

Urban planning, neighbourhoods and social cohesiveness: A socio-cultural  
study of expatriate residents in Dubai

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# Table of Contents

List of Tables .....	v
List of Figures .....	vii
List of Abbreviations .....	x
Acknowledgements.....	xi
Declaration.....	xii
Abstract.....	xiii
Chapter 1 - Introduction.....	1
1.1 Introduction.....	1
1.2 Background of the Research .....	1
1.3 Research Rationale and Purpose.....	2
1.4 Research Aim.....	3
1.5 Research Objectives.....	3
1.6 Research Approaches.....	3
1.7 Research Scope .....	4
1.8 Significance of the Research.....	4
1.9 Chapter structure and summaries.....	6
Chapter 2 - Literature Review .....	8
2.1 Introduction: Urban Social Sustainability.....	8
2.2 Concept and Theories of Urban Social Sustainability .....	9
2.3 Indicators of Urban Social Sustainability .....	13
2.4 Building Sustainable Communities .....	19
2.5 Urban Social Sustainability in the Middle East .....	23
2.6 Urban Forms and Social Sustainability .....	25
2.7 Social Cohesiveness and Urban Neighbourhoods .....	27
2.8 Social Interactions.....	31
2.9 Sense of Community.....	33
2.10 Social Ties.....	34
2.11 Residential Stability.....	35
2.12 Neighbourhood Designs and Social Cohesiveness.....	37
2.13 The Role of ‘Common Spaces’ .....	43
2.14 Globalisation: An Overview .....	45

2.15 The Concept of the Global City .....	47
2.15.1 Global Cities and Urban Planning Approaches .....	49
2.16 Migration and the Growth of Cities in the Gulf.....	50
2.17 Dubai: A Historical Overview .....	52
2.17.1 Phases of Urban Development in Dubai.....	53
2.17.2 Dubai: An Emerging Global City .....	55
2.17.3 Dubai Plan 2021.....	56
2.18 Chapter Summary .....	60
Chapter 3 - Research Methodology .....	63
3.1 Introduction.....	63
3.2 Research Methodology .....	63
3.3 Research Philosophy .....	64
3.3.1 Epistemology .....	66
3.3.1.1 Positivism.....	66
3.3.1.2 Realism.....	67
3.3.1.3 Interpretivism.....	67
3.3.2 Ontology .....	67
3.3.2.1 Objectivism.....	68
3.3.2.2 Positivism.....	68
3.3.2.3 Positivism.....	68
3.3.3 Axiology .....	69
3.4 Research Approach .....	69
3.5 Quantitative Analysis.....	70
3.6 Qualitative Analysis.....	71
3.7 Mixed Method Approach.....	73
3.8 Data Sampling.....	79
3.9 Data Collection .....	81
3.9.1 Quantitative Methods.....	81
3.9.2 Qualitative Methods.....	82
3.10 Questionnaire Design.....	83
3.11 Research Process and Strategy.....	83
3.12 Quantitative Method .....	89
3.12.1 Data Collection .....	89

3.12.2 Questionnaire Design.....	89
3.12.3 Simple Linear Regression.....	92
3.13 Qualitative Method .....	93
3.13.1 Overview of the Analytical Approach.....	93
3.13.2 Interpretative Phenomenological Analysis Methodology.....	96
3.13.3 Rationale for Applying Interpretative Phenomenological Analysis Methodology .....	97
3.13.4 Data Analysis Software .....	101
3.13.5 NVivo Application and Process.....	102
3.13.6 Data Analysis Processes .....	108
3.14 Spatial Analysis .....	114
3.15 Summary of the Chapter .....	119
Chapter 4 - Research Findings.....	120
4.1 Introduction.....	120
4.2 Pilot Study.....	120
4.2.1 Findings of the Pilot Study .....	120
4.2.2 Recommendations from the Pilot Study .....	123
4.3 Research Findings: Observation and Spatial Analysis .....	123
4.3.1 Bur Dubai.....	123
4.3.2 Deira.....	128
4.3.3 International City .....	132
4.3.4 The Greens .....	136
4.4 Research Findings: Quantitative Analysis .....	140
4.4.1 Demographic Profile of the Respondents .....	140
4.4.2 Choice of Neighbourhood.....	141
4.4.3 Residential Stability .....	142
4.4.4 Extent of Social Cohesiveness .....	145
4.4.5 Common Spaces Outdoors and their Influence on Social Cohesion .....	149
4.4.6 Layout and Design & Common Spaces and Socio-Cultural Aspects.....	153
4.4.7 Socio-Cultural Factors .....	157
4.4.8 Time Spent by Residents at Weekends in Outdoor Spaces .....	162
4.5 Research Findings: Qualitative Analysis .....	164
4.5.1 Demographic Profile.....	164
4.5.2 Subordinate Themes and Respondents based on Number of Years of	

Residency in Dubai .....	165
4.5.3 Superordinate Themes and Families with Children/ without Children .....	169
4.5.4 Qualitative Analysis.....	171
4.5.5 Choice of Neighbourhood.....	171
4.5.6 Level of Social Interactions .....	173
4.5.7 Relevancy of Social Cohesion .....	175
4.5.8 Socio-Cultural Factors for Social Inclusion.....	176
4.5.9 Non-Physical Factors for Social Inclusion .....	178
4.5.10 Suggestions for Physical Factors for Community Living.....	178
4.5.11 Impact of Layout and Design of a Neighbourhood on Social Interactions	179
4.5.12 Key Stakeholders .....	180
4.6 Reliability and Validity of the Conceptual Model.....	182
4.7 Research Findings .....	183
Chapter 5 - Conclusions and Recommendations .....	194
5.1 Introduction.....	194
5.2 Empirical Findings.....	196
5.3 Theoretical Implications .....	197
5.4 Recommendations.....	199
5.5 Limitations of the Study .....	203
5.6 Future Research Recommendations.....	204
References.....	207
Appendix I - Ethical Approval.....	224
Appendix II - Survey Questionnaire .....	225
Appendix III - Semi-Structured Interview .....	237
Appendix IV - Quantitative Analysis Data.....	242
Appendix V - Qualitative Analysis: Nvivo Code Book .....	273
Appendix VI - Durbin Watson Statistic Table.....	289
Appendix VII - Publication and Conference Proceedings.....	290

## List of Tables

Table 2.1: Urban social sustainability, contributory factors, identified from literature review.....	14
Table 2.2: The domains of social cohesion.....	29
Table 2.3: Built environment and social cohesion.....	30
Table 2.4: Key themes .....	40
Table 2.5: Phases in Urban Development of Dubai.....	54
Table 3.1: Comparison between quantitative, qualitative and mixed methods .....	74
Table 3.2: Positivist Paradigm and Phenomenological Paradigm .....	84
Table 3.3: Rationale for the questionnaire design .....	89
Table 3.4: Rationale for the IPA Method .....	97
Table 3.5: IPA analytical focus.....	104
Table 3.6: Phase I reading and initial coding.....	110
Table 3.7: Phase II development of subordinate themes, Phase III development of superordinate themes and Phase IV in-case and cross-case analysis.....	112
Table 4.1: Correlation in the pilot study between common spaces and social interactions .....	121
Table 4.2: Observation analysis for Bur Dubai .....	124
Table 4.3: Observation analysis for Deira .....	128
Table 4.4: Observation analysis for International City.....	132
Table 4.5: Observation analysis for The Greens.....	137
Table 4.6: Percentage of families and number of children .....	140
Table 4.7: Descriptive statistics for residential stability.....	142
Table 4.8: Correlation between the number of years respondents had resided in Dubai and the number of years they had resided in the same neighbourhood .....	143
Table 4.9: Descriptive statistics for social cohesion indicators .....	146
Table 4.10: ANOVA for social cohesion indicators across the neighbourhoods .....	147
Table 4.11: Descriptive statistics for social cohesion indicators and common space outdoors .....	150
Table 4.12: Normality test - one-sample Kolmogorov-Smirnov test .....	150
Table 4.13: Regression model for social cohesion indicators and common space outdoors .....	152

Table 4.14: Between subject factors .....	154
Table 4.15: Box's test of the equality of covariance matrix .....	154
Table 4.16: Levene's test of the equality of error variance .....	155
Table 4.17: Multivariate test .....	156
Table 4.18: Between-Subjects Factors.....	158
Table 4.19: Box's test of the equality of covariance matrix .....	158
Table 4.20: Levene's test of the equality of error variance .....	159
Table 4.21: Descriptive statistics .....	160
Table 4.22: Tests of between-subjects effects .....	162
Table 4.23: Descriptive statistics .....	163
Table 4.24: Correlation between time spent by residents outdoors and the available physical space outdoors in their neighbourhood.....	163
Table 4.25: Subordinate themes and respondents based on number of years of residency in Dubai.....	166
Table 4.26: Superordinate themes and families with children/without children .....	170
Table 4.27: Choice of neighbourhood selection by respondents .....	172
Table 4.28: Level of social interactions.....	173
Table 4.29: Relevancy of social cohesion .....	175
Table 4.30: Contributing socio-cultural factors for social inclusion .....	176
Table 4.31: Non-physical factors for social inclusion in a neighbourhood .....	178
Table 4.32: Suggestions for physical factors for community living.....	179
Table 4.33: Impact of layout and design of a neighbourhood on social interactions ...	180
Table 4.34: Responses coded from the key stakeholders .....	181
Table 4.35: Reliability statistics.....	182

## List of Figures

Figure 1.1: Chapter structure and summaries .....	6
Figure 2.1: Literature review outline on urban social sustainability .....	9
Figure 2.2: Urban social sustainability: A conceptual framework .....	10
Figure 2.3: Urban locus of sustainability principles and policies.....	11
Figure 2.4: Future communities – a framework to create socially sustainable communities.....	15
Figure 2.5: Four dimensions of social sustainability framework.....	16
Figure 2.6: Social sustainability building blocks.....	17
Figure 2.7: Urban sustainability indicators.....	19
Figure 2.8: Egan wheel of sustainable communities .....	20
Figure 2.9: Social sustainability factors of development projects.....	21
Figure 2.10: The interdependent production of sustainable urbanism and key sources of the three main urban qualities.....	24
Figure 2.11: Layers of rules defining social interaction .....	31
Figure 2.12: Relationship between residential stability, home ownership and neighbouring .....	36
Figure 2.13: Characteristics of study suburbs.....	39
Figure 2.14: Aspirations of residents for quality of life in residential areas .....	40
Figure 2.15: The compact city revisited .....	41
Figure 2.16: Hierarchy of human needs and the human space .....	44
Figure 2.17: The New World Order of Cities.....	48
Figure 2.18: Migrations to Gulf countries .....	51
Figure 2.19: Gulf Cooperation Council migrant workforce 1990-2010.....	51
Figure 2.20: Six themes for Dubai’s vision for 2021 .....	57
Figure 2.21: Dubai’s aims for The Preferred Place to Live, Work and Visit.....	58
Figure 2.22: Dubai’s aims for an inclusive and cohesive society.....	59
Figure 3.1: Relationship between epistemology, theoretical perspectives, methodology and research methods.....	63
Figure 3.2: Research onion .....	65
Figure 3.3: Relationship between ontology, epistemology, axiology and research philosophies .....	66



Figure 3.4: An illustration of how the inductive and deductive methods can be combined.....	70
Figure 3.5: Dimensions of qualitative analysis.....	72
Figure 3.6: The six prototypes of mixed methods research.....	76
Figure 3.7: Research design, qualitative, quantitative and mixed approaches .....	77
Figure 3.8: The basic procedures implemented in a convergent parallel design .....	79
Figure 3.9: Research framework.....	86
Figure 3.10: Conceptual model.....	87
Figure 3.11: Overview of hypothesis and research questions .....	88
Figure 3.12: Overview of the analytical process .....	107
Figure 3.13: Theme nodes .....	109
Figure 3.14: Conceptual model for processes and outcomes of the encoding and analysis of primary data.....	114
Figure 4.1: Common open spaces in Bur Dubai.....	121
Figure 4.2: Parks, children play areas, and the lake at The Greens .....	122
Figure 4.3: Socio-cultural factors .....	122
Figure 4.4: Bur Dubai district (part).....	125
Figure 4.5: Bur Dubai - selected area of study .....	126
Figure 4.6: Bur Dubai - land use plan.....	126
Figure 4.7: Bur Dubai - view of the study area .....	127
Figure 4.8: Bur Dubai - plot configuration and street layout.....	127
Figure 4.9: Bur Dubai - volumetric study.....	128
Figure 4.10: Deira district (part).....	130
Figure 4.11: Deira - selected area of study .....	130
Figure 4.12: Deira - land use plan.....	131
Figure 4.13: Deira - volumetric study.....	131
Figure 4.14: Deira - view of the study area .....	132
Figure 4.15: International city - area of study .....	134
Figure 4.16: International city - open space analysis.....	134
Figure 4.17: International city - land use plan .....	135
Figure 4.18: International city - view of the study area.....	135
Figure 4.19: International city, children play area.....	136
Figure 4.20: International city, volumetric study .....	136
Figure 4.21: The Greens - study area.....	138

Figure 4.22: The Greens - layout .....	138
Figure 4.23: The Greens - volumetric study .....	139
Figure 4.24: The Greens - land use plan .....	139
Figure 4.25: The Greens - an overview .....	140
Figure 4.26: Average monthly income of respondents.....	141
Figure 4.27: Factors influencing the choice of neighbourhood .....	141
Figure 4.28: Summary of factors in the choice of neighbourhood .....	142
Figure 4.29: Social cohesion indicators across the four neighbourhoods.....	146
Figure 4.30: Durbin Watson Statistics .....	151
Figure 4.31: Social-cultural factors across the four neighbourhoods .....	161
Figure 4.32: Number of interviewees for selected neighbourhood and stake holders..	164
Figure 4.33: Family composition of the interviewed residents .....	165
Figure 4.34: Number of years of residency of respondent, in Dubai and within the same neighbourhood .....	166
Figure 4.35: Number of matching cases for respondents with and without children ..	169
Figure 4.36: Icon reference labels.....	171
Figure 4.37: Choice of neighbourhood selection by respondents.....	172
Figure 4.38: Level of social interactions .....	174
Figure 4.39: Relevancy of social cohesion .....	175
Figure 4.40: Contributing socio-cultural factors for social inclusion.....	177
Figure 4.41: Non-physical factors for social inclusion in a neighbourhood.....	178
Figure 4.42: Physical factors for community living .....	179
Figure 4.43: Impact of layout and design of a neighbourhood on social interactions ..	180
Figure 4.44: Profile of the key stakeholders .....	181
Figure 4.45: Responses from key stakeholders on factors.....	182
Figure 4.46: Selection of neighbourhood by expats in Dubai .....	186
Figure 4.47: Residential stability and social cohesion within a neighbourhood .....	188
Figure 4.48: Social cohesion within a neighbourhood .....	192
Figure 5.1: Paradigm for building socially cohesive community neighbourhoods in Dubai.....	201

## **List of Abbreviations**

DSC	Dubai Statistical Centre
IPA	Interpretative Phenomenological Analysis
GIS	Geographic Information System
ODPM	Office of the Deputy Prime Minister
SPSS	Statistical Package for Social Sciences
UAE	United Arab Emirates

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## **Declaration**

This thesis is submitted to the University of Salford regulations for the award of a PhD degree by research. Some findings from the research together with details associated with the research process itself have been published in an Indexed Journal, presented at International Conferences, and is detailed in the Appendix VII.

The researcher declares that no portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification at any other university or another institute of learning. The work has been carried out by the candidate, all quotations have been distinguished by quotation marks, and the sources of information have been acknowledged.

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Bhakti More

## Abstract

In an era of globalisation and hyper-urbanisation, cities are rapidly emerging as drivers of social, cultural and economic change. Cities are imbibing the values of urbanism: the absence of intimate and personal relationships, and human relations which are largely anonymous, superficial and transitory. The concept of community neighbourhoods in urban living is gradually disappearing, which has led to more challenges for urban planners, designers and the architects.

As architecture and urban planning are expressions of social and cultural milieus, this research focuses on contemporary urban planning approaches, with a theoretical framework that assesses the social cohesiveness and sustainability of neighbourhood communities. Academic literature in key areas of urban social sustainability, social cohesiveness and urban neighbourhood planning guides the theoretical framework. The key attributes of social cohesiveness identified by primary research are social interactions, sense of community and social ties.

The aim of the study is to assess and analyse the role of the physical planning of the built forms, layout and design in creating socially cohesive neighbourhoods in the multicultural city of Dubai. The study focuses on four selected neighbourhoods in Dubai to analyse the extent of social cohesiveness evident and present and within these neighbourhoods. The study involves mixed methods: with quantitative, qualitative, spatial and observation analysis examining the physical factors of the neighbourhood and its impact on social cohesiveness.

The findings of the study conclude that physical layout and built form contribute towards social cohesiveness among residents. There is a willingness of the residents to be part of a socially cohesive society; and if opportunities are provided through urban planning, this can help foster a socially cohesive multicultural society in Dubai. The study concludes that the role of urban planners, architects are important in building socially cohesive neighbourhoods in Dubai. The study seeks to contribute to the existing body of knowledge on building socially cohesive urban neighbourhoods; more specifically, in the context of Dubai's transient multicultural expatriate population.

*Keywords: built environment, culture, Dubai, expatriates, housing, neighbourhood, social sustainability, social cohesiveness*

# Chapter 1 - Introduction

## 1.1 Introduction

‘Cultures and climate differ all over the world, but people are the same. They will gather in public if you give them a good place to do it.’ (Gehl, 2010, cited in Matan & Newman, 2016, p.40)

The globalisation of cities is creating growing pressure for housing to accommodate the recent rapid acceleration of migration. In this development process, what often gets ignored is the human scale and the people for whom cities are built. Cities can be meaningful places to live if spaces within them are lively, vibrant and provide opportunities for residents. The people-centric approach in urban planning and architecture is therefore important. Neighbourhoods are opportunities for people living from various cultures, social and ethnic backgrounds to socially interact. Yet in contemporary urban neighbourhoods, such interactions are vanishing. Can urban planners and architects conceive of a neighbourhood design which encourages residents to develop social networks and build social cohesion within their communities?

Today, many of these cities have ambitious plans to become smart and sustainable, with the concept of liveability a priority. A liveable city adds to the quality of life of communities; the relationship between the built environment and people should be on the policymaking agenda and framework in urban planning. While rediscovering the principles of urbanism, cities should be socially sustainable and resilient. This research is based on the concept of urban social sustainability, which addresses contemporary urban living. Urban planning at neighbourhood level can have a positive impact on liveability and build social cohesion: a key factor in urban social sustainability. The research looks at the building of a socially cohesive society in the multi-cultural city of Dubai, the financial capital of the United Arab Emirates. The aim is to summarise the role of urban planning and social cohesion indicators at the neighbourhood scale.

## 1.2 Background of the Research

In the Gulf region, urbanisation over the last few decades has been a consequence of the area’s oil-driven economies and a financial market which has attracted huge populations from various countries. The social fabric of these cities transformed, with a heavy imbalance between local citizens and foreign workers. The middle class working expatriate population began living in various enclaves, based on job opportunities, affordability and other physical factors. The urban

development of these cities regarded the expatriate population as transient; so most of the neighbourhoods emerged out of the requirement to house the incoming influx. Though temporary, the expatriates have been living in the neighbourhood for several years; thus, there is a need to address neighbourhood planning from an approach that caters to the socio-cultural aspects of the foreign population. The research addresses the challenges in urban planning at a neighbourhood level for the transient population in selected neighbourhoods in Dubai, and aims to understand the relationship between the physical layout of the neighbourhood and the social cohesion among the residents.

