	Experience
thought about and appreciated clinical governance	Experience
thought about and appreciated the importance of care and compassion	Experience
experienced ethical dilemmas	Experience
appropriately manage ethical dilemmas	Confidence
experiences of feeling like an outsider	Attitudes
abilities to work independently when necessary	Confident
abilities in planning and organisation	Experience
actively manage risk, including anticipating risk and evaluating my environment	Experience
to rely on my non-verbal communication	Experience
establish communication systems (formal or informal)	Experience
understanding of the roles and responsibilities of all the professional staff I work with	Attitudes
capable of 'getting the most out of people' e.g., encouraging them and empowering them	Attitudes
managed difficult people	Experience Confidence
allocated tasks and co-ordinated colleagues	Experience Confidence
developing friendships and social relationships	Attitudes
ability to manage myself, including self-reliance and reflexivity	Confidence
quick to judge other people	Attitudes
developed bad habits in work	Experience

lost some confidence in my clinical practice	Experience
work ethic	Attitudes
act as a good role model at work	Attitudes
manage situations that I consider to be a tragedy	Experience Confidence
ability to explain complex ideas to others	Experience
trust between colleagues is crucial in healthcare systems	Attitudes
good understanding of organisations e.g., identifying change agents and understanding who has power	Attitudes
work has made me feel refreshed and reinvigorated	Experience
consciously make an effort to get on with colleagues e.g. learning everybody's name	Attitudes
aware of the financial costs of healthcare	Experience
persistent in the face of failure	Attitudes
accept failure as a part of learning	Attitudes
direct and positive communication with senior people in the organisation I have been working in	Experience
the UK is the best country in the world	Attitudes

Appendix 7: The questionnaires that featured each variable

Variable	Presented
Type of project (Charity, profit making, non-for-profit)	To project manager
Professionals involved in project	To project manager
Volunteer recruitment	To project manager
Continuity of visits	To project manager
Number of British professionals in country at each time	To project manager
Logistical organisation	To project manager
Project funding	To project manager
Volunteer/British Professional funding	To project manager
Local funding	To project manager
Volunteer activities	To project manager
Organisational support	To project manager
Preparation	To project manager
Learning objectives	To project manager
Evaluation and reflection	To project manager
Risk Assessments	To project manager
Local needs assessment	To project manager
Who is involved in development of aims, focus, structure of project	To project manager
Relationships with receiving organisation	To project manager
Importance of sustainability, capacity building and service delivery	To project manager
Project name, company and location	Pre-placement
Employment immediately before trip	Pre-placement
Use of annual leave	Pre-placement
Motivation	Pre-placement
Support	Pre-placement

Comfort working outside of competence or in a high situation	Pre-placement
Expectations of impact	Pre-placement
Professional knowledge	Pre-placement
Length of stay	Post-placement
Project engagement	Post-placement
Learning host language	Post-placement
Utilisation of skills	Post-placement
Number of Interactions with patients	Post-placement
Conditions experienced	Post-placement
Understanding of local context	Post-placement
Similarities to UK	Post-placement
Transferability of skills to UK	Post-placement
Opportunities	Post-placement
Local staff	Post-placement
Negative consequences	Post-placement
Cost of placement	Post-placement
Reflection	Post-placement
Contact with loved ones	Post-placement
Support	Post-placement
Number of projects in facility	Post-placement
General experience	Post-placement
Ability to cope with NHS paperwork upon return	Post-placement
Less interest in profession upon return	Post-placement
Desire to leave NHS/UK upon return	Post-placement
Recognition/Accreditation upon return	Post-placement
Employment status upon return	Post-placement
Returner schemes upon return	Post-placement
Influence on career path upon return	Post-placement