The study employs spatial analysis to understand the distinct physical features of the neighbourhood while studying the people's behaviour through an observation analysis. The experiences of the residents are addressed through qualitative and quantitative analysis, which provides insight on various sociocultural aspects through surveys and in-depth interviews.

### **1.3 Research Rationale and Purpose**

Contemporary cities are becoming centres of diverse populations as well as nodes of economic and financial power. Over the past few decades, the urban population living in cities has increased worldwide. This has added pressure to cities to absorb such large numbers. The urban social fabric is rapidly transforming accommodating such transit-oriented communities. The processes of globalisation and urbanisation have expanded cities geographically, yet forced compromises at human scale. The social structure of a community or network is disappearing as urban developments are witnessed at a larger and larger scale. Jan Gehl, a renowned urban planner, states that if we want to create "cities for people" or "people-friendly" cities, urban planners need to apply a human perspective, carefully observe and analyse people's behaviour in the urban realm, and create people-friendly city spaces, Gehl (2010).

Neighbourhoods are places for social encounters and interaction and can play a vital role in creating vibrant spaces for people. Social cohesion in these neighbourhoods encourages a sense of belonging, trust, and can help build sustainable communities. A community which lacks social cohesiveness can generate division and isolation. The role of urban planners in promoting social cohesion should, therefore, be demonstrated in planning and design approaches for residential community design. Vibrant, friendly communities are key to socially cohesive societies and urban life. The concept of community life faded against the backdrop of the new urbanism, or contemporary living: the rapid growth of which has brought about a level of social



change which has impacted wider society.

Cities in the Gulf, such as Dubai, Doha, Manama and Kuwait city have experienced urbanisation due to the increasing flow of expatriates. Dubai, financial capital of the United Arab Emirates (UAE), has become an emerging global city in only a few decades. Its urban development represents a unique model for a city which hosts over 200 nationalities, who form over 80% of expatriates. The dynamics of urbanisation in Dubai include multiculturalism; those from varied socio-cultural backgrounds have settled in large numbers from other Asian countries. The transient nature of its population differentiates Dubai from other emerging global cities and makes it a unique model to study.

## **1.4 Research Aim**

Social cohesion as the key indicator of urban social sustainability is hardly addressed in the urban planning and designing of neighbourhoods in Dubai. Thus, this research aims to assess and analyse the role of physical planning of the built forms, layout and design in creating socially cohesive neighbourhoods in multicultural city of Dubai.

## **1.5 Research Objectives**

The following research objectives address the research aim:

- a. To review, assess and analyse theories and research undertaken in the areas of urban social sustainability
- b. To assess and analyse the relationship between physical planning, layout and design and social cohesion indicators in the neighbourhoods of Dubai
- c. To assess and analyse the role of physical planning, layout and design through comparative analysis of selected neighbourhoods of Dubai
- d. To assess and evaluate contemporary approaches undertaken by urban planners, designers and key stakeholders towards building socially cohesive neighbourhoods in Dubai

## **1.6 Research Approaches**

The literature review focuses on urban social sustainability and social cohesiveness of the neighbourhood residents. The indicators of social cohesiveness are assessed through the

experiences of residents living in various neighbourhoods. The literature review led to the synthesis that social cohesiveness could be assessed through a mixed method approach. Quantitative methods in this study emphasise objective measurements and focus on gathering numerical data to explain a particular phenomenon. The qualitative methods are unstructured or semi-structured and include interviews and participation/observations. The research approach adopts a convergent parallel design, which keeps the qualitative and quantitative strands independent and mixes them during the overall interpretation to assess the findings. The strength of the convergent parallel design is explained in the research methodology chapter. The study adapts spatial analysis to understand the physical features of the neighbourhood; and observation analysis, to understand resident's movements and behaviour within the neighbourhood.

## **1.7 Research Scope**

The scope of the research is grounded in the new approach to building socially cohesive neighbourhoods to enhance the model of community living in the multicultural society of Dubai. Social cohesion as a framework can be further be adapted to the development of new neighbourhoods and redevelopment of existing communities. The research recommends a 'collaborative and integrated approach' to building socially cohesive communities through a paradigm that involves government, local authorities, urban planners, designers, architects, key stakeholders and the residents to strengthen a socially inclusive and cohesive community urban living in Dubai. The cohesive community urban living, in turn, will contribute to the lively and vibrant city and Dubai's ranking in the happiness index.

## **1.8 Significance of the Research**

The Executive Council, Government of Dubai (2014) outlines the Dubai Plan 2021, which features as a central theme the building of a socially inclusive, cohesive society. It focuses especially on cohesive families and communities which form the bedrock of society and provide nurturing environments for personal development, including the raising of children inculcated with core values of personal responsibility, creativity and tolerance. The Dubai Plan 2021 with six themes for Dubais vision include people, society, experience, place, economy and the government. As outlined in the plan is the vision for a vibrant, sustainable multi cultural society, tolerant and inclusive society, building cohesive families and the communities.

Dubai is further aiming to move much higher in the United Nations Global Happiness Index. In 2016, the UAE was ranked 28<sup>th</sup> happiest country in the world, first among Arab countries. The happiness index is a composite indicator which uses a survey to measure individuals' assessment of their standards of living and life satisfaction.

Sustainable living and well-being are key indicators for happy residents for a city. The research, therefore, seeks to contribute knowledge on how to build a liveable, sustainable city which develops a sense of community and helps underpin a socially cohesive society. As an emerging global city, Dubai's population is increasing; as the pressure of the expatriate influx continues to grow, a new approach in urban planning approach requires a different policy framework and guidelines which are more people-centric.

Arcadis (2016) ranks Dubai higher than any of eight other cities in the Middle East: recognising it as the region's most developed city, a global business hub. With the World Expo confirmed to take place in Dubai in 2020, it continues to make a significant investment in improving the quality of life for its inhabitants. The report states that:

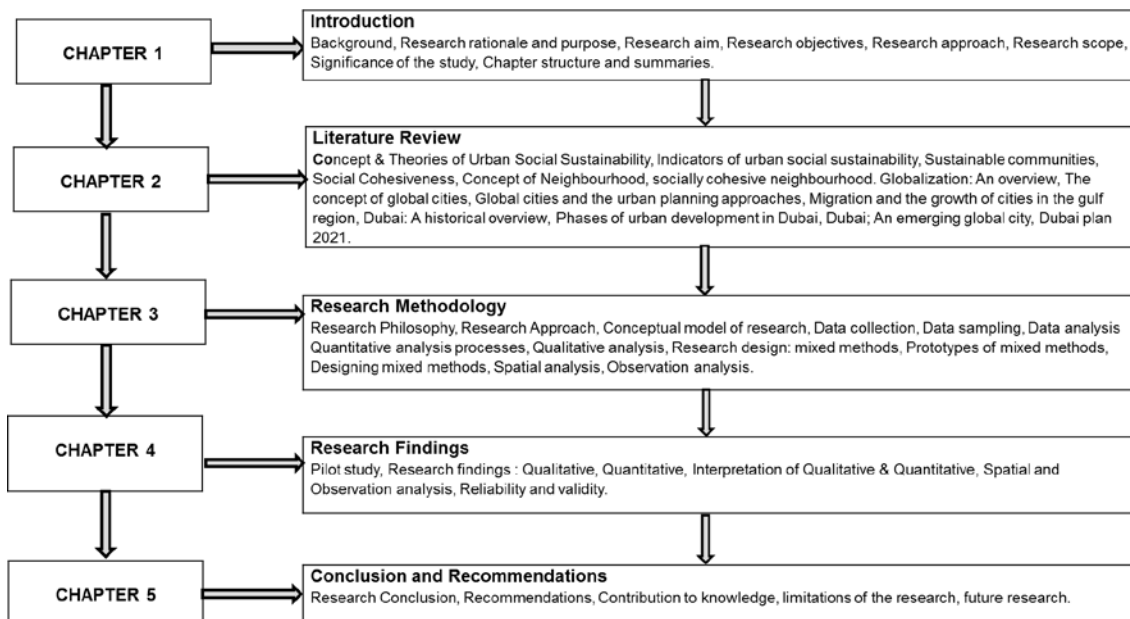
Cities create a sense of community from built and natural assets which is visible in the multiple neighbourhoods of which cities are comprised. Each has its style and distinct sense of community; scale is important as it enables people to feel a strong connection to their core neighbourhood community and, through that, with the wider secondary community of the entire city. A successful city, therefore, is likely to have many different neighbourhoods with their unique sense of themselves, but which, together, can form a common identity (Arcadis, 2016, p.34).

This elaborates on how sustainability improves the quality of life: encompassing housing, safety, education, vocational opportunities, recreation and access to culture and arts. This research, therefore, positions itself to understand people's experiences of urban living. The findings will guide developers, urban planners and architects in better considering the people's needs in community living in Dubai. The study can also be applied to other cities in the Gulf with a multicultural expatriate population which follow the Dubai model and are emerging as regional financial hubs.

In this context the research positions itself in line with the vision of various initiatives and frameworks laid by the Government of Dubai. The research is relevant to the theme society and place. Society refers to building sustainable and socially cohesive communities which can be enhanced through approaches in urban planning.

## 1.9 Chapter structure and summaries

Figure 1.1 illustrates the chapter structure and summaries in the study.



**Figure 1.1: Chapter structure and summaries**

**Chapter 1** introduces the background of the research and focuses on the research aim and objectives: elaborating on its scope and significance in the context of urban social sustainability, social cohesiveness and the urban planning of neighbourhoods.

**Chapter 2**, Literature Review, elaborates on urban social sustainability, theory and concept on sustainable communities, neighbourhoods from the past to present and the challenges of how to design socially cohesive neighbourhoods. The chapter provides empirical findings in the area of urban social sustainability. Social cohesiveness is elaborated through study of indicators in context of neighbourhood planning. The chapter further discusses on globalisation and the concept of global cities. The phases of urban development in Dubai, and Dubai as an emerging global city is further discussed in the chapter.

**Chapter 3**, the research methodology, underpins the theories on research philosophy and provides more detail on the research approach. The conceptual model explains the research process, research methods and research methodology adopted: all of which is justified by the literature. The chapter explains the data collection, sampling and analysis through various methods, qualitative, quantitative, spatial and observation. SPSS, NVivo and GIS frameworks are deployed as research tools for the analysis. The chapter justifies the adaptation of mixed

methods and explains the concept of research validity.

**Chapter 4** reflects on the findings of a pilot study which help operationalise the research questions and provide a guide for the final study. The chapter discusses the findings extrapolated from qualitative and quantitative analysis and further details physical studies of observation and spatial analysis. The validation of the conceptual model is also explained.

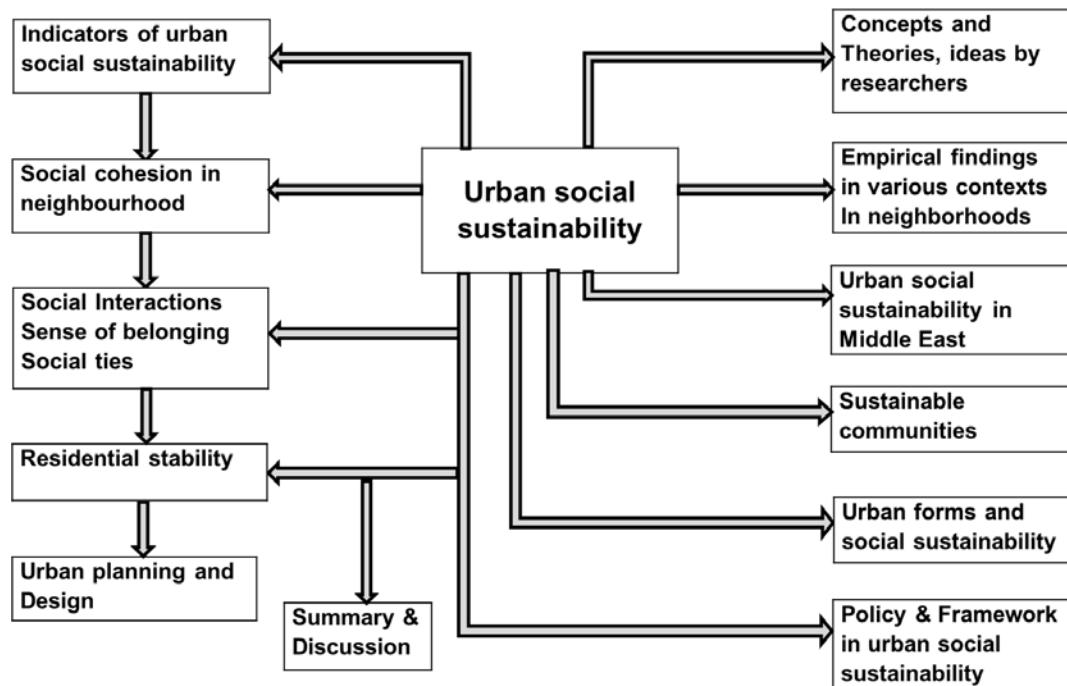
**Chapter 5** summarises the research conclusion, which is followed by recommendations. The chapter emphasises the contribution to knowledge provided by this research. The limitations identified are addressed, as is the future potential of research in this area.

## **Chapter 2 - Literature Review**

### **2.1 Introduction: Urban Social Sustainability**

Scholars and researchers have extensively reviewed the concept of social sustainability: a main inter-sector of society, environment and economy. The literature on urban social sustainability is vast: featuring various definitions theories. Attaining urban social sustainability is a dynamic, complex process. There are many indicators and factors which are important when assessing social sustainability. This chapter reflects on the connection between urban design and planning across various disciplines, primarily the social sciences: with the aim of understanding the sociology of urban living. The chapter also discusses the relevance of and relationship between urban forms and social sustainability and provides a body of knowledge for a policy framework based on social sustainability.

Figure 2.1, a map of the literature review on urban social sustainability, considers the concepts and theories put forth by various researchers. The context of urban social sustainability is seen through empirical studies in context of neighbourhoods. The literature focuses on studies from various countries such as UK, Australia, China, India. Further the concept of urban social sustainability emerging in cities in the Middle East is studied. The area of research on urban forms and social sustainability is relevant to this study. The adoption of urban social sustainability policies, social cohesion framework by the authorities implemented at city level is included. The indicators of urban social sustainability are identified through the literature which highlights social cohesion as among the most important attributes of urban social sustainability. Contributing to this are social interactions, a sense of community belonging, and strong social ties and bonds.



**Figure 2.1: Literature review outline on urban social sustainability**

## **2.2 Concept and Theories of Urban Social Sustainability**

Sustainability’ is addressed more towards environmental and economic sustainability than social sustainability (Cuthill, 2009; Vavik & Keitsch, 2010, cited by Murphy, 2012). In the academic literature, the social dimension of sustainability is yet to be recognised in a broader context. Most empirical studies have been on environmental and economic sustainability. Urban social sustainability is related to urban planning, architecture, psychology, sociology, policy and institutions. Social sustainability is a dynamic concept and has changed with time and there is a major gap identified through the current urban related literature on social sustainability. Since most of the studies are in context of developed countries, there is a gap in relation to emerging issues in developing or less developed countries (Ghahramanpouri, Lamit and Sedaghatnia, 2013). Sustainability relates to society and individuals. As human behaviour is a complex phenomenon, it can only be viewed through social, psychological and personal aspects (Goel and Sivam, 2015).

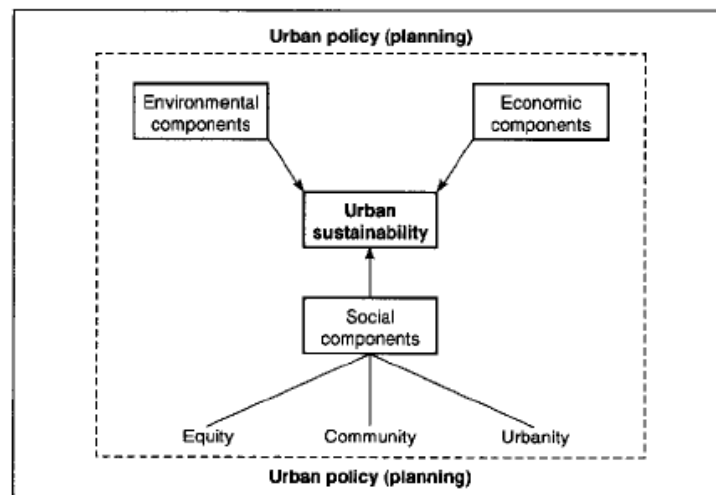
Through an extensive desk research methodology, Ghahramanpouri et al. (2013) identify social equity, the satisfaction of human needs, well-being, quality of life, social interaction, cohesion and inclusion, a sense of community and place as important factors in urban social sustainability.

Social sustainability [is] about people’s quality of life, now and in the future. Social

sustainability describes the extent to which a neighbourhood supports individual and collective well-being. It combines the design of the physical environment with a focus on how the people who live in and use a space relate to each other and function as a community. It is enhanced by development which provides the right infrastructure to support a strong social and cultural life, opportunities for people to get involved, and scope of the place and the community to evolve. (Dixon and Woodcraft, 2013, p. 475)

The concept of ‘sustainability’, as introduced in the Brundtland Report (1987) for the United Nations World Commission on Environment and Development, states that “sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their needs”. The two key concepts included in the report are the essential needs of the poor, to which overriding priority should be given; and the environment’s ability to meet present and future needs.

Yiftachael and Hedgcock (1993, p.140) define urban social sustainability as the “continuing ability of a city to function as a long-term, viable setting for human interaction, communication and cultural development”. In their view, a socially sustainable city involves a viable urban social unit marked by vitality, solidarity and a common sense of place among its residents. Figure 2.2 suggests an analytical framework which examines the level of urban social sustainability regarding social equity, community and urbanity.



**Figure 2.2: Urban social sustainability: A conceptual framework**

(Source: Yiftachael and Hedgcock, 1993, p. 141)

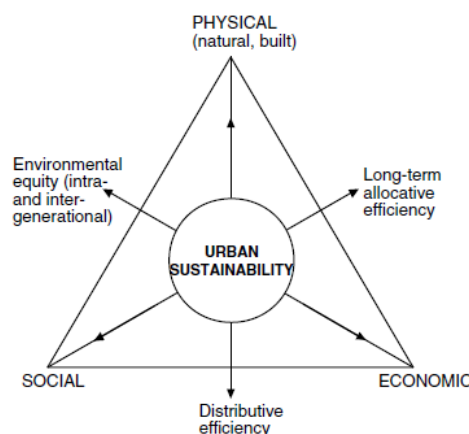
Here, equity refers to social problems based on the equality of social groups. Community relates to developing a sense of community amongst social groups. The layout and design of the



neighbourhood, character and dimensions of the neighbourhood unit impact social behaviour and relations. Urbanity refers to the movement of people from suburban areas to the city, who go on to embrace the diversity and intensity of city life.

Yiftachael and Hedgcock (1993) analyse the role of urban planners and recognise the nexus between urbanity, community and development, identified in Australian cities as “bringing back the city”. They conclude that urban planning can fail if a sense of community is not addressed. The layout and design can favour social relations which can develop community identity and avoid social isolation. The social dimension of sustainability refers to that of the community.

Cities are a locus of human diversity: people of varying wealth and status share an association with an urban boundary. Despite these common boundaries, sharp social divisions characterise many cities. Some cities are more successful than others in creating an environment conducive to the cohabitation of a diverse population (Polese and Stren, 2000). Cities today face challenges of social, economic and ecological sustainability, yet have the potential to cope with issues and challenges. Figure 2.3 illustrates the multidimensional complexity of sustainability policies (Fincoa and Nijkamp, 2010). Physical, Environmental, Social and Economic are the major sustainability principles and policies. These are adapted as sustainability strategies to be more resilient and increase urban efficiency. Sustainability policies are multi-dimensional and complex; the challenge for urban planners and designers is to ensure sustainability in all its forms.



**Figure 2.3: Urban locus of sustainability principles and policies**

(Source: Fincoa and Nijkamp, 2010)

Urban social sustainability relates to the social fabric of cities and is an emerging area of research in urban planning, policy and practice at national, local and regional level. At the national level, research focuses on broader issues such as migration and government policies; while at the local and regional level, it looks at the building and thriving sustainable communities. A sustainable community is one in which not only are people able to live successfully, but they want to live there (Vallance, Perkins and Dixon, 2011).

Social sustainability has three approaches to social capital for long-term sustainability in urban intervention areas. The first is social capital linked to individuals, the second is a feature of communities, and the third approach brings attention to linking capital between the civil society and the public (Soholt, Ruud, and Braathe, 2012). HACT (2015) study in the concept of social sustainability at the neighbourhood level is on 'community' and 'space' and examines the concept of 'community' and interaction within the 'space' of communities. A group of people who live together and share a sense of common beliefs, norms and well-being is conceived as a community. Their common geographical location encourages a sense of shared identity.

The concept of urban social sustainability varies with time, culture and cities. Hilgers and Goldsmiths (2013) refer to three overlapping interpretations of urban social sustainability. The first is inspired by development studies and addresses social balance within an urban community as guaranteed by equity and sustainability (Bramley et al. 2009; Dempsey et al. 2011). The second is that of "desired social change towards environmental sustainability in which people either actively embrace or resist those changes" (Vallance, Perkins, and Dixon 2011,p.342-343), and relates to sustainable behaviour. The third relates to cultural sustainability, based on the promotion and preservation of social and cultural stability. Soini and Birkeland (2012) describe cultural sustainability in terms of cultural heritage constituting a source of identity of the local sense of place, along with cultural vitality that provides a sense of belonging. They believe that economic viability, relating to place branding and marketing, is also part of cultural stability. Cultural diversity is a sense of community and local identity. The locality of local ways of life and culture; eco-cultural resilience of the balance between humans and nature; and eco-cultural civilisation, based on cultural norms and ideologies, all contribute to cultural sustainability.

Vallance et al., (2011) identify social sustainability as comprising three areas: 'development sustainability', addressing basic needs, social capital, justice and equity; 'bridge sustainability', which concerns bio-physical environmental goals; and 'maintenance sustainability', the

preservation or sustaining of social-cultural characteristics: the ways in which people embrace or resist changes. Various researchers have published literature on urban social sustainability to interpret aspects of policy and practice.

Urban social sustainability is an overarching idea which incorporates the overall satisfaction of residents within communities. Polese and Stren (2000) define urban social sustainability as development and growth compatible with the harmonious evolution of civil society; the fostering of an environment conducive to the compatible cohabitation of culturally and socially diverse groups, while at the same time encouraging social integration, with improvements in quality of life for all segments of the population. Polese and Stren (2000) interpret social sustainability as the collective functioning of society and issues relating to the quality of life. According to Serag El Din, Shalaby, Farouh and Elariane (2012), there is a relationship between sustainable urban development and quality of life. They suggest the latter is a multidisciplinary concept, and that the definition of urban quality of life is complex. Their study emphasises the role of urban planning and design which contributes to principles of urban quality of life.

### **2.3 Indicators of Urban Social Sustainability**

According to Dempsey, Bramley, Power, and Brown (2011), non-physical and physical factors contribute towards urban social sustainability. Table 2.1 illustrates the urban social sustainability contributory factors, including social equity, sustainable communities, social interactions/social networks in the community, participation in collective groups and networks, community stability, pride/sense of place, safety and security.

**Table 2.1: Urban social sustainability, contributory factors, identified from literature review**

(Source: Dempsey et al., 2011)

Non-physical (social) factors	Physical factors
<ul style="list-style-type: none"> <li>• Education and training</li> <li>• Social justice</li> <li>• Participation and local democracy</li> <li>• Health, quality of life and well-being</li> <li>• Social inclusion (and eradication of social exclusion)</li> <li>• Social capital</li> <li>• Community</li> <li>• Safety</li> <li>• Mixed tenure</li> <li>• Fair distribution of income</li> <li>• Social order</li> <li>• Social cohesion</li> <li>• Community cohesion</li> <li>• Social networks</li> <li>• Social interaction</li> <li>• Sense of community and belonging</li> <li>• Employment</li> <li>• Residential stability</li> <li>• Active community organisations</li> <li>• Cultural traditions</li> </ul>	<ul style="list-style-type: none"> <li>❖ Urbanity</li> <li>❖ Attractive public realm</li> <li>❖ Decent housing</li> <li>❖ Local environmental quality and amenity</li> <li>❖ Accessibility (local services and facilities/employment/green space)</li> <li>❖ Sustainable urban design</li> <li>❖ Walkable neighbourhood-pedestrian-friendly</li> </ul>

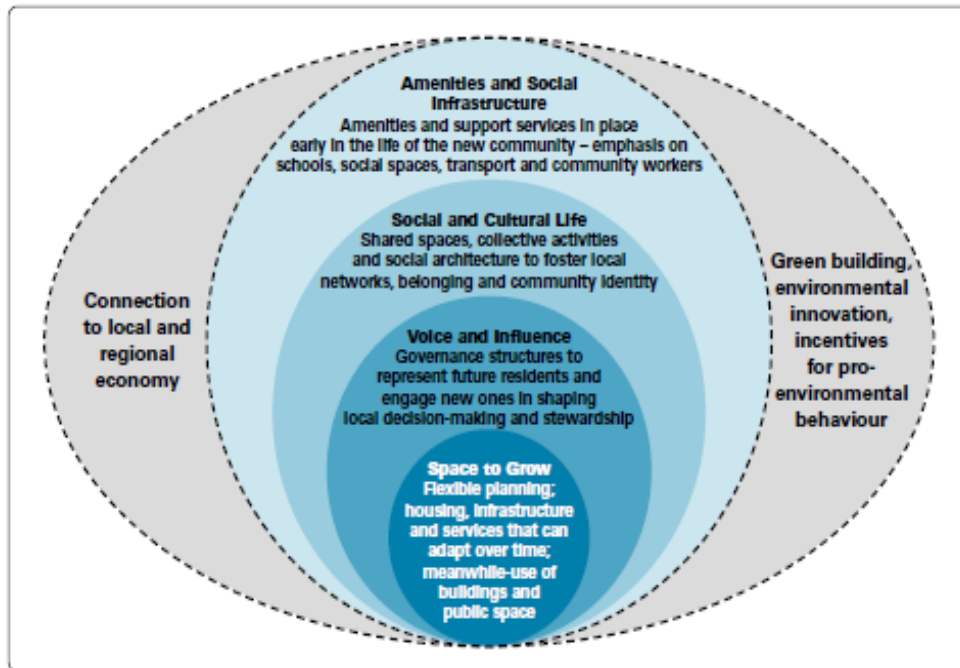
Dempsey et al. (2011) present a framework that implies policy and practice. Their study identified that services and facilities at neighbourhood scale were important factors contributing to social equity. ‘Everyday eight’ services were most important for the residents: including food shops, newsagents, open spaces, post offices, primary schools, pubs, supermarkets and secondary schools. In addition to these were access to health care, restaurants, a library, community centre, facilities for children, open and green spaces.

Dixon and Woodcraft (2013) set a framework adapted from Berkley Group with a set of metrics for new housing development to assess social sustainability. The three dimensions illustrated in Figure 2.4 laid out per this framework are:

- ‘Amenities and infrastructure’: a foundation for a thriving community, which provides facilities through a housing mix, the public realm, landscaping, transport connections,

and community infrastructure.

- ‘Social and cultural life’ is based on people’s experiences, and contributes to their quality of life, perceptions of safety, feelings of belonging and interactions with neighbours.
- ‘Voice and influence’ pertains to the potential and opportunities for the community to engage with each other.



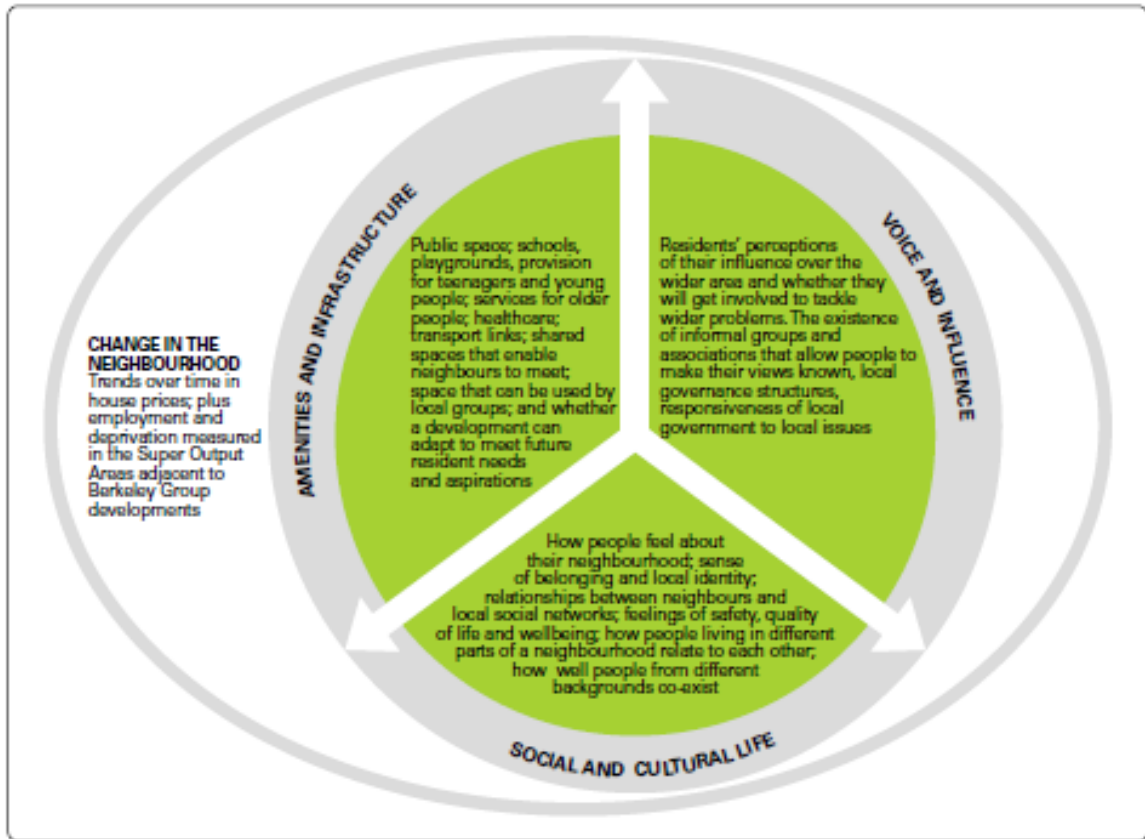
**Figure 2.4: Future communities - a framework to create socially sustainable communities**

(Source: Dixon and Woodcraft, 2013)

Social sustainability highlights the importance of place-making; thus physical environment is important. Figure 2.4 is taken from Dixon and Woodcraft (2013)’s study of the Kidbrooke Village project of assessing social sustainability. Most residents felt settled, secure, and a sense of belonging. Social interactions with neighbours were assessed based on exchanging favours, seeking advice and regularly talking with them.

A low level of interaction was seen in those with a weak link with their neighbours. Although urban planning opportunities had sought open streets and spaces to encourage interaction, as most of these respondents had been living there for a year or less, their level of interaction was low. In comparison with residents staying in private villas, those in an affordable housing indicated a better level of social interaction. Figure 2.5 illustrates the fourth dimension identified as important in a practical assessment of social sustainability: ‘change in the

neighbourhood’, which captures the impact over time of a new community on the surrounding neighbourhood and wider area. This dimension was not included in the final framework of the Berkeley Group.



**Figure 2.5: Four dimensions of social sustainability framework**

(Source: Dixon and Woodcraft, 2013)

Figure 2.5 discuss the role of planning and design, regarding its integration in the policy framework to address social sustainability. They assert that social dimension is important for the long term sustainability of new communities. Social sustainability is an issue of public value, well-being, quality of life and resident satisfaction. Woodcraft et al. (2011) looks at the riots in Britain, where several cities displayed a collapse of social sustainability. The riots were attributed to social divides; in other words, planning for thriving communities has a direct impact on livability and social environments.

Thus today, social sustainability issues have become an integral component of the job of city planners. Woodcraft et al. (2011) discuss the framework developed by Young Foundation that has a structured procedure for every urban planner, designer and policymaker:

## Building blocks for social sustainability



**Figure 2.6: Social sustainability building blocks**

(Source: Woodcraft et al., 2011)

Figure 2.6 illustrates the four important areas in the framework for social sustainability building blocks; amenities and social infrastructure, social and cultural life, space to grow, voice and culture.

**Amenities and social infrastructure** include local services like schools, shops and public transport. These help people feel at home and create opportunities to meet other residents, as well as for community and cultural activities. A sense of shared history enables residents to

meet their neighbours. “Whenever these opportunities were provided before the arrival of new communities, networks were easily formed, while when there was a lack of social infrastructure to support new residents, the community had long-term problems for well-being” (Woodcraft et al., 2011, p.26). Creating strong social networks and breaking down barriers reduced tensions between diverse social groups.

**Social and cultural life** is the outcome of formal and informal local activities within the neighbourhood. Residents often choose their communities based on the social and cultural background of the neighbourhood. However, building social capital among diverse ethnic groups is a challenge. Thus, creating spaces for residents to interact through community planning is a role of urban planners.

**Voice and culture** refer to involving the community in the early stage of planning and development. A sense of belonging can occur when communities are established and form social networks.

**Space to grow** is the physical space the community adapts to with time. As community spaces are dynamic and change with social patterns, flexibility and adaptability should be addressed. According to Woodcraft et al. (2011) creating spaces to grow can help residential stability and communities can become more established.

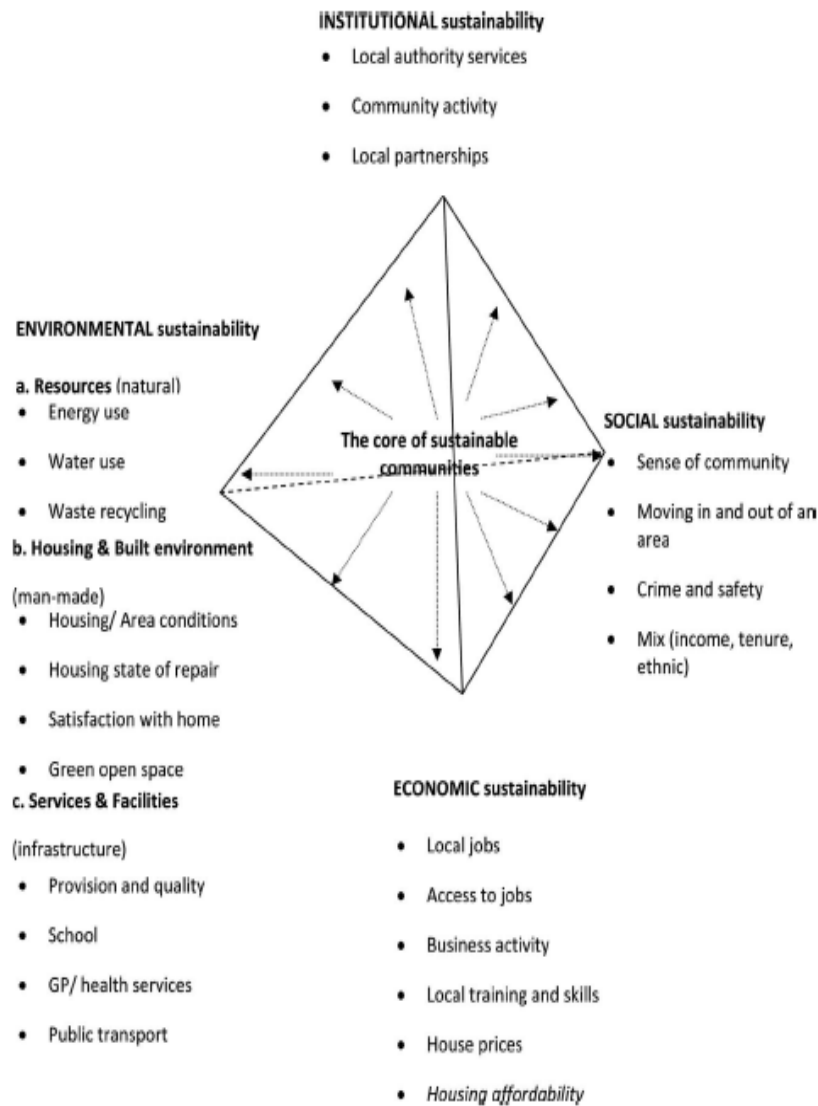
The indicators of social sustainability when building social capital vary depending on ethnic groups, cultural context, other challenges and issues. Altschulera, Somkina and Nancy (2004) identify six indicators of building social capital within the neighbourhood: safety, physical space, food stores, pollution, municipal services, and stress. Safety relates to psychological feelings of safety; physical space to the natural elements which enhance the urban environment. Accessibility to food stores was considered more important by the residents belonging to low-income groups than higher-income ones who could drive to supermarkets. Pollution was a concern for all; but more for residents belonging to lower income groups. There was a disparity regarding the provision of municipal services: which provided a higher quality of service to a higher income than lower income groups.

Hewitt and Pendlebury (2014) explore the relationship between place and community in seeking to understand the importance of spatial and social identities. Their study examines the concept of people and place, sense of community and social value. A participative approach helps develop the idea of locality and relates to the contemporary policy agenda.



## 2.4 Building Sustainable Communities

The concept of sustainable communities has continually evolved. A sustainable community is one which meets challenges for both present and future regarding economics, environment and social elements. Turcu (2013) put forth the four pillars of the prism model of sustainability.



**Figure 2.7: Urban sustainability indicators**

(Source: Turcu, 2013)

In Figure 2.7 (Turcu, 2013), institutional sustainability, social sustainability, economic sustainability and environmental sustainability are the core for sustainable communities. The urban sustainability indicators - institutional, social, environmental and economic - vary per context and urban area. Turcu (2013) states that urban areas and communities are dynamic entities which change according to local circumstances. Thus, these sustainability indicators

are flexible.