Appendix 8: Response to issues that arose during cognitive interviews

Statement	Comment	Action taken (or reason not)
Frequently/constantly	interchangeable	Decision was made on purpose
I exchanged ideas with colleagues from a different culture	Red herring- exchanged	Choose Exchanged, as communicated could mean asking what time the bus arrives, want this to represent meaningful conversation
I feel I've developed a new perspective	Doesn't really make sense pre-placement, need to use more examples to contextualise	Participant used, having some kind of revelation, include this as an example
I anticipated future problems	... and took necessary action	Decided to take participants advice here, and add took necessary action as anticipating them alone is not enough
Skills, limitations and beliefs	too much for one sentence	remove beliefs
I provided excellent high quality care	Excellent and high quality are the same remove excellent	Remove excellent
I am able to find solutions despite limited resources	What if don't have limited resources i.e. in UK	Leave as is, participants won't agree if have adequate resources
I have tried to understand somebody else's POV	I have understood somebody else's POV	Remove tried
I have demonstrated patience and tolerance	Need time marker	Change to -I have frequently demonstrated patience and tolerance
I relied heavily on the basic skills of my profession	Need more examples	Include low tech and intuitive
I lost some confidence in my clinical practice	Change to: Sometimes I feel I have forgotten the things I have learnt	Leave as is, participants will know what clinical practice is
I thought about and appreciated	Maybe use just appreciated	change
I think I have developed bad work habits	Remove 'I think' and include some	I have developed some bad work habits
I actively managed risk, including anticipating risk and evaluating environment	Too much- change to I anticipated risk and actively managed it	I anticipated risk and actively managed it (e.g. evaluating environment)
I frequently managed projects		Include e.g. (including one continuous project, or components of a project)
I managed one or more situations that I consider to be a tragedy	Chance to tragic situations	Leave as is

I established communication systems (formal and informal)	What about if they are already established	Changed to established/used
I changed the way I speak so that somebody can understand me	Change to I have adapted my communication to suit to context	Leave as is, too much jargon in suggestion
I frequently had to rely on my non-verbal communication	I frequently relied on my non-verbal communication	Change
I demonstrated that I am highly skilled in challenging conversations and effective communication, even in high pressure situations	I demonstrated that I am skilled in challenging conversations, even in high pressure situations	Removed some to make it more understandable
I dealt with difficult people	Include frequently	I frequently dealt with difficult people
I demonstrated that I am able to manage difficult people	I demonstrated that I am able to manage difficult people effectively	Add in effectively
I taught clinical colleagues	(of any profession at any career stage)	Add in brackets
Perceptions of yourself	Change to About you – and change the other to demographics	Change
When I work clinically I am frequently thinking about basic scientific principles (e.g. physiology, cell biology, biochemistry)	Change e.g's	Physiology, chemistry
I have a good knowledge of how healthcare systems outside of the UK function	I have an awareness of how other healthcare systems (outside of the UK) function	Change- as most people will only know 1 or 2 countries not all
I have a professional network that includes people from around the world	Change to other countries	May not be around the world, just in 1 or 2 countries
I tend to develop a good understanding of how organisations can work	Change to I have	Tend to confuses things
I am someone who focuses on solutions not problems	Comments that no-one would answer no to this	Then it would disappear in the psychometrics and statistics so leave
I have an excellent work ethic	Comments to change to conscientious	Will not change means something different
I keep trying when things are difficult	Comments to change to persevere	Yes keep simple

I have an excellent understanding of the roles and responsibilities of all the professional staff I work with	Change to clear	I have a clear understanding of the roles and responsibilities of all the professional staff I work with
I am quick to judge other people	Add admit and sometimes	I admit I am sometimes quick to judge other people
I believe I have the ability to empower patients to help themselves	I am able to empower patients to help themselves, also patients isn't the word midwives use	Remove believe as adds another dimension, keep patients as it is obvious who we mean to that 1 group
I believe I have the ability to empower colleagues to help themselves	I am able empower colleagues to help themselves	Remove believe as adds another dimension
In my work I have demonstrated skills in changing patients behaviour	In encouraging and supporting patients to change behaviour	Change to -In my work I have demonstrated skills in encouraging and supporting patients to change behaviour
Its crucial to consciously make an effort to get on with colleagues	Add 'I feel'	No need to add 'I feel' adds another dimension
I demonstrated that I am capable of getting the most out of people	Change to 'best' move to 'in the last month'	Change to - I demonstrated that I am capable of getting the best out of people- move to last month, add enabling into e.g's
Community participation is crucial...	Add I feel	No need to add 'I feel' adds another dimension
Job satisfaction	Use validated single item- Taking everything into consideration, I am satisfied with my job	Reliability and Validity of a Single-Item Measure of Job Satisfaction Christyn L. Dolbier, PhD; Judith A. Webster, MSN; Katherine T. McCalister, EdD; Mark W. Mallon, MS; Mary A. Steinhardt, EdD, LPC an adaptation of the one in the literature that correlates with other larger measures, to suit the current format of an agreement likert scale?
Life satisfaction	Instead use 5 item validated SWLS scale	Ed Diener, Robert A. Emmons, Randy J. Larsen and Sharon Griffin as noted in the 1985 article in the <i>Journal of Personality Assessment</i>
I sometimes I felt like an outsider	I sometimes felt like an outsider in my environment	Add in my environment to make it more contextualised, move to culture area rather than life satisfaction as it seems less intrusive
In my ability to manage situations that I consider to be awful, tragic or difficult	Remove awful, too many words	In my ability to manage situations that I consider to be tragic or difficult
In my ability to manage myself	Expand into 2: In my ability to manage myself in a clinical environment In my ability to manage myself in life generally (e.g. time management, managing emotions)	Split into 2
In my ability to adapt and be flexible in work	Would be different for clinical and everything else – pp more confident In ability to be flexible clinically	Separated