Sustainable communities have emerged as a key concept in policymaking in the UK (Bell and Lane, 2009). Sir John Egan was asked by the Deputy Prime Minister to examine the concept of sustainable communities in 2004. Mazi, Lucas, Jones, and Allen (2010) cite the OPDM (2004, p.7) definition that sustainable communities are those that:

Meet the diverse needs of existing and future residents, contribute to a high quality of life and provide opportunity and choice. They achieve this in ways that make effective use of natural resources, enhance the environment, promote social cohesion and inclusion, and strengthen economic prosperity (ODM, 2004, p.7, cited in Mazi et al., 2010, p.17)

Egan (2004 cited in Bell and Lane, 2009) suggests that sustainable communities must meet the diverse needs of existing and future residents, the future generations to come. They must use natural resources effectively, enhance the environment, promote social cohesion and inclusion and strengthen economic prosperity. Figure 2.8 shows the salient features of the Egan wheel on neighbourhood well-being and liveability.



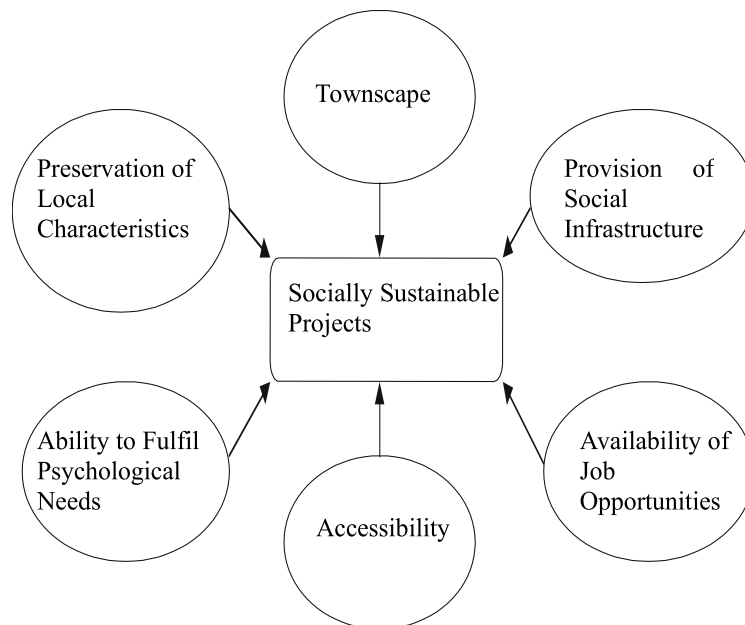
**Figure 2.8: Egan wheel of sustainable communities**

(Source: Bell and Lane, 2009)

The key areas are supporting resident participation, encouraging social cohesion and integration, integrating core services such as housing, planning, education, transport and health, and facilitating partnership and collaboration in service provision. If a new community is to be successful and sustainable, the physical space, housing stock and amenities and social infrastructure need to adapt over time to new needs and new possibilities.

Urban social sustainability indicators apply to building new sustainable communities and urban renewal projects. Chan and Lee (2007) look at urban social sustainability in an urban renewal project in Hong Kong. They cite DETR (2000), who define urban design as “the art of making places for people”; and Oktay (2004), who states that urban design gives design directions to buildings and space arrangements to create a high quality, sustainable built environment for citizens.

Chan and Lee (2007) identify, however, that some of the urban renewal projects in Hong Kong failed to address social cohesion and stability, or social equality. Figure 2.9 sets out the significant factors in the social sustainability of development projects: which include the provision of social infrastructure, availability of job opportunities, accessibility, ability to fulfil psychological needs, preservation of local characteristics, and townscape design.



**Figure 2.9: Social sustainability factors of development projects**

(Source: Chan and Lee, 2007)

Provision of social infrastructure includes essential amenities which are vital to society: such as medical centres, sports facilities, community centre and leisure activities, open spaces and

green areas. These are all part of the social infrastructure where people meet, and social interactions happen. Accessibility relates to proximity and access to areas of travel. Everyone, regardless of age and physical condition should have proper and convenient access to certain places in their daily lives. Freedom of movement from place to place is recognised as a basic human right which should be preserved anyway. Employment is one of the major focuses of social sustainability (Chan and Lee, 2007). The ability to fulfil psychological needs enhances a sense of belonging within the community.

Chan and Lee (2007) conclude that when residents are involved in the urban design of their communities, they feel more sense of belonging: which can enhance the urban design process. Their research included a questionnaire survey with architects, planners, property development managers and citizens, analysed through exploratory factor analysis. The findings identified six critical factors, extracted by factor analysis on 30 variables produced through a combination of a literature review and pilot study. Townscape design emphasises the need for streetscapes and pedestrianisation.

Urban renewal projects by urban planners focus on primarily physical and environmental rather than socio-cultural aspects. Social sustainability has been instrumental in shaping new communities and urban renewal processes at a level of urban intervention. Soholt et al. (2012) discuss two deprived neighbourhoods in Oslo and Lisbon, where social sustainability was applied as a tool for improvement in physical living conditions. In their urban renewal programs, both Oslo and Lisbon included the participation of residents. Their involvement in the decision-making process motivated a sense of shared interest among residents, with a sense of belonging and restored social capital resulting from this. Field (2008) describes social capital as a multidisciplinary concept, with roots in sociology and political science. Membership of networks and a set of shared values contribute to social capital. Sampson and Graif (2011) cite Putnam (1993, p.36), who defines social capital as “features of social organisation, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit”.

Social sustainability is also receiving attention in the area of housing sustainability. Huia et al. (2015)’s study on housing sustainability in Hong Kong cites Thorns (2004), who interprets social sustainability as a relationship between house-home and links to the city and the neighbourhood. Moorer and Suurmeijer (2001), conclude that social networks, human relationships and psychological attachments can be developed and emerged over time. Huia et al. (2015) assess look at housing demand and supply in Hong Kong, argue that sustainability

concepts can address the requirements of the present and future generations, and suggest that a legal framework covering housing strategies be developed. Their study implies the need for a regression and cluster analysis to understand residents' experiences in urban living.

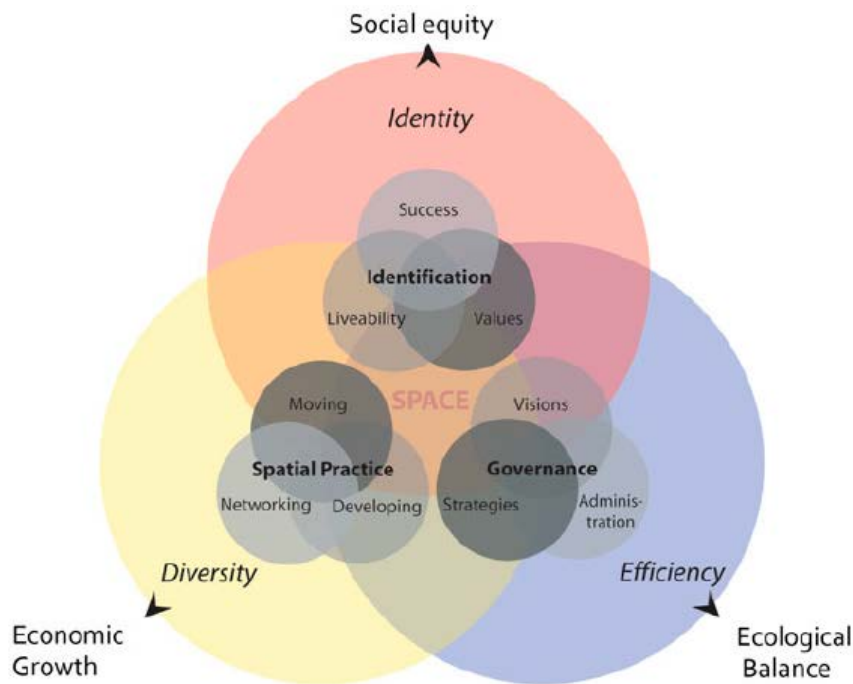
## **2.5 Urban Social Sustainability in the Middle East**

The cities in the Middle East have greatly experienced the impact of globalisation and migration. The concept of social sustainability is only just emerging in countries such as the UAE. Researchers have adopted different tools, with the aim of helping decision-makers address social, environmental and economic sustainability.

In their study on urban sustainability, Subeh and Al-Rawashdeh (2012) state that cities in the Middle East have gone through many challenges and pressures caused by urbanisation over the past few decades. The concept of urban sustainability is most important in cities such as Dubai, Muscat, Beirut, Amman, and Cairo: where there is continuous expansion balanced with economic and social development; and urban areas are not autonomous units, but part of an international development milieu.

Doha is the capital of Qatar and has seen urbanisation at a rapid pace. With the discovery of oil, there has been a high migrant influx. Wiedmanna, Salama and Mirin (2014) study the Doha's urban environment that incorporates urban governance, for efficient urban structures; spatial practice, responsible for the diversification of structures; and inhabitant identification: with their surroundings as the basis for social equity. Their research included surveys of expats to understand the concept of liveability and geographical information system evaluations. They focused on three challenges: supplying an efficient urban structure, developing diversity, and creating an identity. Lack of efficiency in the urban structure and transport systems were major factors resulting in a lack of cohesion between urban areas. There was no dialogue between developers and end users, and hence no long-term commitment from developers. Wiedmanna et al. (2014) suggest that to create sustainable urbanism, and central planning with an efficient transport system, dialogue between developers and end users is useful. This would help Doha sustain cultural identity as a Gulf city, and migrants create their own identity. In Figure 2.10, the triadic principles and sustainable urban model are set out. The supply of an efficient urban structure through urban governance is the key to improving the ecological balance of cities. Urban diversity created by the interdependencies and interactions between investors, companies and inhabitants is the basis for continuous economic growth. Urban identity

resulting from the identification process between all social groups and the urban environment is the basis for social equity.



**Figure 2.10: The interdependent production of sustainable urbanism and key sources of the three main urban qualities**

(Source: Wiedmann, Salama and Mirin, 2014)

Sustainable urbanism as stated by Roggema (2016) is designing sustainable urban system, which creates physical and mental space to adjust the urban form at any moment in time, anticipates uncertain, unexpected and unprecedented change, and grows stronger and becomes more resilient when uncertainty impacts on it.

Various indicators assess urban social sustainability but differ per regional and local context. Ahmed (2012) assesses urban social sustainability for the neighbourhoods in Al Ain, UAE, and identifies social sustainability indicators via qualitative analysis, field observations and space syntactic analysis. The neighbourhoods selected were primary residences of Emiratis. The five indicators of social sustainability were vitality and social interactions among residents; integrated public open spaces and neighbourhood links to the surroundings; pedestrianisation and cycling; a healthy environment; a safe environment. Of these, safe environment was significant, healthy environment partially achieved, while the other indicators were not significant (Ahmed, 2012).

Chiu (2004), Dempsey et al. (2009), and McKenzie (2004) contend that community cohesion

encourages social interaction and harmonious social relations among residents; and indeed, has been classified by many scholars as a vital dimension for socially sustainable neighbourhoods. To encourage social interaction among residents, the guidelines propose that mosques, a symbol of socio-cultural life, should be located at a walkable distance, with amenities such as a kindergarten, primary school, and cafes in the vicinity. An absence of interconnectivity of public transport with urban space, pedestrian and cycling facilities are all shortcomings in neighbourhood design. Houses should also provide privacy as well as a sense of the public realm.

Ahmed (2012)'s study addresses the research gap around the need of socially sustainable neighbourhoods to consider regional social and cultural characteristics. Resident participation in the urban planning process has been negligible, yet a participatory approach can help remedy this. The Abu Dhabi Plan 2030 adapted traditional neighbourhood development planning with Fareej courtyard house design, which have been shown to encourage social interaction.

## **2.6 Urban Forms and Social Sustainability**

A built environment creates spaces for people, and they become significant. Urban forms have been integral contributors to a sustainable built environment. Pinoncelly (2015) defines urban form as the physical characteristics which make up built-up spaces: including shape, size, density and configuration of settlements. They are considered at different scales: regional, urban, neighbourhood, block and street. Some urban forms are more sustainable than others, and provide efficient urban patterns which can create a sense of community and resident satisfaction. Urban planners have been inspired by traditional urban forms to help create a socially sustainable society. The components of urban form have been defined through various variables characteristic of mixed land uses, street patterns, transport facilities, the arrangement of houses, and amenities.

Bramley and Power (2009) discuss the social impact of urban forms in the neighbourhood in England. They identify density, house types, the height of buildings and density of cars as elements of urban form. They conclude that when it comes to social rented housing, the socio-demographic composition is more important than urban form. However, in terms of access to services in the neighbourhood, urban forms become more important. Compact forms give better access to services but do not provide resident satisfaction; hence, the two dimensions of social sustainability are social equity and sustaining communities. These work in opposite directions:

meaning that the impact of urban forms on sustainability varies, based on where and how people live, and communities are sustained.

Hernbeck (2012) looks at the significance of spaces and investigates the relationship between urban form and urban life. Space syntax analysis is used for a study of Pune, India, which investigates the influence of urban form on public space in planned and formally unplanned urban environments. Hernbeck (2012) cites Jacobs (1961), Gehl (1987), and Whyte and York (1980) who emphasise the influence of urban form on urban life; and Hanson and Hillier (1987), who explore how socio-spatial environments reflect the social nature of people. Hernbeck (2012) also cites Legeby (2010); and Al Ghatam (2012), who posit that when planning meets social science, social integration issues can be addressed. Due to the hierarchy of street patterns in unplanned areas, which restrict the mobility of women, urban forms clearly have social implications.

In today's context of hyper-urbanisation, cities have emerged as pivotal in development due to higher mobility and rural-urban migration. Keivani (2010) focuses on sustainable development and environmental concerns: addressing social and economic domains mediated through physical spaces and built form. Urban form and spatial development have major consequences for sustainable development, encompassing environmental, social and economic aspects. The concept of compact city development aims to optimise energy use, promote renewable energy sources, and provide integrated public transport networks and cycle routes: thereby changing the culture of energy and resource consumption, and increasing social inclusion (Jenks and Jones, 2010, cited by Keivani, 2010). Challenges here revolve around the multi-faceted nature of the sustainability debate in towns and cities, where large concentrations of people and activities have created a myriad of complex issues, as well as the potential of addressing these.

Karuppannan and Sivam (2011), who focus on neighbourhoods in Delhi, India emphasise the importance of urban form in creating a socially sustainable neighbourhood. In their study, three neighbourhoods are distinct in character: one is from the oldest city area, another was designed during British colonial times, and the third is from a contemporary period. Design parameters and social behaviour indicators were used to assess social sustainability. The study concluded that physical design, layout pattern, location and design of open spaces result in opportunities to develop social relations and socially sustainable neighbourhoods, and has contributed to the policymaking framework.

Stakeholders who develop neighbourhoods and invest in urban development should understand



the relationship between neighbourhood and social sustainability. Greene (1992) notes that urban form is the physical arrangement of various activities and architectural forms to suit land use regulations. Lynch (1960), Cullen (1961), Trancik (1986), and Levy (1999) all perceive the design of urban form in physical and environmental terms; whereas others argue that it represents a linkage between psychological, sociological and philosophical aspects (Rapoport 1982, Alexander et al. 1987). The role of built environment to create spaces where neighbours interact intentionally or accidentally has often been important.

Urban sustainability has influenced policies and governance in many cities. Chiu (2012) examines the rapid urbanisation of Chinese cities - Beijing, Shanghai and Guangzhou – which have adopted sustainability principles in their urban form planning strategies. Compact urban forms and sustainability performance are investigated for advantages and disadvantages. Improvements in livability were not only dependent on urban form, but urban policies. The success of Shanghai and Guangzhou, in contrast with Beijing, underscores their efficient multi-nodal urban forms. Discussion forum respondents also suggested that urban design has a close relationship with sustainable development; layouts of the street and open space, and the design of the building and transportation network are key elements in creating sustainable urban living space.

Urban form constantly evolves in response to social, environmental, economic and technological developments; planning, housing and urban policies; health, transport and economic policies. The research on urban form and social sustainability indicators is exploratory. Various factors in an urban form contribute to sustainability. However, although urban forms are addressed at macro and micro scale, human scale is equally important in designing something which can enhance social networks and a sense of belonging. This makes street orientation and the design of spaces for residents which encourage social interactions important.

## **2.7 Social Cohesiveness and Urban Neighbourhoods**

The American sociologist Louis Wirth defines urbanism as the revitalisation of key public spaces with streets, squares and neighbourhoods in which people can interact. Social cohesion plays a significant role in bringing city residents together. Urbanism is a way of life that reflects the organisation of society and complex division of labour, high levels of technology, high mobility, interdependence of its members in fulfilling economic functions, and impersonality

in social relations (Wirth, 1938). Urbanism is characterised by elements such as transiency, superficiality, anonymity and individualism. Transience refers to short-lived relationships with others; superficiality is a person's impersonal and segmental roles; anonymity refers to lack of intimacy; individualism means attributing more importance to one's vested interests.

Ferdinand Tonnies (1887) proposed the terms, 'Gemeinschaft' and 'Gesellschaft'. Gemeinschaft, or 'intimate community', describes village life, the type of society in which everyone knows everyone else. Tonnies (1887) noted that gradually, the personal ties, kinship, connections, and lifelong friendships which had hitherto marked village life were being crowded out by short-term relationships, individual accomplishments, and self-interest. Tonnies (1887) called this new type of society 'Gesellschaft' or 'impersonal association'.

Sociologists concurred about this shift from a community in which people were united by close ties, shared ideas and feelings to an anonymous association built around impersonal, short-term contact. Henslin (2008) notes that the concept of social cohesion was discussed by Durkheim, a French sociologist, who identified the key role of social integration. Social integration is the degree to which members of the group or society feel united by shared values and other social bonds.

Social cohesion is one of the multi-disciplinary, non-physical factors discussed in social psychology and sociology. According to Bruhn (2009), the concept has multiple definitions and meanings in various applications. In sociology, it provides a social structure for the study of the behaviour of social groups and organisations. In social psychology, it is considered an attribute when operating with small groups. In psychology, it relates to emotional and behavioural characteristics with one another; and in mental health, it is a dynamic system in which differentiation of roles during phases of group development is dependent upon a cohesive group bond. In public health, it is viewed in the context of the society and environment.

Berger Schmitt (2000) links social cohesion to quality of life, as it represents the attributes of society, its relations, attitudes and behaviour. In the context of society, social cohesion represents components of individual quality of life. Social cohesion is conceived as a societal quality in terms of the social climate in a neighbourhood or workplace.

Social cohesion is studied by Forrest and Kearns (2001) at neighbourhood level: which relates to the notion of social capital. The community and neighbourhood have, they argue,

experienced a paradigm shift in the traditional ties of community: with shared spaces, close kinship links, and shared values replaced by anonymity, individualism and competition. Table 2.2 illustrates that the social cohesion domains applying to communities include the level of social interaction and sense of belonging, i.e. place attachment.

**Table 2.2: The domains of social cohesion**

(Source: Forrest and Kearns, 2001)

<b>Domains of social cohesion</b>	<b>Descriptions</b>
Common values and civic culture	Common aims and objectives; common moral principles and codes of behaviour; support for political institutions and participation in politics
Social order and social control	Absence of general conflict and threats to existing order; absence of incivility; effective informal social control
Social solidarity and reductions in wealth disparities	Harmonious economic and social development and common standards; redistribution of public finances and opportunities; equal
Social networks and social capital	High degree of social interaction within communities and families; civic engagement and associational activity; easy resolution of collective action problems
Place attachment and identity	Strong attachment to place; intertwining of person and place identity

Marcus (2010) highlights that the definition of social cohesion is based on intangibles such as a sense of belonging, attachment to the group, willingness to participate and to share outcomes. The three common elements include shared vision, maintained by universal values, mutual respect and shared identity; property of a group or community where there are goals and responsibilities; and a process, which is continuous, never-ending and achieves social harmony.

Beck (1992), cited in Back et al. (2012) argues that drivers of social cohesion are defined by the new era of self-interest among individuals and a breakdown of social and cultural bonds. There is a debate among urban theorists on the extent of social cohesiveness in urban or suburban areas. Studies indicate that those living in the suburbs have more satisfaction and cohesiveness than in urban areas. Social psychological theory of community is discussed in his study. Lupi and Musterd (2004) state that suburbanisation causes loss of social capital, and newly built areas experience crises of community. The social ties in these neighbourhoods are weak, which is less favourable for social cohesion.

The theory and debate on social interaction, community participation, social networks and social cohesion have come from sociology and psychology. Raman (2010) discuss on the theories of social behavior that tend to vary depending on collective or group behavior and have an impact of psychology. The most critical indicators for social cohesion according to Friedkin (2004); Dempsey (2009) as studied by Raman is the social interaction and social networks to occur at neighbourhood scale. An early research by Festinger et al. (1950) has found that physical and spatial characteristics of neighbourhoods and buildings have influenced social interactions. The Table 2.3 illustrates the indicators of social cohesion.

**Table 2.3: Built environment and social cohesion**

(Source: Raman, 2010)

Indicators	Claimed Influence of Built Environment
Sense of safety	Good visibility, street lighting and accessibility of spaces can positively influence sense of safety, while presence of vandalism and graffiti has a negative influence (Jacobs, 1996; Hillier and Shu, 2000)
Participation, sense of belonging and sense of community	Good physical quality and maintenance of built environment can positively influence these aspects (James, 2009; Carmone et al., 2003)
Friendliness, community spirit	Good visibility and proximity of social spaces can positively influence perceptions of friendliness and community spirit (Lynch, 1972)
Social network	Physical proximity can positively enhance social ties (La Gory and Pipkin, 1981)
Social interaction	Layout could create opportunity or barriers for social encounters (Hillier and Hanson 1984; Abu-Ghazze 1999)

UN Habitat (2014) states that social cohesion and integration create social capital amongst communities. The neighbourhood design can promote social cohesion through better integrated spatial planning. Zupi & Puetras (2010) stated that culture is a crucial factor for social cohesion. Cultural activities facilitate social cohesion through social participation in the community. There is a symboli dimension to culture and diveristy and multi-cultural values have been challenges for building social cohesion.

Dobson (2015) contends that social cohesion is the strength of interactions between members of society. These are characterised by several norms which include trust, a sense of belonging, and a willingness to participate. Dobson (2015) notes that Durkheim’s concept of solidarity is

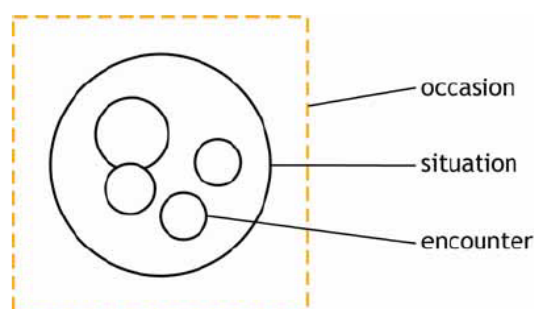
widely considered a precursor to the modern concept of social cohesion (Hooghe, 2007, p.728). The concept of social cohesion has been applied by countries such as the UK to understand immigration and diversity among ethnic groups. Such studies have focused on social cohesion at neighbourhood level, before concluding an implied policy framework at government level.

In their study of ethnic enclaves in Toronto, Canada, Qadeer and Kumar (2006) state that social cohesion is an attribute of the quality of social bonds and institutions in a society or community. A basis of social order and nationhood, social cohesion is essentially a societal process and individuals or groups contribute to it but are not primary agents. Spatial segregation in the city impacts negatively on social cohesion. Ethnic enclaves in Toronto are result of choice of neighbourhood based on affordability and accessibility but primarily reliance on family and friends is a key factor. Enclaves have both advantages and disadvantages, they facilitate socialisation and culture, but are not inclusive of the society as a whole.

## 2.8 Social Interactions

Social interactions are an integral part of any society where people of various cultures, social and cultural background meet. Doda (2005) states that social interactions are an action or event in which two or more people are involved: saying, doing or behaving in any manner.

Ludvigsen (2006) examines the theories of Goffman (1963), a sociologist who studied social interactions in public life in US middle class society. Goffman (1963)'s three central concepts are the occasion, the situation and the encounter. Figure 2.11 connects these three levels with each other, forming a conceptual framework of social space.



**Figure 2.11: Layers of rules defining social interaction**

(Source: Ludvigsen, 2006)

The occasion depends on the cultural and sub-cultural background; whereas the encounter is more dynamic. The encounter or face-to-face engagement is the smallest unit of social

interaction. Occasion defines a formal code, while encounters are more informal. A situation is “an environment of communication possibilities” in which everyone enters and is accessible to other respondents. In a social situation, communication is both expressive and linguistic, and messages are conveyed through physical gestures, appearance, posture and spoken words.

Social interactions are encountered on various occasions in varying situations. The literature emphasises social interactions within the neighbourhood which strengthen social ties and community cohesiveness. Social isolation is an emotional and physical state, in which there is lack of contact with society. Social isolation can be detrimental toward the health of individuals; whereas social interactions promote psychological growth and enhance personality.

Holland, Clark, Katz and Peace (2007) contend that a sense of community develops with social interactions. Neighbourhoods feature local meeting places such as a pub, café, community centre or leisure centre, which provide opportunities for social interaction.

Anderson and Taylor (2009) argue that sociologists see social interaction as behaviour between two or more people which is given meaning. Through social interaction, people react and change, depending on the actions and reactions of others. The physical settings, social settings and the environment enhance social interactions: which depict various aspects of society, including social life and social ties between individuals and groups.

Empirical studies on the neighbourhood, social interactions and social ties indicate that urban planners are partially responsible for the diminishing concept of the community. The reasons for the decline in social ties and interactions among neighbours vary from land use, planning density, availability of open space and many other design factors.

Raman (2010) examines the relationship between design, layout and social interaction in six selected neighbourhoods. Questionnaire surveys record community cohesion, while social networks are mapped. Observation surveys look at social activities, pedestrian movements, the quality of the built environment, layout of the neighbourhood and physical characteristics. Computer models analyse visual linkages, physical accessibility and connectivity. Space syntax analysis was employed to understand visual linkages. It was found that building form and social networks relate to each other, as residents living in higher level tower blocks remained spatially segregated and encountered less social networks. General physical layout offering well-connected communal spaces promoted more social activities. The visual connections between

houses had a great impact on social networks. The location of open spaces was critical in promoting social interaction and activities.

Social interactions are a basic process of human nature and social order of a cohesive society (Wirth, 1964). Forrest and Kearns (2001) believe that social interaction and social networks are integral aspects of social capital, which follow associated norms of reciprocity. A strong social network can give a feeling of safety and well-being in the neighbourhood, integral to the resident's identity (Fischer, 1982; Pierson, 2002, cited by Dempsey et al. (2011)). Many factors motivate social interactions among the community. Social ties within a neighbourhood depend on its size and nature, social opportunities, the relationship between urban form and social interaction, density, layout, and land use.

Participation in organised activities within the community is an important factor in community stability and one of the domains of social capital (Forrest and Kearns, 2001). The level of participation depends on the accessibility of community facilities: if the commuting time to access these is more, participation levels are proportionately less. Resident mobility is a reason for lower levels of attachment to the community: the greater the level of residential stability, the more actively residents participate.

## **2.9 Sense of Community**

Sense of community is a concept discussed in the area of urban planning and design. McMillan and Chavis (1986) explain four elements that define 'sense of community'. Membership: a feeling of belonging or sharing a sense of personal relatedness. Influence: making a difference to a group. Reinforcement integration and fulfilment of needs refers to where members' needs are met by resources received through membership of the group. Finally, sharing an emotional connection: in other words, the commitment and belief that members have shared and will share history, common places, time together, and similar experiences. Although all communities are based on people sharing common interests and values, there are also communities of place (McMillan and Chavis, 1986). These are communities formed by social relations between neighbours and other residents who live in a recognisable geographical area, supported by various environmental characteristics (Nasar and Julian, 1995).

The sense of community in neighbourhoods varies based on diverse components such as socio-cultural, environmental factors, and resident satisfaction (Rio et al., 2012). It is a social experience which can lead to a sense of place, a spatial experience. It includes both

neighbouring interactions and a cognitive and emotional connection to the people and place. The benefits of neighbouring develop sense of community and gives residential satisfaction, by encouraging community participation, safe environment that nurtures social bonds.

In their study of the neighbourhoods of New Zealand, Sengupta et al. (2013) identify feasible and unfeasible sense of community indicators. The former include group activities in the local region, use of public transport, and resolving local social issues such as noise pollution. The latter include the proportion of smokers in the region, household ownership, income and education. Sengupta et al. (2013) contend that sense of community contributes to social capital and is implied by policymakers for the benefit of the residents. McNeill (2006) cited in Sengupta et al. (2013), identifies a sense of community as an important predictor of well-being, which differs among various types of people.

Identity and social participation are nuclear and dynamic components of social cohesion strategies. The ideas of belonging to one shared community, shared values and goals contribute to social cohesion. The sense of belonging is conveyed in terms of identity, this identification can be between people and society, at neighbourhood level. Sense of identity is a social mechanism for social inclusion, (Zupi & Puetras, 2010).

Gehl (2001) considers that physical settings, activities and meanings are interrelated; with physical environment relating to 'sense of place'. Fukuyama (2000, p.15) states a direct and positive relationship between norms and values and sense of community: "The deeper and more strongly held these common values are, the stronger the sense of community is". Safety in the neighbourhood relates to community stability and trust; while reciprocal relationships between residents contribute to a sense of community and place. These studies, then, find that urban planners should assess their projects in terms of the impact on communities. It is critical for these planners to develop their tools and instruments necessary to understand the psychological sense of community.

## **2.10 Social Ties**

Schiefloe (1990) notes that utopian schemes for physical neighbourhood planning emerged among architects and sociologists. This owed to the thinking that physical boundaries around local areas are as relevant as social boundaries. Henning and Lieberg (1996) found that the social ties of residents were weak in the neighbourhood, and strong outside of it. They believe that social relations are important in everyday life and part of the social foundation of society.



Social ties were assessed based on the parameters of social networks: which included practical help to neighbours, emotional help, childcare, and leisure contacts. The superficial relationships amongst neighbours indicated weak social ties.

The concept of 'declining community' was analysed by Guest and Wierzbicki (1999), who studied trends in socialising with neighbours. At the neighbourhood level, residents are becoming more selective of social groups; their social ties outside the neighbourhood are stronger than those within it. Families without children had fewer social ties and socialised outside the neighbourhood, whereas families with children developed strong social ties within it.

Yamamura (2011) discusses social ties in the context of social capital as experienced by those who own their homes versus those who rent. Social capital was analysed against residential mobility, as there are weak ties if families move to other residences and there is no residential stability. Putnam (2000) highlights that social capital generates benefits for the residents. Social capital is based on investment in housing: whether to own or rent.

Freeman (2001) studied the impact of neighbourhood density on social ties. A sprawling neighbourhood with low-density urban forms is indicative of weakened social ties. In these low-density planned areas, due to privatisation, there is a lack of open public spaces such as parks and gardens. This leads to a low extent of social interaction and reduction in social capital.

There has also been debate on high and low-density neighbourhoods and social ties. Freeman (2001) cites Nasir and Julian (1995), who highlight how high-density urban environment can weaken social ties, as they encountered difficulties in relations with neighbours beyond their floors. There is a theoretical link between sprawl and neighbourhood ties. Urban planners have a key role in creating an urban environment conducive to livable communities.

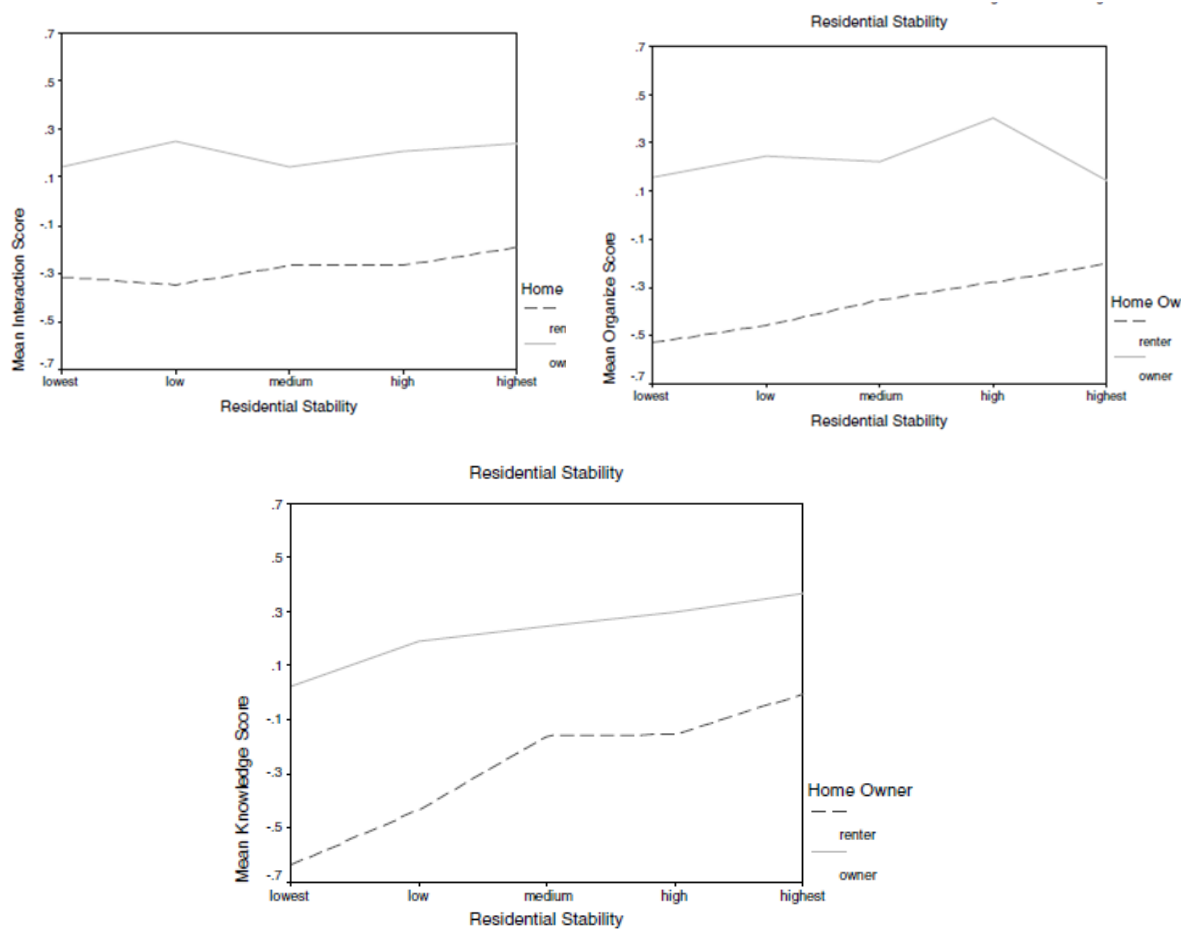
Urban planning can enhance social ties within the neighbourhood. Kazmierczak (2013) notes how social ties are declining due to mobility and changing modes of communication. Local parks, which provide opportunities for social interactions, can strengthen social ties.

## **2.11 Residential Stability**

The mobility of residents has also been a key area of research. Sociologists have identified social benefits of residential stability. Community initiatives face challenges as mobility within the neighbourhood increases; new residents develop social ties and a sense of attachment at a

slower pace. Residential mobility is a dynamic process: as people move, their social ties and attachment to their neighbourhoods weaken. The push and pull factors here include changes in family composition, employment, satisfaction levels, and deteriorating housing units. Social reasons such as marriage, childbirth or retirement can result in greater residential stability, however, as mobility during these times is less. Policymakers and practitioners should focus on better environments, opportunities and community initiatives which can enhance social cohesion, social ties and help build the community (Coulton, Theodos, and Turner, 2012).

Residential stability impacts upon social ties: the more positive the neighbourhood stability, the greater is the knowledge about someone’s neighbours. However, homeowners have higher ties with their neighbours than those who are renting. Chicago sociologists such as Park agree that individual attributes such as length of residence influence social ties among neighbours. The three dimensions of neighbourhood ties are interaction, organising collectively and knowing about neighbours (Guest, Cover, and Matsue, 2006). Figure 2.12 demonstrates these dimensions against homeowners versus renters.



**Figure 2.12: Relationship between residential stability, home ownership and**

## **neighbouring**

(Source: Guest, Cover and Matsue, 2006)

Turney and Harknett (2010) assert that neighbourhoods with greater residential stability foster close-knit communities, social cohesion and trust. Residential stability increases support for neighbours, who exchange relationships and support systems. Due to these social networks, people will not move out of neighbourhoods, an incentive for residential stability. Ross et al. (2000) find that a high level of residential instability can cause informal social control and problems in the neighbourhood. Schieman (2009) cites Smith and Jarjoura (1988); Warner and Pierce (1993); Wilson (1996); and Jargowsky (1997), all of whom hold that high levels of residential instability are harmful to psychosocial, socioeconomic, or criminological outcomes in disadvantaged neighbourhoods. Their studies relate to areas of heavily racial composition.

The literature indicates that a minimum five-year stay in the same neighbourhood can be considered as an example of residential stability. Schieman (2009) suggests that residential stability assesses the percentage of people in a tract who have resided in the same location for the past five years. Higher scores indicate a higher level of residential stability in the census tract (Ross et al., 2000).

Kingsley, Jordan and Traynor (2012) classify three types of movers: churning movers, who resided for no more than two years, and moved out because of amenity dissatisfaction, safety concerns or financial reasons; attached movers, homeowners residing for almost 7.5 years, who wanted to replace their old home; and up-and-out movers, those with high incomes, lived in the area for a long period, but were dissatisfied with neighbourhood connections. They moved away to areas with lower proportions of low-income groups, where living standards were high.

## **2.12 Neighbourhood Designs and Social Cohesiveness**

Historically, the neighbourhood has been a socio-cultural unit. Urban planners and designers advocate concepts and theories of neighbourhood design. Yet in contemporary urban planning, social aspects are neglected. Attempts have been made by architects and planners to restore traditional values and patterns. Neighbourliness is an expression of societal strength and an essential ingredient in planning as he relates the faith-based communities with relevance to the social fabric. Neighbourhoods form an integral part in urban planning and are studied as a part of strengthening the social fabric (Agrawal, 2008).