In my ability to find solutions despite limited resources	See above comment about 'despite'	Maybe as this is confidence have, ability to find solutions in an environment with limited resources, the above one could literally say, in the last month I have had to find solutions in an environment with limited resources, then we expect low scores pre, and high during and possibly post.
That I can apply my clinical knowledge in any health systems	Change any to another	That I can apply my clinical knowledge in another health system
In my ability to work within an unfamiliar power dynamic	Don't quite understand the question, suggested are you affected by power dynamics	Are you affected would change the question. move to in the last month, have been affected by power dynamics and one about dealing with it appropriately
In my workplace	Remove place	Change to in my work
In my ability to disseminate best practice globally	Globally too big, maybe across a wider context (e.g. to other countries)	Change to disseminate UK best practice to other countries
Career Stage	Louise and John had- experienced, mid etc.	Change to year of registration free text
Nationality	British, European, non-EU (LMIC) non-EU (high income)	Change to free text
Project Name	Make non-mandatory and ask to describe in one sentence project- e.g. RCM project in Uganda based in Mulago Hospital	in a sentence describe the title of your project and where it takes place e.g., RCM mentoring project in Mulago Hospital, Uganda. Or Milton Keynes Hospital Trust training project in University of City, Country
I would feel comfortable working in a high risk situations	Comment- Is the risk to the patient or the volunteer	High risk situation is well defined
I agreed with and internationalised lots of the knowledge, skills, behaviours and attitudes of the other staff in the host facility	Too confusing	Simplify sentence
At least once I questioned by view of reality	Confusing- changed answer after I explained	Change to at least once I have been aware of my opinions or perspectives changing in a profound way'
Which of the following were correct about local staff: I engaged with them frequently There was frequently a more knowledgeable person than me around	Reword- seems like everyone would agree Too Context Specific	This is about Vygotskys MKO, could we separate into 2- more clinically knowledgeable, more culturally knowledgeable

We had many share values	Said they did but didn't act on it	change to, it was obvious we had many shared values?
Health consequences (animal bites, injuries, illness)	Remove animal bites, gets confused with mosquito bites which most people would get	Remove animal bites
I feel unable to cope with NHS paperwork	Not to do with placement	Doesn't matter? If its not to do with placement, then we will see that it is the same before and after?
I would like to leave the NHS to work overseas	Not all employed by NHS	Change to NHS/UK
Project Managers:		
Which of the following describe the relationship between your organisation and the receiving organisation: We depend on each other	Weird statement Add in well maintained relationships with local staff and leadership Links with local experts	Remove
Does your project have links with local experts and well maintained relationships with local staff and leadership	Move to earlier Q	Move to earlier Q
What type of preparation do volunteers receive?	Add all Change options to: Contact with previous volunteers Formal training and preparation events in the UK Informal training and preparation events in the UK Formal training and preparation events in host country Informal training and preparation events in country Handbook or written preparation Other	What type of preparation do all volunteers receive? – otherwise one or two might get it Change options
What is the main focus of your project: Service delivery	Most would tick all	Change to separate question:

Capacity Building Development Sustainability Training Other		How important is sustainability/service delivery/capacity building to your project – Very Important • Important • Moderately Important • Slightly Important • Not Important Remove training development and other
Who was involved/consulting during development of aims, focus, structure, project tasks within your project	Remove 'within your project' In example grey area (at some stage) Change health policy makers and management in LMIC to Management in LMIC Local government and policy makers	Change
Do you volunteers take recurring trips?	Change options	Always Very Often Sometimes Rarely Never
In the last year have any volunteers dropped out of your project?	Remove as too context specific could be illness etc.	Remove question
Is volunteer learning incorporated into project or assessed?	Comment- Add informal reporting and learning	Do you formally assess volunteer learning or professional or personal development? And then time points
How many volunteers are placed at one time within this project	Add on average	Add on average
How would you describe your organisation?	Change list- does not encompass all, make tick box: <ul style="list-style-type: none"> • New organisation • Established organisation • Hospital or university link (health partnership) • Commercial/profit making • Not for profit/charity 	
Which of the following describe the relationship between your organisation and the receiving organisation? We depend on one another We are especially good at collaboration	Remove depend statement, weird and out of context Change collaboration one to we work well in collaboration	Change

To the best of your knowledge, what income level is the host country?		Remove now as we will code countries
Do restructure of questions so similar are together		Do restructure
Add to post-placement		
Which country was your placement in-free text		Add
What support do your volunteers receive? A local or western expert to provide feedback	Change to Have access to – move to volunteer post Change to: an opportunity to get frequent feedback from a local or western senior colleague	Change to have access to and move to post placement- what support did you have access to? Change
Are you the only project working in the healthcare facility	Was yours the only project working in the healthcare facility	Change and more to post placement
Length of stay		Move length of stay to Post placement
Recurring visits		Move to post placement

Appendix 9: Methods of recruitment for pilot participants using collaborative organisations

Organisation	Method of distribution of questionnaire	Target Group	Number of people that had opportunity to engage
Field Hospital	Online link sent by contact within organisation	Returned Volunteers	180
Field Hospital	Online Link sent by contact within organisation	Returned Volunteers	30
Royal College	Online Link sent by contact within organisation	Returned Volunteers	70
Trust	Online Link sent by contact within organisation	Returned Volunteers	43
Health Partnership	Online Link sent by contact within organisation	Current Volunteers	2
Project	Online Link sent by contact within organisation	Current Volunteers	9

Conference	Handed out paper versions at conference, presented online link at conference, online link sent by contact within organisation	All groups	Up to 400 on mailing list (who may have also attended conference)
Royal College	Online link sent by one member to a select few relevant individuals Conference attended with paper versions	Returned Volunteers	11
Project	Online Link sent by contact within organisation	All groups	116
Health Partnership	Online Link sent by contact within organisation	All groups	6
Health Partnership	Online Link sent by contact within organisation, also asked to send to one colleague with no international experience	Returned and no international experience	50
Project	Online Link sent by contact within organisation	Pre placement	5
Health Partnership	Online Link sent by contact within organisation	Pre Placement	30
Past participants	Link sent by researcher directly to participants	All groups	290
Higher Education Institute	Online Link sent by contact within organisation (stated was only for qualified health professionals)	All groups	270
Project	Online Link sent by contact within organisation	All groups	4
Health Partnership	Online Link sent by contact within organisation	All groups	6
Higher Education Institute	Online Link sent by contact within organisation	No international experience	21
Higher Education Institute	Online Link sent by contact within organisation	No international experience	37
Project	Online Link sent by contact within organisation	Returned Volunteers	35
Professional Network	Link distributed in E bulletin	All groups	374 opened link (sent to 1800)
Professional Network	Online Link sent by contact within organisation	All groups	100

Higher Education Institute	Paper versions handed out at end of lecture	All groups	17
Higher Education Institute	Online Link sent by contact within organisation	All groups	55
Higher Education Institute	Online Link posted on students forum	All groups	500
Royal College	Online Link sent by contact within organisation	Returned Volunteers	19
Royal College	Link sent directly to group members email addresses	All groups	45
Higher Education Institute	Link posted to Facebook, Twitter and LinkedIn groups	All groups	1000+
The Royal College	Link posted on blog and to twitter	All groups	1000 blog followers, 400 twitter followers
Royal College	Online Link sent by contact within organisation	All groups	437
Field hospitals	Online Link sent by contact within organisation	All groups	80
Royal College	Link posted on global health Facebook group	All groups	79 in group
Past Participants	Link sent directly to email addresses	All groups	59
Hospital	Online Link sent by contact within organisation	All groups	30
Health Partnership	Online Link sent by contact within organisation	All groups	15
Influential Individual	Posted link to personal twitter and emailed 7 colleagues	All groups	182 twitter followers 7 colleagues
Professional Network	Posted link to Community of Practice Online group	All groups	297 members
Field Hospital	Attended event with paper version	All groups	6
Recruitment Event	Attended event with paper versions	All groups	15
Hospital	Attended induction events with paper versions	All groups	85
Ambulance Station	Attended with paper versions	All groups	15
General Practice	Attended with paper versions	All groups	4
Field Hospital	Attended event with paper versions	All groups	18