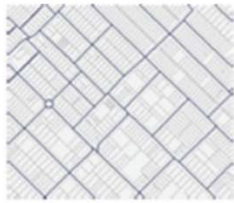

Alshuwaikhat (2014) suggests that 21<sup>st</sup> century neighbourhood design should take inspiration from the previous century. Percy's physical neighbourhood, based on social interaction; Howard's Garden City concept; and the Radburn Plan were examples of efficient, socially sustainable designs. Moreover, traditional Arab and Muslim towns had very strong concepts of community planning. The model of Al-Hara and Al-Housh in Saudi Arabia provided a sense of common control, a place for people to meet and interact, a play area for children; and constituted a socio-spatial unit. Alshuwaikhat (2014) concludes that contemporary planning should provide for adequate open spaces, exclusively for social integration. Common public facilities like schools and other services can strengthen social ties. Public participation is emphasised: people can be involved from the planning stage onwards, to share and discuss their expectations. Patrighios (2002) argues that given today's levels of mobility, neighbourhoods do not have the force they had in the early 20<sup>th</sup> century. However, physical design principles can still be applied to create meaningful places for people.

There have been studies on the design of neighbourhoods and social behaviour of residents. The design can enhance opportunities for residents to meet and interact, and develop social interactions: which contribute to building social capital. Williams (2005) highlights that many researchers have focused on the relationship between residential design and resident behaviour (Festinger et al., 1950; Homans, 1968; Gorman, 1975; Baum and Valins, 1977; Fischer et al., 1977; Hillier and Hansen, 1984; Flemming et al., 1985; Cooper, Marcus and Sarkissian, 1986; Gehl, 1987; Birchall, 1988; Coleman, 1990; Fromm, 1991; Kenen, 1992; McCamant and Durrett, 1994; Abu-gazzeh, 1999). These researchers studied formal social, informal social, personal and design factors which influence residents. Formal social factors included the social structure and organisation of activities; while informal social factors were based on financial resources, time and health.

Williams (2005) conducted resident surveys to understand the design factors that influenced social interactions. Her study concluded that in larger communities, interactions were fewer; thus clustering in high densities can develop social relations. The role of communal spaces which can maximise social interactions is important. Communal facilities aligned to communal spaces can efficiently increase social interactions. Furthermore, personal factors, including attitudes, personality, socio-cultural background, family, social class, education, affluence, religion and culture all play their part too. Hence Williams (2005) finds that design guidance covering density and layout, the division of public and private space, and the type and function of communal spaces can help create optimum social interactions.

Physical elements of neighbourhood design are connected to social capital. The concept of neighbourhood refers to the physical layout which governs activities within its boundaries. Wood, Giles-Corti and Bulsara (2012) find that social capital varies according to street network, design and connectivity, perceived availability and adequacy of amenities, perceptions of safety, crime and other suburban problems. Figure 2.13 features three types of suburbs which indicate various street networks: traditional, conventional and hybrid. The traditional suburb has a grid-type street network, with a central main road which has most of the amenities. The conventional suburb has circular roads with cul-de-sacs and a large shopping mall, but amenities are not centrally located. The hybrid suburb has a cul-de-sac road network, with low residential density and the dispersion of small shopping complexes.

Theoretically, the traditional pattern provided the most walkable environment and high social capital. However, the results indicated that the conventional suburb had the highest social capital. The traditional suburb did at least have higher capital than the hybrid. The conventional suburb encouraged more walkability and encounters for people to meet and interact. The zones were more vibrant as the activities were distributed.

suburb	conventional	Traditional	Hybrid
			
suburb street network	cul-de-sac and curved layout	predominantly grid layout	mix of grid and cul-de-sacs
	Grid -style street network, with a variety of shops and other services located primarily on a major central road	street network combined traditional grid system with circular roads and cul-de-sacs. a large shopping mall complex present but not centrally located, other community facilities are generally scattered throughout the suburb	cul-de-sac street network typical of urban sprawl and low residential density. Many community facilities were located centrally but also a dispersion of several small shopping complexes

**Figure 2.13: Characteristics of study suburbs**

(Source: Wood et al., 2012)

Neighbourhood planning involves frameworks and policies drawn up by local bodies. The concept of livability and sociability is enhanced through these frameworks to thrive on sustainable communities. Many in local government have designed these guidelines as the

outcome of research for stakeholders to refer.

Leeds City Council (2003) framework for neighbourhood design for developers, design teams, community groups, businesses, political groups and students, has set out good practice for the community in Leeds, England. The aspirations of the residents (Figure 2.14) and disciplines (Table 2.4) are brought together in a multi-disciplinary way. Residents' aspirations are broadly classified as a sense of community, accessibility to the workplace, transport availability, space for all, and a walkable neighbourhood.



**Figure 2.14: Aspirations of residents for quality of life in residential areas**

(Source: Leeds City Council, 2003)

**Table 2.4: Key themes**

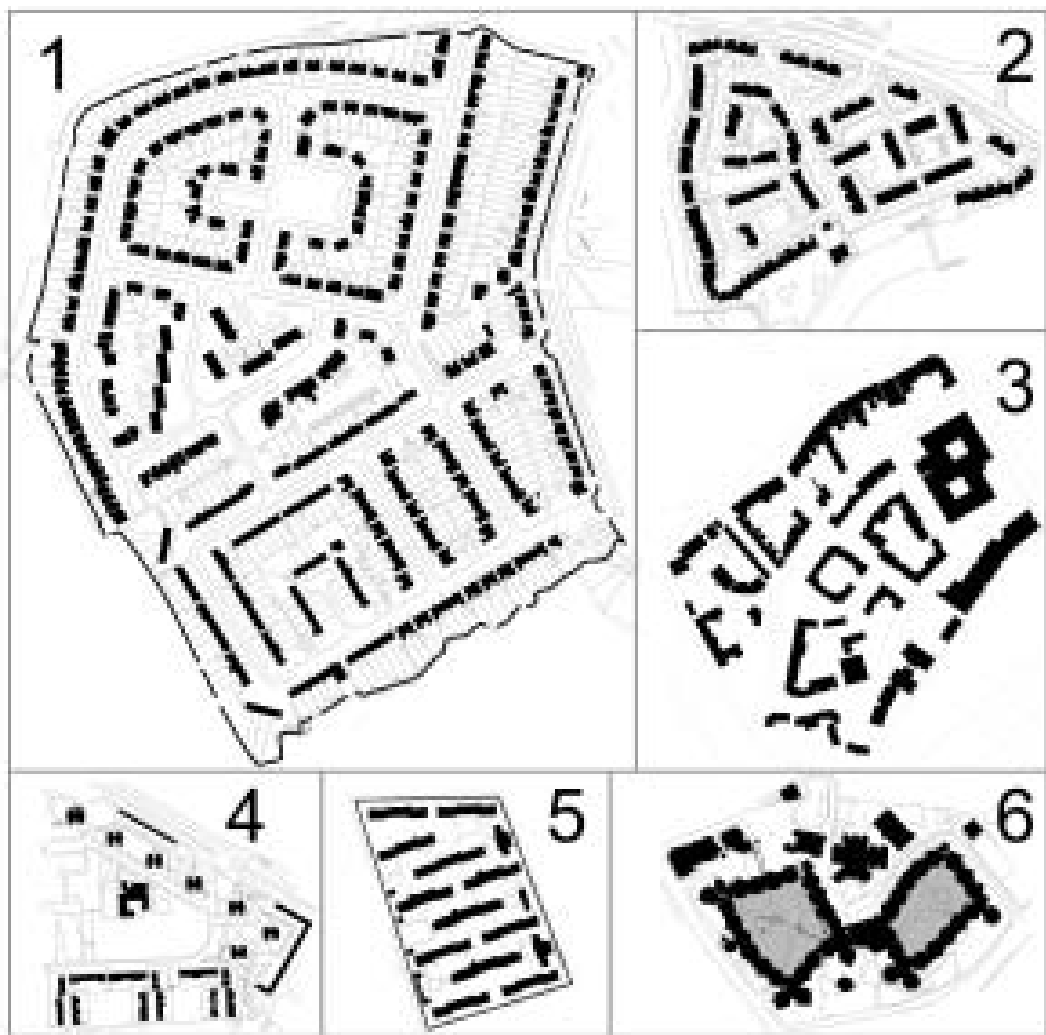
(Source: Leeds City Council, 2003)

Key themes	Disciplines	Key roles
Use	Town planners	Creating neighbourhoods and providing local facilities within walkable distance
Movement	Highway engineers	Movement, Highway Engineers
Space	Landscape architects	Space landscape architects
Form	Architects	Form architects

The four important themes here are use, movement, space and form: all of which refer to the

built environment and involve various disciplines. The manual emphasises that residents' aspirations can be achieved through the role of various disciplines.

Raman (2010) acknowledges that there is a necessity to create while acknowledging the need to create building form and dwellings for a vibrant community and identifies the research gap in addressing the impact of layouts and building form on community cohesion, communal living, social interaction and other social behaviour for the well-being of the community. Raman (2010) cites Jencks and Jones (2009) who propose on integrating sustainability in guidance in the planning and design of socially sustainable neighbourhoods.



**Figure 2.15: The compact city revisited**

(Source: Raman, 2010)

Figure 2.15 indicates selected six neighbourhoods of New Marston, Thames-street, Holybrook, Parkview and Dalgarno Garden, World's End to study the relationship between neighbourhood

design and layout and social interactions and social activities. All the neighbourhoods selected had different density, layout and street form. They varied in their forms from a linear form to compact forms around the courtyard. This study examined through statistical analysis with correlation tests relation between social cohesion and density.

The physical density of built environment was found insignificant in a relationship with social interaction variables, while perceived density and social networks were found strongly associated. Regression analysis found that most indicators of wellbeing such as quality of housing, public facilities, facilities for children, sports and recreational facilities, sense of safety, community, spirit, friendliness and privacy had a positive impact on total social contact and levels of social interaction. The quality of physical environment with positive perception, sense of safety strengthened social activities. A correlation analysis was conducted to find out how many people know each other in the neighbourhood. The study concluded that there was an improvement in perception of neighbourhoods and social qualities based on privacy, safety and density which is directly linked to neighbourhood layout and built form.

Kropf (2014) defines built form of the neighbourhood as a hierarchical relationship between buildings, plots and streets and the overlapping of aspects and elements. The term 'built form' allows for richness of overlapping sets to accommodate wide range of forms. Within the urban morphology are these fundamental elements of physical built form; street, plots and buildings. The layout and design of the built form thus encompasses the neighbourhood planning.

The social and cultural aspects influence the neighbourhood living and impact the design factors. Fatani, Mohamed, & Al-Khateeb (2017) in their approach to neighbourhood design argue that universal codes for rating systems of neighbourhood designs cannot be adopted in context of Saudi Arabia due to local and cultural context. Their study is based on socio-cultural aspects and propose design guidelines for neighbourhood in Jeddah city, as western approaches followed in Saudi Arabia were unsustainable. They considered that the approach did not adhere to the local culture and traditions. Bahammam (1995, cited in Fatani et al., 2017) describe socio-cultural factors as 'unity between society and culture which forms set of rules that govern human behaviour of group of people'.

Therefore the physical environment should reflect the culture of residents to increase social relationships. Fatani et al. study the traditional morphology and the design elements that favoured social interactions and state that the western design influence has given rise to concept of 'third culture' with foreign aspects of modernisation.



## 2.13 The Role of 'Common Spaces'

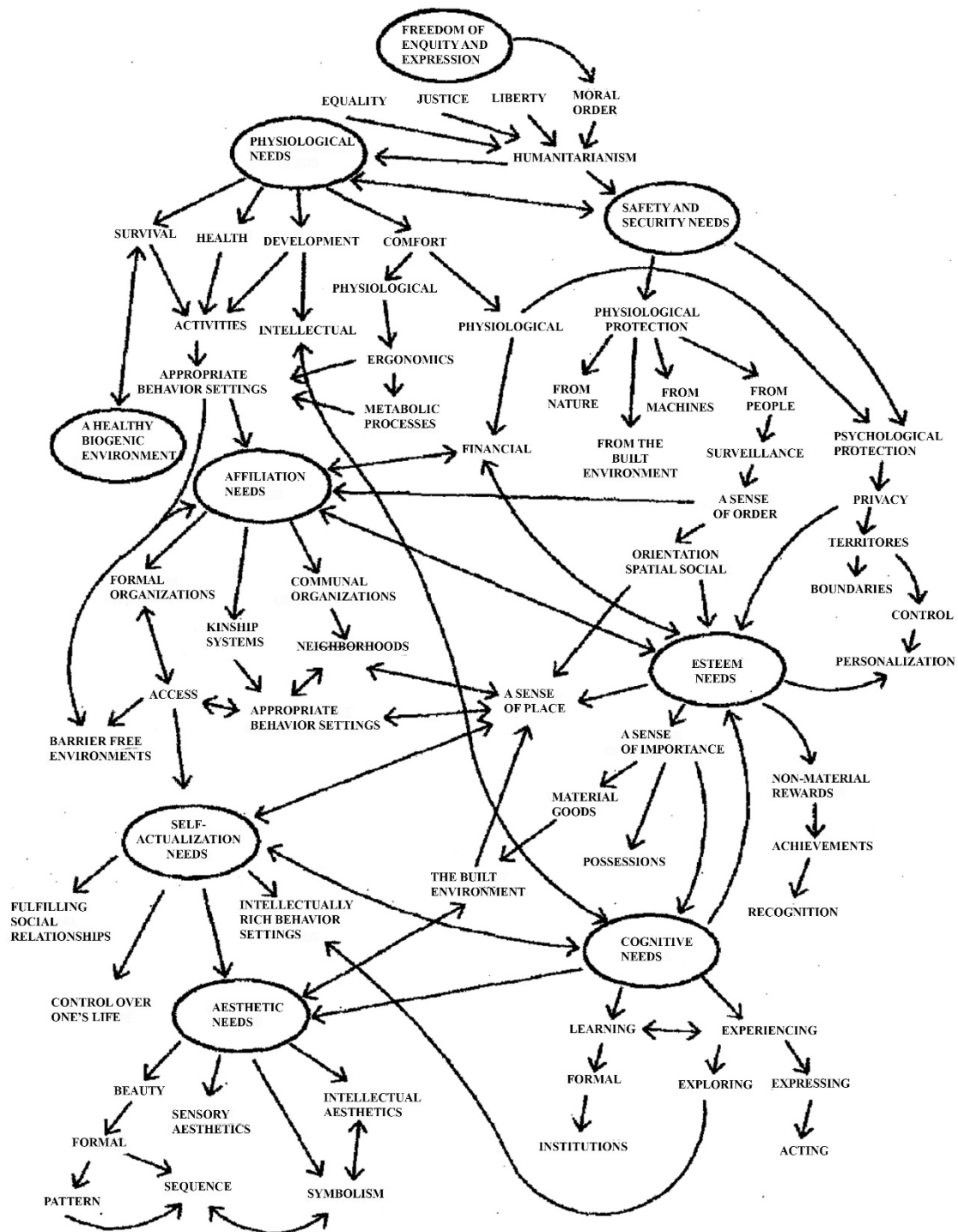
The social activities require presence of people and include all types of communications in the city spaces. There are many passives see and hear contacts, watching people and what is happening. Active contacts include exchanging greetings and talking to acquaintances. Extensive contacts further grow from smaller contacts; children's play or contacts between younger age group who have hangout places are more extensive contacts. Principles of good human scale must be a natural part of the urban fabric. The concept of the lively city by Gehl (2011) is about lively public spaces which enable people to be in direct contact with the society around them and creates common, enjoyable experience for social interaction. 'People come where people are' is a common saying in Scandinavia and is commonly seen as an example of children see other children playing and want to join them. It is, therefore, important to assemble people and events.

In urban planning, these aspects can be self-reinforcing elements for the spaces in the city. Spaces can be livelier by quantitatively inviting more people to come or qualitatively asking them to stay longer. Hence working with time and quality rather than number and quantity improves spatial qualities. The concept of 'Social Sustainability' is important as communities are becoming more urbanised and hence must be more 'inclusive' to have access and attract to all groups in society, gain understanding of each other by sharing the same city space. To achieve the same attempts shall be made to reach beyond physical structures and social institutions.

Neighbourhood planning has a social dimension; urban planners and designers can shape the built environment to enhance patterns of social life. Carmona, Heath, Oc, and Tiesdal (2003) cite Maslow (1986)'s hierarchy of human needs: which include physiological needs for warmth and comfort; safety and security needs; affiliation needs, i.e. to belong to a community; and esteem needs, i.e. to feel valued by others. A true society and community meets all these needs. Figure 2.16 illustrates this hierarchy, with differing needs related to a complex series of interlinked relationships.

The role of the neighbourhood in bringing out the best in human nature was advanced by (Ford, 2000, p. 199). Joseph Rowntree Foundation (2007) asserts the importance of social spaces in creating a sense of community in the neighbourhood. The guidelines for successful social spaces hold that the success of a public space is not solely in the hands of the architect, urban

designer or town planner; but also relies on people adopting, using and managing the space. People make places more than places make people.



**Figure 2.16: Hierarchy of human needs and the human space**

(Source: Lang, 1987)

Eissa, Awwad, Awwaad, & Furlan (2015) in their study to evaluate the neighbourhood of Al-

Najada, Doha study the sustainable urban development with quality of public open spaces. Their research proposes revitalisation of Al-Najada to make it socially sustainable. The role of public park is discussed which is a place of encounters between different communities, yet lacks facilities that can enhance social interactions. A set of planning guidelines are recommended for Al-Najada for many other communities to visit the place. Availability of public transport using multi-modal transportation, promotion of activities for community involvement, secured environment, are some of the examples to make the neighbourhood more inclusive.

The open spaces encountered in the neighbourhood can favour to bring residents together and this can build social interactions, further develop and strengthen social ties in the community. Dubai's urban spaces are reflected in study by Elsheshtawy (2013) with an emphasis on understanding issues pertaining to migration, formation of identifies within transnational space and impact of planning/architecture on human behaviour. The transnational space is referred to as space which is locally based but has connected globally to migrant home countries. Elsheshtawy adopts tools of environment-behaviour research that includes behavioural mapping and videography to understand dynamics of everyday life as experienced by the migrants in identified sites. This method described how the physical structure of the space influence behaviour to suggest how built environment provides opportunities for interaction. Data from observation was supplemented by interviews and conversations for a deeper understanding of socio-cultural factors of the users. The research questions of his study are based on mainly to what extent the built environment supports the recurring patterns of behaviour to draw lessons pertaining to urban theory.

## **2.14 Globalisation: An Overview**

The chapter further examines the impact of globalisation in the Gulf and emergence of the Gulf cities; as well as the history of Dubai, the financial hub of the UAE. Dubai is an emerging global city, attracting a huge population influx from various cultures and ethnic backgrounds. The Chapter concludes with dynamic urban spaces at the neighbourhood scale. Globalisation as a multidimensional phenomenon and the idea of global cities, which have emerged amidst the rapid changes in the global economy, and social and cultural aspects of urban living. International migration is now one of the major impacts of globalisation. Cities have therefore evolved with a multicultural environment, changing the urban landscape. Global cities demanded a new approach to urban planning to accommodate these developments.

Globalisation is an enormous trend shaping contemporary society. The facets of globalisation are multi-dimensional and have involved major social, cultural, political and economic transformation. The impact of globalisation has been widely experienced and commented on all over the world.

Sociologists have explored Eade (1997)'s idea of a 'changing world'. Eade's study emphasises the implications of globalisation on the community, culture and milieu. As there are flows of capital, information, images and people across the globe, new formulations are developed at local level. Eade (1997) cites Hall (1992), who notes that global culture movements led to hybrid identities and diasporic communities. According to Hall (1992), dialietic identity formation implies translation, which cuts across and intersects natural frontiers for those away from their homelands. Hybrid cultures are constructed with new diasporas. However, there is also an attempt to reconstruct purified identities and save tradition as per the original identity.

Al-Rodhan (2006) states that globalisation is a process that encompasses the causes, course, and consequences of transnational and transcultural integration of human and non-human activities.

Globalisation [is] a process which generates flows and connections, not simply across nation-states and national territorial boundaries, but between global regions, continents and civilisations. This invites a definition of globalisation as: A historical process which engenders a significant shift in the spatial reach of networks and systems of social relations to transcontinental or interregional patterns of human organisation, activity and the exercise of power (McGrew, 2003, p.7, cited in Al Rodhan, 2006)

Definitions of globalisation have been put forward by various researchers. Ferrante (2008) defines it as a phenomenon that encompasses the ever-increasing flow of goods, services, money, people, technology, images, information, and other things that move across national borders. Ferrante (2008) asserts that globalisation can be a largely invisible social force; no specific geographical locations define people, goods, services, technology, money, people, technology, or images. This affects daily lives in every aspect through a concept of 'No Borders, No Boundaries'. Globalisation is a trend characterised by denationalisation (national boundaries becoming less relevant), and is different from internationalisation (entities cooperating across national boundaries).

Sheffield, Korotayev and Grinin (2013) contend that globalisation is a process which connects the past, the present and the future. There is growth in the size of social systems and increasing

complexity in terms of inter-societal links as an impact of globalisation processes. These include political, economic, geographical, ecological, social, cultural, ethnic, religious and historical processes. Globalisation is reshaping lives and transforming cultures in every aspect: including business, trade, economy and bringing about social change. Garai (2015) argues that globalisation is not merely an economic phenomenon; but rather, a concept that describes a process in which the world is transformed into a single arena. The process covers all aspects of modern life: economic, cultural, social, political, humanitarian and ecological. Garai considers globalisation as the process of international integration arising from an ongoing interchange of world views, products, ideas and other aspects of culture.

## **2.15 The Concept of the Global City**

The global city is referred to by Sassen (2005) considers seven hypotheses for the theoretisation of the global city model. The first is the geographic dispersal of economic activities that marks globalisation. The second notes the increase in large global firms that outsource from highly specialised service firms. The third describes specialised service firms engaged in the complex and globalised markets. The fourth states that headquarters outsource their most complex, unstandardised functions in uncertain, changing markets. The fifth relates to specialised service firms which need to provide a global service: which has meant a global network of affiliates and a strengthening of cross-border city-to-city transactions and networks. The sixth is based on a growing number of high-level professionals and high-profit specialised firms that exacerbate spatial and socio-economic inequalities of the cities. The seventh hypothesis concerns the informalisation of economic activities.

According to Sassen (2005) cities are foremost in the new geography of globalisation. Immigration is one of the major processes though not accounted in the mainstream for global economy. The global capital and immigrant workforce are trans nationalised actors that have changed the political landscape of cities and are important in urban studies.

JLL (2015) asserts that the size, shape and metabolism of our cities are undergoing a metamorphosis. Urban form, urban life and the mechanics of cities have to respond to technological changes amid demand from rising populations and the shifting geography of commerce. Cities face the pressure of balancing quality of life and sustainability with productivity and growth. The new approach in understanding cities considers three types of world cities: established world cities, emerging world cities and new world cities. The first

group are highly globalised, competitive metropolitan economies. These are the ‘Big Six’ cities that account for one-fifth of the global economy. They face issues of affordability and demand for residential supply. London, New York, Tokyo, Paris and Singapore are established world cities. Seoul, Toronto, Sydney and Shanghai have competitive advantages and are dynamic gateway cities which capture spillover demand. While Emerging World Cities are large or medium-sized economies, they are well on the path to becoming world cities.

Here, the real estates sector is of particular importance in helping creating a ‘sense of place’ and contribute to city identity, uniqueness and well-being. These cities are the world’s most environmentally-challenged, and real estate is a key driver in creating sustainable urban models. New World Cities are small or medium-sized cities which are at the top of quality of life and sustainability indices. Examples include Vienna, Auckland, Vancouver and Copenhagen. They have less conventional real estate, and vibrant mixed neighbourhoods. Brisbane, Melbourne and Boston are archetypal New World Cities. Many also possess high-tech, innovation or research capabilities, such as Vienna, Munich and Tel Aviv. Barcelona, Berlin, Miami and Cape Town are cultural, entertainment and tourist hubs.

In Figure 2.17, we can see that the New World Order of Cities is neither rigid nor static.



**Figure 2.17: The New World Order of Cities**

(Source: The Business of Cities, 2015)

The report it is based on states that as cities grow and evolve, they gain new assets and confidence, adjusting their competitive horizons and providing new opportunities and challenges for the real estate industry, which will play a crucial role in city success and urban

transformation. Sassen (2005) argues that most of the global cities are world cities there are some global cities which are exceptions and are not world cities.

### **2.15.1 Global Cities and Urban Planning Approaches**

McDonald (2005, p.25 cited in The Newzealand Productivity Commission (2015) defines planning as ‘the better use of land, shaping space, community and safety’, while considering urban planners as a “post-modernist, moderator, politician, rationalist, advocate, realist, economist, critic, risk-taker, developer, healer, geographer, sage, critical thinker, environmentalist, urbanist, manager, technocrat, strategist, statistician, negotiator, economist, ruralist, deconstructionist, internationalist, administrator”.

Cities, then, are gaining in importance in academic literature – but the social and physical pressures which these cities must grapple with also face urban planners. New policy approaches which address sustainable development through relational planning is, therefore, important.

McCann and Acs (2010) highlight the three centuries of economic globalisation from the beginning of the seventeenth century to the twentieth century: a period characterised by increasing industrialisation, urbanisation, trade and economic growth. The fourth phenomenon was an agglomeration effect, in which modern cities, such as London and New York, emerged as engines driving the development process. The first half of the twentieth century was characterised by the slowing down of urbanisation processes, associated with the difficult global economic environment.

According to the UN Habitat (2016), urban history views cities as sites of innovation: where new economic ideas crystallise and heterogeneous groups of people learn to co-exist as neighbours. It concludes that cities are a platform for global and local changes; hence, urban landscapes are spaces economic, cultural, political and ecological convergence. Global flows of people, money, innovations, images and ideas have changed public expectations regarding living standards and how they envisage cities. Thus cities have become sites of structural transformation. Cities that plan and project the future based on past trends bring the public and private sectors together along with their communities. Principles of new urban planning should address sustainable development, integrated planning, budgets, partners and stakeholders, meet the subsidiarity principle, promote market responsiveness, ensure access to land, develop appropriate planning tools, and recognise cultural diversity.

Globalisation integrates economic, cultural, political and social systems across the globe. The

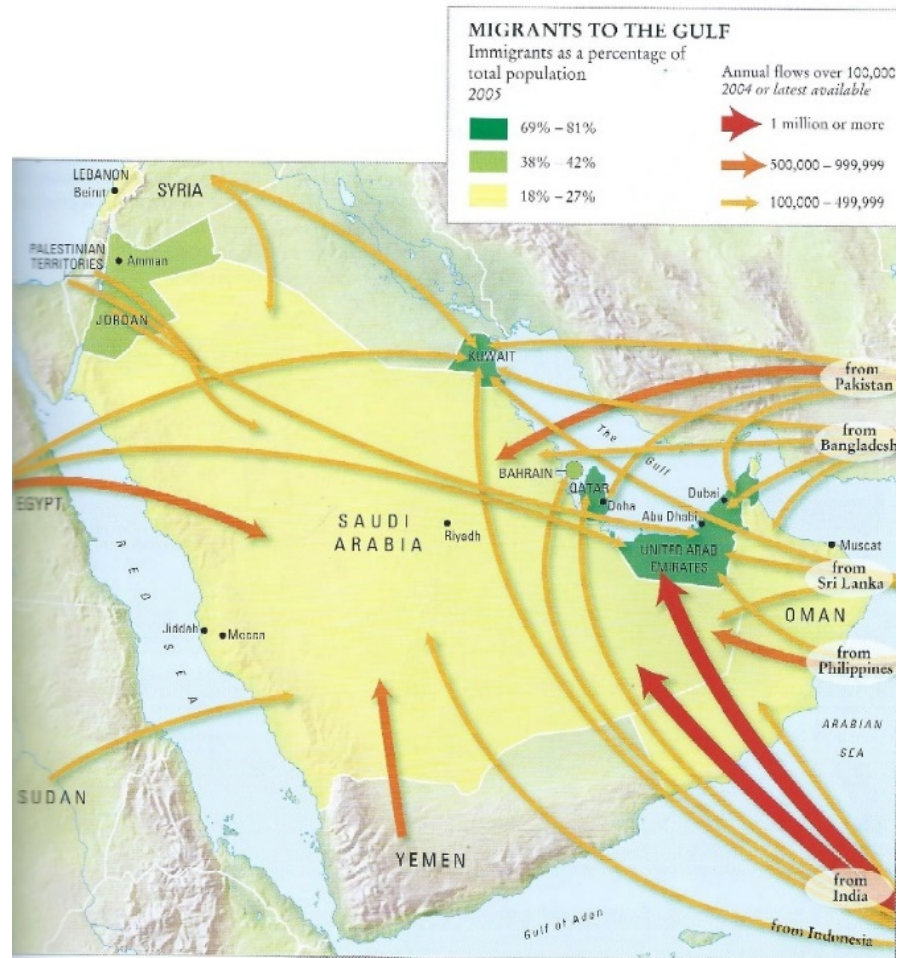
emergence of new urban landscape for global cities is referred to as ‘scape of flows’ as stated by Appadurai (1990) cited by Salama (2013). The five scapes referred are *Ethnoscap*es that include interaction of diverse cultures and are activated by transportation technology. Movement of people due to migration, tourism, travel or refugees are reasons of production of the landscape. *Mediascapes* that are evolved due to revolution in information technology as a source of information and knowledge. *Finanscapes* are landscapes that are created due to flows of capital. *Technoscapes* that impact contemporary life through communication and network technology. *Ideascapes* that represent the ideologies spreading with revolution in modes of communication. These five scapes discussed by Appadurai (1990) are becoming features of “world cities as they reflect the intensity of flows in an urban context.

## **2.16 Migration and the Growth of Cities in the Gulf**

National Geographic Society (2005) states that migration has occurred throughout human history, involving the movement of people from one place in the world to another for the purpose of permanent or semi-permanent residence, across a political boundary. Migration has occurred at various scales, including intercontinental, intracontinental, and interregional. The report identifies various reasons for people moving, of which rural to urban migration has been most significant, as people search for job opportunities in cities. The push factors include food shortages, war, and flooding; while pull factors include a better climate, freedom and opportunities.

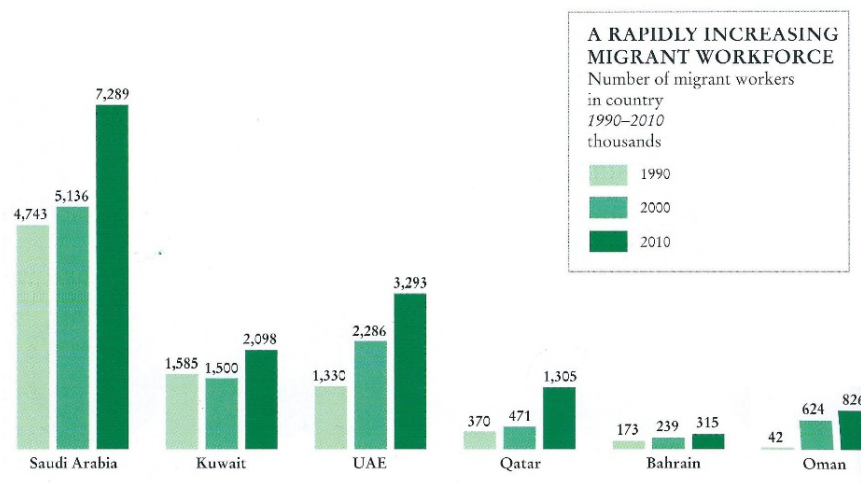
In the Arab region, migration is not a new phenomenon. It began in the late 1930s following the discovery of oil, which started on a small scale and continued to grow. Rapid economic expansion fueled by oil wealth created millions of jobs for migrant workers in the Gulf. Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE, which together, form the Gulf Cooperation Council (GCC), have a higher proportion of foreign nationals than anywhere else in the world: an average of more than 50%. In the UAE and Saudi Arabia, the largest numbers come from India: India-UAE and India-Saudi Arabia were the fourth and ninth most significant migrant corridors in the world respectively in 2010.





**Figure 2.18: Migrations to Gulf countries**

(Source: King et al., 2010)



**Figure 2.19: Gulf Cooperation Council migrant workforce 1990-2010**

(Source: King et al., 2010)

Globalisation connects to the dynamics of migration and social mobility. Figure 2.18 shows the migration to the Gulf countries and Figure 2.19 indicate the migrant workforce for every 10 years time since 1990. Sidaway and Mohammad (2012) study the Gulf cities, which promote themselves as world cities and centres for trade, culture, finance and tourism as they embody dynamic socio-spatial change. The oil economy in the Gulf has attracted workers from across the globe, with Gulf cities nodes on the global map of urban flows and connection. Mohammad and Sidaway (2012) state that GCC countries were transformed into ‘rentier states’ due to the surge in oil prices and production, with oil accounting for 80% of these countries’ revenue. A dual market began to form: with nationals represented in the public sector, and foreign workers employed in the private sector. The political implication of the rentier state was, therefore, ‘no taxation and no representation’.

## **2.17 Dubai: A Historical Overview**

Dubai is the commercial hub of the Gulf region and financial capital of the UAE. Dubai is sometimes referred to as the ‘Pearl of the Gulf’, which achieved prosperity only in the last 50 years. Dubai was a pearl-diving town with a population of just 1200 in 1822; and when, in 1841, smallpox broke out on the creek side, people moved to Deira, where houses started to be built. At the beginning of the twentieth century, Dubai became a major trade centre for the Arabian Gulf, yet the pearl industry remained its main economy.

With the advent of the pearl industry in Japan in 1930, the pearl trade declined in Dubai, resulting in economic depression. The population migrated to adjoining countries for employment opportunities. Later, when Sheikh Rashid Bin Saeed Al Makhtoum, founder of modern Dubai, became the ruler, various infrastructure-related activities began. These projects involved airport construction, transportation between the various parts of the city, bridges to connect both sides of the creek, roadworks and other developments.

The discovery of oil in 1966 transformed the economy of several Gulf states; not least the UAE. Huge amounts of manpower were required to satisfy the demands of the new oil industry. Migration has therefore been an integral aspect of all Gulf states; though even before the oil discovery, foreigners were employed as seasonal workers in the pearl industry. The British Empire had a series of treaties between 1820 and 1960 with the Sheikhdoms of the Gulf, which preserved the exclusive British presence. A nationality clause, however, requested all oil

companies to employ local nationals, and foreign workers only if more skills were required. There has always been a preference for workers from neighbouring Asian countries, rather than Pan-Arabs, due to manageability, cost of labour and ability to work. The total number of Indian expatriates has always been highest when compared with those from the Philippines, Pakistan, or Bangladesh. While managerial jobs were offered to British nationals, skilled and semi-skilled workers were employed from the Indian sub-continent (Errichiello, 2012, pp.294-395, 403).

In 1971, the union of seven emirates which form the UAE was established. Dubai is the most important city in the UAE as well as the Gulf region. It quickly experienced dramatic urbanisation and development. Later, the UAE started to shift from an oil-based economy towards new business sectors such as real estate, tourism, world class sporting events, finance, and construction. This has been supported and encouraged by the government, which has implemented economic reforms and streamlined foreign investment regulations: affording a multicultural lifestyle to nationals and expatriates alike, which has helped bolster the UAE's rapid growth (Grant, Golawala, & Mckechnie, 2007).

### **2.17.1 Phases of Urban Development in Dubai**

The early phases of urban development in Dubai were looked at by Ramos (2009). The first settlement was around the water element of the creek, and required river and subsequently, road transport. Settlements developed across the creek and connected with pearling activities. Spatial segregation began to develop: Al Shindagah was home to the rulers and their family, Deira to the merchant class, and Bur Dubai to others. Certain communities in specific districts began to emerge. Thus, developed as a megalopolitan urban structure with a polycentric character.

The first planning phase of Dubai dates back to 1960, when British architect, John Harris, was appointed by Sheik Rashid bin Saeed Al Maktoum to develop a masterplan with which to organise Dubai's infrastructure (Acuto, 2014). The plan focused on urban features which the city lacked: including a paved road system, street lighting and water provision. As Deira was a populated district, the masterplan promoted new towns, with mixed use development catering to residential, commercial and industrial zones. In 1971, it was further revised, with the creek area connecting Bur Dubai and Deira expanded with two bridges and a tunnel. Urban development continued after the 1970s; the suburban growth oversaw the building of the Sheikh Zayed Road, which connected new and old Dubai. Port Rashid and Jebel Ali Port were

also built. All this development took place in an uncontrolled manner, with suburbs playing host to high-income residents. Acuto (2014) refers to this as unplanned urban sprawl: which in the early 2000s, seemed like the apotheosis of the global city model. According to Acuto (2014), Dubai is an example of contemporary urbanism and a quintessential unplanned metropolis.

Dubai’s urban development has been described by various researchers. Pacione (2005) in Table 2.5 and is divided into four different periods: 1900-1955, 1956-1970, 1971-1980 and 1980-2005.

**Table 2.5: Phases in Urban Development of Dubai**

(Source: Pacione, 2005)

<b>Phases (Years)</b>	<b>Key areas of Dubai’s development</b>
1900-1955	Slow growth in population, concentrated in the areas of Deira and Al Shindaga. The inhabitants lived with extended families in ‘barasti’ houses made of palm fonds, with narrow walkways.
1956-1970	The First Master Plan was executed: prepared by John R Harris and Partners, and including a road network, the emergence of town centres and zoning. Houses were built with maximum utilisation of plots: which were owned by inhabitants or at the disposal of the ruler. The owners converted their land into buildings; with rental apartment occupied by expats.
1971-1980	A period of planned suburban growth, with infrastrucural development of bridges connecting Old and New Dubai. The main Sheikh Zayed Road, overseeing commercial development and the financial centre, also emerged.
1980 onwards	Rapid growth of urbanisation. 1993-2012 encompassed the Dubai Urban Area Strategic Plan: which focused on future residential, industrial and commercial requirements. Mega projects were launched, and land allocated for housing.

Al-Kodmany, Ali, & Zhang (2013) regard 1900-1955 as a slow growth period; 1956-1970 as one of compact growth based on master planning and the emergence of Jebel Ali harbour; 1971-1980 as a surburban growth period, with roads and tunnels connecting the city and enhancing its transport system. The current period of growth is considered to have started in 1981: with large-scale urban expansion and skyscrapers built which changed the skyline of the city.

Dubai Municipality Planning and Survey Department (1995) identifies the major demographic components of Dubai's population as nationals and expatriates. The term 'nationals' refers to citizens of the UAE; 'expatriates' are citizens of other countries, residing in Dubai. The proportion of expatriates to nationals is the highest in the world. The Structure Plan states that expatriate housing is based on needs and left to the private sector, based on market demand. Housing requirements in Dubai are assessed per the estimated expatriate population; but there has always been lack of detailed data for families and their incomes.