MOVE Tool Pilot – Past International Experience

Demographic Questions

In a sentence describe the title of your most recent project: when and where it took place:

e.g., RCM mentoring project in Mulago Hospital, Uganda. Or Milton Keynes Hospital Trust training project in University of Ghana,

A1. Staff Group:

- Allied health professionals
- Healthcare scientists
- Medical and dental
- NHS infrastructure support
- Other scientific, therapeutic & technical
- Qualified ambulance staff
- Registered nursing, midwifery and health visiting staff
- Support to clinical staff
- Other _____

A6. Have you spent time on an international placement before?

(Please check all that apply)

- No
- In a High Income Country
- In a Low or Middle Income Country
- In a Healthcare Related Position
- In a None Healthcare Related Position

A2. Participant ID :

Please write (in order) The 3rd letter of your first name*the 4th letter of your first school*the first letter of your mother's first name*the date that you were born i.e., the 'day' from 01 (first day of the month) to 31 (31st day of the month)*the second letter of your last name

This should be a SIX FIGURE string of letters and numbers. This will be your anonymous personal identification code (PIC) eg. TTM12Y

A3. Age: _____

A4. Gender: _____

A5. Nationality: _____

A7. Year of Registration /Qualification/start of NHS Career:

A8. Employment Status:

- Full Time
- Part Time
- Retired
- Student
- Unemployed

Experiences on your most recent placement

B1. Which country was your most recent placement in: _____

B2. How long was your placement: _____

Thinking about your most recent international placement, please state how much you agree with the following statements:

	Strongly Agree			Neither Agree nor Disagree			Strongly Disagree	N/A	Not had opportunity
	1	2	3	4	5	6	7		
B3.I felt engaged with the project throughout									
B4.I learnt the host language									
B5.I felt my skills were best utilised e.g. my skills were effectively utilised in the host country									
B6. I interacted with more patients each day than I would in the UK									
B7. I experienced a greater variety of conditions than I would in the UK									
B8. I felt I reached a plateau in learning during my placement e.g. I learnt as much as I possibly could									
B9. I frequently found myself attempting to make sense of the environment I was in									
B10. I copied the behaviours of the staff in the host country e.g. agreed with and internalised lots of the knowledge, attitudes, skills and behaviours of other staff in the host facility									
B11. At least once, I was aware of my opinions or perspectives changing in a significant way									
B12. It was easy to accommodate the experiences I had into my own view of reality									
B13. I understood the local context e.g. culture, customs, hierarchies, power dynamics									

Continuing to think about your experiences on your international placement, please answer the following questions:

B14. Which of the following aspects of your placement were similar to the UK?

(Please check all applicable)

- Licencing, protocols and regulations
- Health and safety
- Host Country Culture
- Healthcare professional ethics (e.g. acting ethically)
- None of the above

B15. What opportunities were available to you during your placement?

- To lead and have responsibility
- To visit more than one health facility
- To explore life outside of the hospital and immerse yourself in local culture
- None of the above

B16. The skills and knowledge I gained during my placement.... (Please check all applicable)

- ...are useful at the current stage in my career
- ...are applicable to my UK position
- None of the above

B.17 Which of the following are correct about the local staff you met on your placement? (Please check all applicable)

- They were under time pressures
- Many left or moved facilities within my stay
- I felt encouraged by them
- I had a local role model
- I experienced communication difficulties
- I engaged with them frequently
- They had adequate financial and human resources
- They were critical of volunteers and the project
- Hospital leaders were engaged with the project
- I engaged frequently with local staff
- I have stayed in touch with many of them
- There was frequently a more clinically knowledgeable person working alongside me
- There was frequently a more knowledgeable person (about local culture) working alongside me
- Many have adopted some of my the skills, knowledge and attitudes and used this in their practice

B21. Did you experience any of the following as a result of your placement? Please check all applicable

- Health consequences (injuries, illness etc.)
- Loss of earnings (for time away)
- Loss of pension or other employee benefits
- Exposure to corruption
- None of the above

B23. I felt the work on the placement was...

- Too easy, repetitive or boring
- Challenging but achievable
- Overwhelming, beyond my capacity and frustrating
- None of the above

B18. On average, how much in total did you spend on the placement? (Including flights, accommodation, project fees, living expenses, vaccinations etc.)

£ _____

—

B19. How many other projects were working in the healthcare facility?

- None
- 1
- 2-3
- 4+

B20. Have you done an international placement before this one?

- No, this is my first
- Yes, with another project
- Yes, this is my 2nd with this

B22. I critically reflected upon my experience... Please check all applicable

- During my placement
- Upon return from my placement
- Formally
- Informally
- None of the above

B24. How often did you contact friends and family at home?

- Daily
- 2 or 3 times weekly
- Weekly
- Monthly
- Not at all

B25. What support did you have access to? Please check all applicable

- UK Mentor
- Mentor in LMIC
- Supervision/support from western staff in LMIC (i.e. linking of junior and senior volunteers)
- Supervision/Support from local staff in LMIC
- Formal support structure in LMIC (e.g. access to HR)
- Support from volunteers working on another project (in country)
- Frequent feedback from a local senior colleague
- Frequent feedback from a western senior colleague
- None of the above

B26. Generally I felt the experience was...

- Positive
- Negative
- Neutral

B27. Do you have any comments regarding the questions in this section?

e.g. How we can improve questions, do they make sense? Are any confusing, offensive or redundant?

Return to UK after Placement

Thinking about your return to the UK please state how much you agree with the following questions:

Return to UK	Strongly Agree			Neither			Strongly Disagree	N/A	Not had opportunity
	1	2	3	4	5	6	7		
C1. I feel unable to cope with the NHS paperwork and audit									
C2. I have less interest in my profession now									
C3. As a result of my placement, I would like to leave the NHS to work overseas									

C4. Upon return to the UK, did you experience any of the following: Please check all applicable

- Informal recognition from senior staff
- Informal recognition from colleagues
- Formal recognition
- Accreditation
- None of the above

C5. Since returning to the UK what is your employment status:

- Full time employment
- Part-time employment
- Unemployed
- Retired
- Full/part-time education
- Locum position
- Bank work
- Agency work

C6. How has the placement influenced your career path? Please select all that apply

- It has not
- I have decided to work/sub-specialise in global health
- It affected my specialism choice
- I have chosen to do more teaching/begin a teaching career
- I have chosen a career in primary care
- It has made me consider different career paths
- I have chosen a career in family practice
- I have chosen a career in public service
- Other _____

C7. Are you involved in any kind of returner scheme/help back into work/support on reintegration scheme?

- Yes
- No

C8. Do you have any comments regarding the questions in this section?

e.g. How we can improve questions, do they make sense? Are any confusing, offensive or redundant?

Thinking about the Last Month

Thinking about your work in the LAST MONTH (this may have been in the UK or elsewhere) please say how much you agree with the following statements.

In the last month...	Strongly Agree			Neither			Strongly Disagree	N/A	Not had opportunity
	1	2	3	4	5	6	7		
D1. I demonstrated a good awareness about how culture influences health									
D2. I frequently demonstrated cultural sensitivity (e.g. understanding that words and behaviours can have different meanings)									
D3. I was constantly conscious of culture when working with patients (e.g. the importance of collecting cultural information)									
D4. I exchanged ideas with colleagues from a different culture									
D5. I feel I've developed a new perspective (e.g. changed my outlook, had some kind of revelation)									
D6. I frequently adapted and was flexible in work									
D7. I frequently dealt with the unexpected									
D8. I demonstrated I'm good at dealing with the unexpected									
D9. I anticipated future problems and took necessary action									
D10. I frequently thought about my own skills, limitations									
D11. I improved the healthcare service I work in									
D12. I provided high quality care									
D13. I was frequently proactive at work									

In the last month...	Strongly Agree			Neither			Strongly Disagree	N/A	Not had opportunity
(e.g. used my initiative, got on with things, thought on my feet)									
D14. I frequently had to find solutions despite limited resources									
D15. I demonstrated I am able to find solutions despite limited resources									
D16. I tried to understand somebody else's point of view									
D17. My work has made me feel refreshed and reinvigorated									
D18. I have frequently demonstrated patience and tolerance									
D19. I demonstrated that I am able to cope in work (e.g. able to deal with stress)									
D20. I relied heavily on the basic skills of my profession (e.g. physical examination)									
D21. I lost some confidence in my clinical practice									
D22. I used clinical skills that I rarely use									
D23. I appreciated clinical governance									
D24. I appreciated the importance of care and compassion									
D25. I appreciated the excellent teams, structures and individuals I work with in the NHS									
D26. I appreciated free universal healthcare									
D27. I appreciated that I have access to the right tools and equipment to do my job									
D28. I frequently experienced ethical dilemmas									
D29. I have developed some bad work habits									
D30. I frequently went about my daily work in a fairly automatic way									
D31. I was consciously aware of the financial costs of healthcare									
D32. I took the lead									
D33. I anticipated risk and actively managed it (e.g. evaluating environment)									
D34. I frequently managed projects (including one continuous project or aspects of a project)									
D35. I demonstrated that I'm good at managing projects									
D36. I managed one or more situations that I consider to be a tragedy									
D37. I allocated tasks									
D38. I co-ordinated colleagues									
D39. I demonstrated I am able to plan and organise									
D40. I established/used communication systems (formal or informal)									
D41. I communicated directly with senior people in the organisation I have been working in									
D42. I changed the way I speak so that somebody can understand me (e.g. purposely spoke slower and clearer)									

In the last month...	Strongly Agree			Neither			Strongly Disagree	N/A	Not had opportunity
D43. I changed the way I communicate to make it more contextually appropriate (e.g., to make it more culturally appropriate)									
D44. I frequently relied on my non-verbal communication * (e.g. hand gestures)									
D45. I demonstrated that I am skilled in challenging conversations, even in high pressure situations									
D46. I frequently dealt with difficult people									
D47. I demonstrated that I am able to manage difficult people effectively									
D48. I demonstrated I'm able to explain complex ideas to others									
D49. I demonstrated that I am particularly good at working as part of team									
D50. I taught clinical colleagues (of any profession at any career stage)									
D51. I demonstrated I'm a good teacher									
D52. I adapted the way I teach to make it better for the learner									
D53. I demonstrated a 'can-do' attitude									
D54. I have been affected by power dynamics (e.g. where reactions to seniority, job type and gender are different)									
D55. I demonstrated I was able to manage unfamiliar power dynamics									
D56. I consciously tried to act as a good role model at work									

D57. Do you have any comments regarding the questions in this section? e.g. How we can improve questions, do they make sense? Are any confusing, offensive or redundant?

About You

Thinking about yourself, please say how much you agree with the following statements

	Strongly Agree			Neither			Strongly Disagree	N/A	Not had opportunity
	1	2	3	4	5	6	7		
E1. When I work clinically I am frequently thinking about basic scientific principles (e.g. Physiology, Chemistry, Physics)									
E2. I rely more on laboratory tests than physical examination									
E3. I have an awareness of how other healthcare systems (outside of the UK) function									
E4. I would be confident to work in most other countries									
E5. I sometimes felt like an outsider in my environment									
E6. I have a good knowledge about global issues									
E7. I have a good knowledge of conditions and procedures rarely encountered in the UK (e.g. tropical diseases, delayed presentations, old equipment)									
E8. I have experience of adapting my behaviour to meet the needs of another culture									
E9. I think about equality and diversity and how it relates to my work on a daily basis									
E10. I have a professional network that includes people from other countries									
E11. I have a good understanding of how organisations can work (e.g., identifying change agents and understanding who has power)									
E12. I am someone who focuses on solutions not problems									
E13. I have a good understanding of my own thoughts, feelings and behaviours									
E14. I have an excellent work ethic									
E15. I keep trying when things are difficult									
E16. I accept that lessons can be learnt from failure									
E17. I have a clear understanding of the roles and responsibilities of all the professional staff I work with									
E18. I believe trust between colleagues is crucial in healthcare systems									
E19. I admit I am sometimes quick to judge other people									
E20. I am able to empower patients to help themselves									
E21. I am able to empower colleagues to help themselves									
E22. In my work I have demonstrated skills in encouraging and supporting patients to change behaviour									
E23. In my work I have demonstrated skills in changing colleagues' behaviour									
E24. I think it is very difficult to change someone else's behaviour									
E25. I am capable of getting the best out of people (e.g. encouraging them and empowering them)									

	Strongly Agree			Neither			Strongly Disagree	N/A	Not had opportunity
	1	2	3	4	5	6	7		
E26. I have as much to learn from people in other countries as I have to teach them									
E27. I am excellent at developing friendships and social relationships									
E28. It is crucial to consciously make an effort to get on with colleagues (e.g. learning everybody's name)									
E29. Community participation is crucial for the health of the individual									
E30. Taking everything into consideration, I am satisfied with my job									
E31. In most ways my life is close to my ideal									
E32. The conditions of my life are excellent									
E33. I am satisfied with my life									
E34. So far I have gotten the important things I want in life									
E35. If I could live my life over, I would change almost nothing									

E36. Do you have any comments regarding the questions in this section? e.g. How we can improve questions, do they make sense? Are any confusing, offensive or redundant?

Confidence

Thinking about your confidence please decide how much you agree with the following statements.

	Strongly Agree			Neither			Strongly Disagree	N/A	Not had opportunity
	1	2	3	4	5	6	7		
I am confident...									
F1. in my ability to manage situations that I consider to be tragic or difficult									
F2. in my abilities to allocate tasks and co-ordinate colleagues									
F3. in my abilities to manage difficult people									
F4. in my ability to manage myself in a clinical environment									

F5. in my ability to manage myself and prioritise (e.g. time management, managing emotions, responding an emergency, prioritising workload)									
F6. in my abilities to appropriately manage ethical dilemmas									
F7. in my abilities to work independently when necessary									
F8. in my ability to make appropriate independent clinical decisions									
F9. in my ability to deal with the unexpected									
F10. in my ability to manage projects									
F11. in my ability to be adaptable and innovative as a leader									
F12. in my ability to adapt and be flexible clinically									
F13. in my ability to adapt and be flexible in general									
F14. in my ability to find solutions despite limited resources									
F15. in my ability to apply clinical skills to another context									
F16. that I can apply my clinical knowledge to another health system									
F17. in my ability to disseminate best clinical practice to other countries									
F18. in my ability to teach others									
F19. in my work									

F20. Do you have any comments regarding the questions in this section? e.g. How we can improve questions, do they make sense? Are any confusing, offensive or redundant?

Appendix 11: Table of Delphi Stakeholders

PP number	Involved in development of intended learning outcomes	Healthcare Professional Volunteer	Volunteer placer	Health policy developer	Health professional Educator	Researcher	Employed by a Health Professional body	Employed by a private healthcare company	Dropped out after round 1	Dropped out after round 2
1	no					X				
2	yes						X			
3	no			X						
4	no					X				X
5	no				X	X	X			
6	yes			X	X	X				
7	no					X				
8	no						X			
9	yes		X	X						
10	no						X			X
11	yes		X							
12	yes						X			X
13	yes	X	X				X			
14	yes				X		X			
15	yes						X			
16	no			X						
17	yes		X				X			
18	yes		X				X			
19	no	X							X	
20	no	X			X	X				
21	yes	X			X					
22	no	X								
23	no	X			X					
24	no	X								
25	no	X								
26	no	X								
27	no	X							X	
28	no	X							X	
29	no	X								
30	no	X								
31	no	X		X						
32	no	X				X				
33	no		X							X
34	no		X							
35	no		X	X						
36	no		X							

37	yes	X	X	X	X	X				
38	no		X							
39	no			X					X	
40	no			X						
41	no			X					X	
42	yes			X					X	
43	no			X						
44	no	X	X							
45	no		X							
46	no	X		X						
47	yes			X						
48	no			X						
49	no							X		
50	no			X						
51	no			X		X				
52	no							X		
53	no	X		X					X	
54	no		X			X			X	
55	no			X					X	
56	no		X							
57	no		X							
58	no			X						
Total	14	19	16	35	7	1	17	2	9	4