Between 1995 and 2000, there was more demand for single accommodation, as individuals sent remittances to their families back home. The Structure Plan highlights the complete lack of universally accepted planning standards with which to determine future space needs, with estimates based instead on economic and population projections.

As the market economy provided more job opportunities for expatriates, demand for housing increased. Land was made available by the Dubai Municipality to accommodate expatriate population growth. New residential development took the form of self-contained districts for 30,000 to 50,000 people on allocated land areas.

Acuto (2014) contends that between the 1990s and 2000s, urbanisation in Dubai both expanded and modified existing dwellings. Urban issues which were addressed included heritage conservation, small street clearance, pavement consolidation, traffic management and infrastructural improvement. The Structural Plan of the Dubai Urban Area, 2000-2050, was limited in specific planning and actual implementation capacity. Acuto (2014) therefore argues that Dubai is a quintessential unplanned metropolis; though the Dubai Strategic Plan (2015) provides some strategic direction.

### **2.17.2 Dubai: An Emerging Global City**

Elsheshtawy (2004) contends that Dubai was set to become a global centre for trade and commerce by the end of the twentieth century, by providing necessary infrastructure for global corporations. In the 1980s and 1990s, the city emerged as a tourist destination, and later opened for investments with freehold properties. Its tax-free income policy attracted people from various countries to invest and settle in Dubai. This rapid urbanisation and globalisation changed the socio-political landscape in the Middle East.

Harley (1990) refers to globalisation as a form of time-space compression, featuring a revolution in communication and transport technologies, an acceleration of the experience of

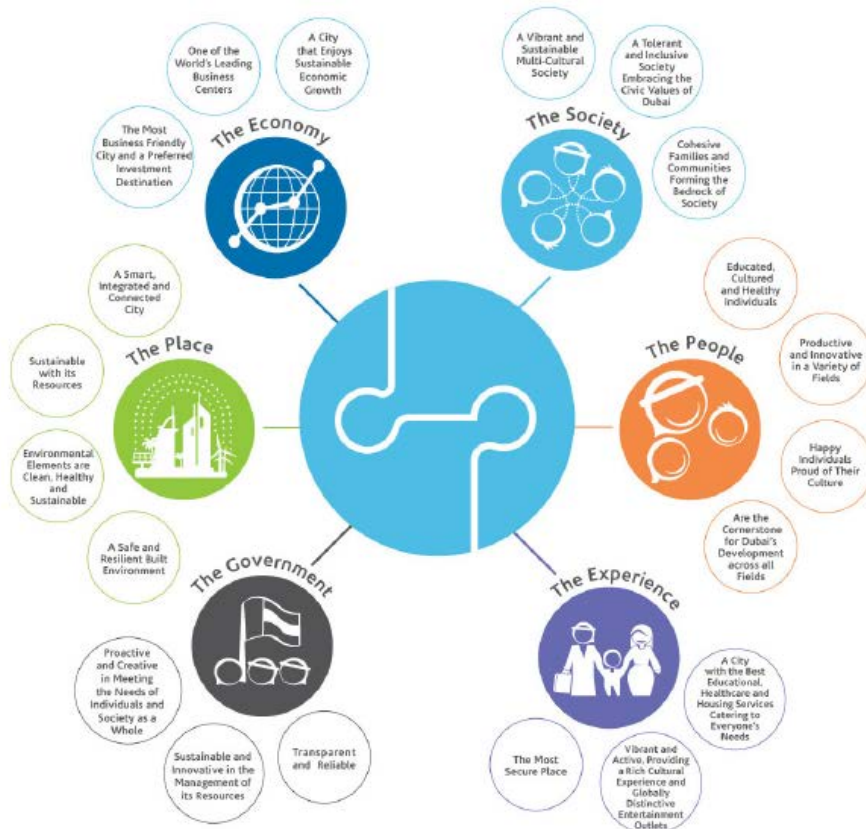
time, and shrinkage of distance (cited by Salama, 2013). This integration of capital, people and information has resulted in global flows: which have increased distance connectedness, economic interdependence and cultural integration. They also pose challenges to local identities and cultures. Kotkin (2014) argues that although global cities dominate the world's media and overwhelm local culture, longstanding traditions, family ties and local affiliations disappear amid the ambitious plans of a global city.

Salama (2013) identifies three types of flow which have upgraded Dubai to world city status: capital, people and information. The development of, for example, the Jebel Ali Free Zone, Dubai International Financial Centre, huge shopping malls, real estate projects such as The Palm, waterfront development Atlantis, and the Burj Khalifa, has led Dubai to become a tourist hub competing with Turkey and Egypt.

The Dubai 2020 Urban Masterplan (2012) notes that the population had grown by 100 times since the 1950s, while the urban fabric had extended 400 times. A population of 2.8 million population is predicted by 2020, for an Arab city which has become a vibrant regional gateway.

### **2.17.3 Dubai Plan 2021**

The Executive Council, Government of Dubai (2014) framework for Dubai Plan 2021 addresses the urban environment and living experience of the people, with the aim of delivering the city's aspirations in all areas, supporting and empowering individuals in achieving their goals. The urban environment has both natural and built assets. It treats the government as custodian of the city's development in all aspects. Figure 2.20 has six main themes form the city's vision for 2021, each highlighting a group of strategic developmental aims.



**Figure 2.20: Six themes for Dubai's vision for 2021**

(Source: The Executive Council, Government of Dubai, 2014)

The six themes are:

- People: A city of happy, creative and empowered people
- Society: An inclusive and cohesive society
- Experience: The preferred place to live, work and visit
- Place: A smart and sustainable city
- Economy: A pivotal hub in the global economy
- Government: A pioneering and excellent government

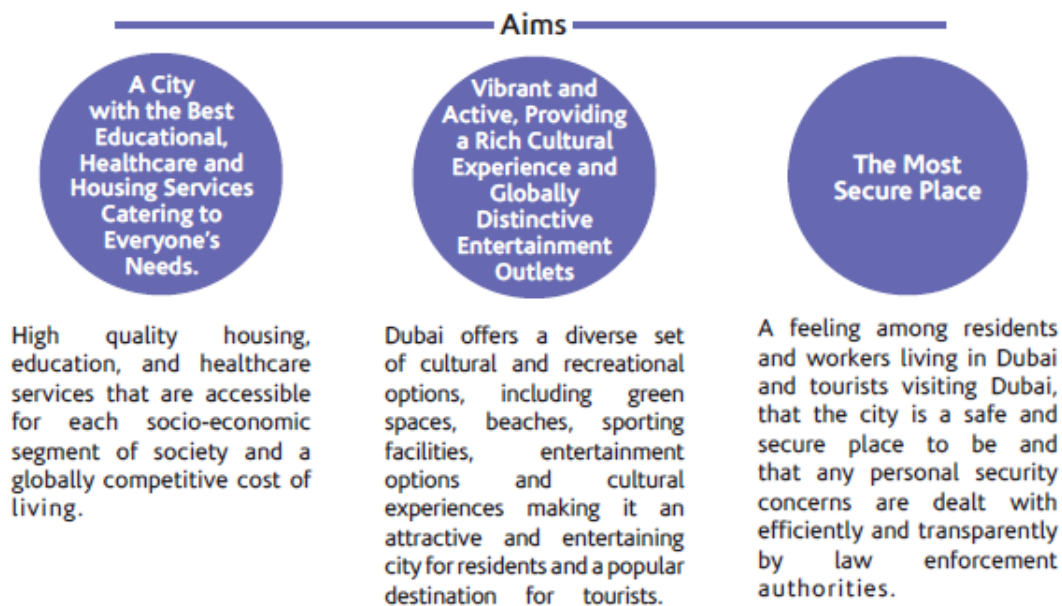
The plan addresses the traits and characteristics which must be reinforced and developed among the people of Dubai to ensure they can drive the city forward into the future. Accordingly, this theme focuses on reinforcing the feeling of responsibility everyone must have towards themselves, their families and society in pursuing and promoting education and personal development and maintaining a healthy lifestyle: enabling them to play an active, productive, and innovative role in all aspects of the society and economy. The aim is for educated, cultured and healthy individuals, productive and innovative across a variety of fields, proud of Dubai's

culture, to provide the cornerstone for Dubai’s development across all fields.

### ***Place***

This theme focuses on improving Dubai’s liveability by building on and improving this experience. It addresses the need to provide the best educational, health, and housing services to all residents, while availing a rich cultural experience and entertainment options such as parks, beaches, and sports facilities that cater to residents and attract tourists, in the safest and most secure environment possible. Fig. 2.21 illustrates the aims as outlines in the Dubai Plan 2021.

The Theme key performance indicators of this theme are outlined on some of the important aspects that relate to the community living which includes, quality of living index, sense of security, availability of good and affordable housing, other than indicators on education, health and crime rates.



**Figure 2.21: Dubai’s aims for The Preferred Place to Live, Work and Visit**

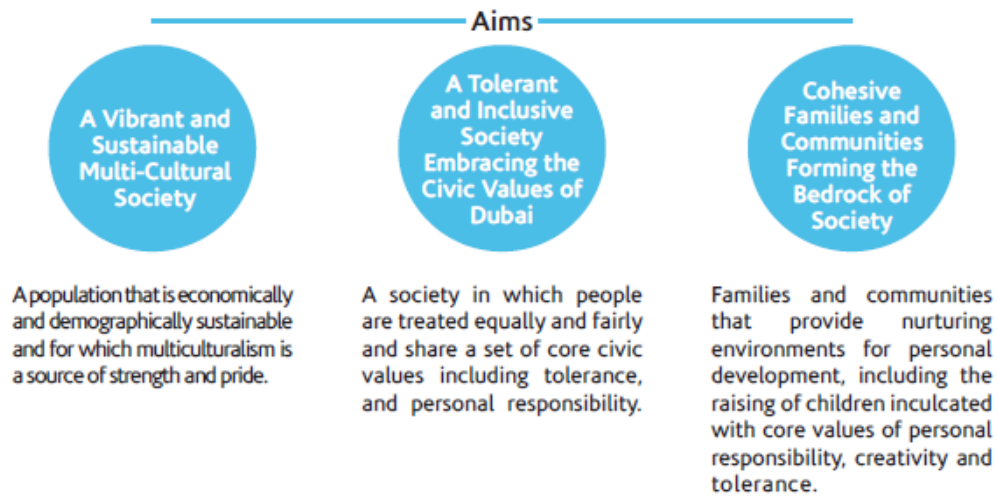
(Source: The Executive Council, Government of Dubai, 2014)

### ***Society***

Dubai is unique in terms of the diversity and cohesiveness of its society, forged on principles of tolerance, respect, forgiveness and communication since the city’s inception. This theme focuses on continuing Dubai’s tradition of celebrating diversity: enriching the city and driving its development by harnessing the talents and creativity of its global, diverse population. The



theme views the family as the building unit which nurtures and empowers the individual and emphasises the importance of social inclusion of all vulnerable groups.



**Figure 2.22: Dubai’s aims for an inclusive and cohesive society**

(Source: The Executive Council, Government of Dubai, 2014)

Figure 2.22 above outlines the aim of an inclusive, cohesive, vibrant, sustainable, multi-cultural society, which provides a source of strength and pride and embraces civic values which treat all people equally. Cohesive families and communities form the bedrock of such a society, raising children inculcated in core values of personal responsibility, creativity and tolerance.

The theme of experience focused on preferred place to live, work and visit. This theme focuses on improving the experience of residents and visitors based on liveability. The need to provide best educational, health, and housing services to all residents, while availing a rich cultural experience and entertainment options such as parks, beaches, and sports facilities that cater to residents and attract tourists, in the safest and most secure environment possible.

The place, A smart and sustainable city theme focused on building fully connected and integrated infrastructure that ensures easy mobility for all residents and tourists, and provides easy access to all economic centres and social services, in line with the world’s best cities. The theme addresses the importance of sustainability in managing against Dubai’s future growth by ensuring the availability of clean energy sources and protecting natural resources such as soil, water, and air, and promoting sustainable consumption. The theme also examines the urban environment of the city highlighting the need to adopt the highest standards of safety.

Today in the global economy as Dubai has reinforced its position as a global business centre in

trade, logistics, finance and tourism. The theme focuses on This theme focuses on moving Dubai to a sustainable economic model driven by innovation, and productivity in capital and labour, and supported by the most business-friendly environment. In addition, the theme highlights the importance of a diversified set of value-add economic activities that would enhance Dubai's economic resilience and allow it to absorb internal and external shocks. Dubai's announcement as the capital of Islamic economy is an important step in recognising Dubai as one of the leading economic centres.

Dubai Plan 2021 dedicates a theme to this idea, whereby people's happiness and satisfaction with government services and policies are the primary measures for the government's success. The theme pioneering and excellent government enhances government efficiency and transparency in all aspects.

## **2.18 Chapter Summary**

The chapter discusses concepts, theories and research undertaken by various researchers in the area of urban social sustainability. The following are the key areas of the discussion of the chapter.

- The concept of urban social sustainability is evident for building guidelines for socially sustainable communities. The research by Dixon and Woodcraft (2013) that assesses social sustainability for a neighbourhood is an example that guides to understand the role of amenities in the neighbourhood to facilitate activities in the community. The socio-cultural aspects put forth by their research discusses on resident's experience, perceptions of the neighbourhood, which play an important role in community living. These aspects are the reasons for enhancing social interactions and creating a sense of community.
- Social cohesion is identified as a key component in building socially sustainable communities. Various physical and non-physical factors contribute towards social cohesion. In countries such as the UK or Australia, social cohesion is considered an important element in the urban planning policy framework.
- The literature review has identified a gap in addressing the concept of social sustainability in the Middle East region. Developed countries address the concept of social sustainability than the developing countries. The transient nature of countries in the Middle East, with high expatriate populations, has yet to be addressed to a more detailed extent by academic

researchers. A study by Ahmed (2012) is a relevant example to understand the social sustainability of the Emirati locals and how urban design and planning can contribute towards enhancing socially sustainable communities.

- The literature summarises the role of urban planners and designers in creating physical elements which enhance social interactions among residents. The chapter summarises that Social interactions, social ties and a sense of community belonging contribute towards building social cohesiveness in the neighbourhood.
- The context of Dubai in the research area is emphasised in the chapter by an overview of the history of Dubai and its rapid urban development that transformed to an emerging global city. Influx of migration is an important in this study as people from various ethnic background reside together in this city.
- The Dubai Plan 2021 is introduced at the end of the chapter for the readers to understand the relevance of socially inclusive and cohesive society, people who consider Dubai, as a preferred place to live, work and visit as important themes. The concept of urban social sustainability is of enormous relevance to the urban planning of neighbourhoods.
- The chapter discusses the unique nature of Dubai's urban spaces that are reflected in a study by Elsheshtawy (2013). This transnational space is referred to as space which is locally based but has connected globally to migrant home countries. The research methods adopted in the study that includes physical factors of the spaces to understand the impact of built environment on socio-cultural factors is further adapted to the study of the neighbourhoods and justified in research methodology.
- The chapter introduces relationship of neighbourhood design and social cohesion. Raman (2010) study on comparative analysis of neighbourhoods with various built forms and physical layout summarises that social cohesion varies due to the physical arrangement of building forms, landscape, street orientation and amenities. The study has been important to consider the impact of layout and design of the neighbourhood on social cohesiveness. The studies on urban form and neighbourhood are guidelines to understand the physical aspects of planning
- Social sustainability is an emerging concept in the Middle East. While it is widely applied in developed countries, many developing countries are yet to imply these theories,

concepts and ideas. A socially sustainable community is about society with high social capital, quality of life and well-being and communities that have strong social bonds between them. In a socially sustainable community, the people feel a sense of place and belonging. There is inclusiveness and cohesiveness within the community. The approach towards the concept of social sustainability varies with the context of geographical locations, the influence of economic, political and environmental and social circumstances. The indicators of social sustainability are very important to be addressed to build socially sustainable communities. In the context of the neighbourhood though urban planners, architects can play an important role, the success of building communities is also with the initiatives of authorities, key stake holders and residents themselves. Therefore, an integrated approach at broader level can help achieve social sustainability.

- Cities are drivers of changes, while some cities are more successful than the others. These successful cities give a conducive environment for residents to thrive and opportunities for healthy living. With the advent of globalisation cities will face challenges to accommodate increasing migrant population and therefore to build a liveable city should be on an agenda in future for all emerging global cities.

# Chapter 3 - Research Methodology

## 3.1 Introduction

This chapter introduces the research methodology and research methods. The research philosophy and rationale are also explained, along with the concept, research approach, and a justification for the selection of a mixed methods approach. The research adapts quantitative and qualitative methods, and employs spatial and observation analyses. The chapter describes each of these methods, and procedures for data collection, sampling and analysis. A summary of the research findings collated via the various research methods are synthesised in Chapter 4.

## 3.2 Research Methodology

Creswell and Miller (1997) describe research methodology as a process in which a methodological perspective is adapted by researchers to shape the direction of scholarly research by providing a philosophical base or frame of reference. The research design combines conceptual with empirical research, and methods which are adopted to collect and analyse data, and frame the research question. The data and methods must therefore be configured in order to produce answers to the research question.

Gray (2004) explores the range of theories available to researchers, and cites Crotty (1998), who describes an array of theoretical perspectives and methodologies. In Figure 3.1, Crotty (1998) suggests that an interrelationship exists between the theoretical stance adopted by a researcher, the methodology and methods used, and the researcher's view of the epistemology.

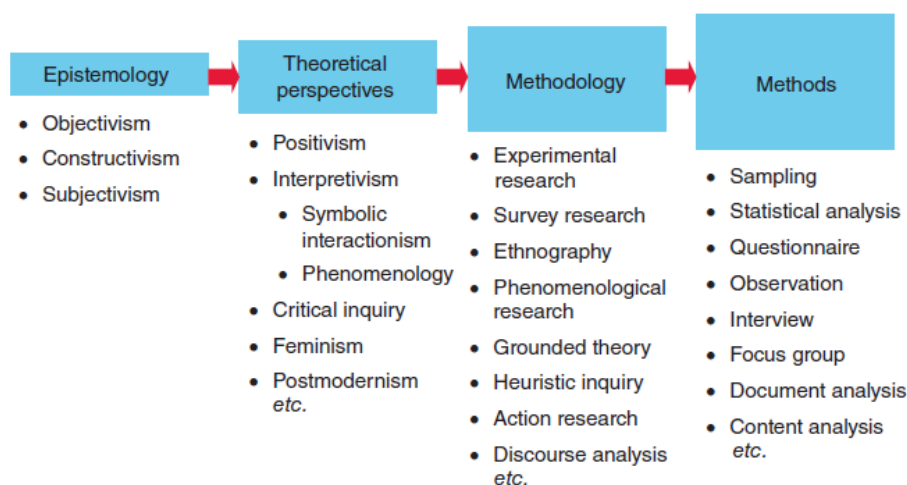


Figure 3.1: Relationship between epistemology, theoretical perspectives, methodology

## **and research methods**

(Source: adapted from Crotty, 1998, cited in Gray, 2004)

Figure 3.1 indicates the emergence of three main positions in research philosophy. Objectivist epistemology uncovers objective truth and states that reality exists independently of consciousness. When conducting their research, researchers should not be influenced by their own feelings and values, and although the values, attitudes and beliefs of respondents can be considered this should only be objectively (Bunge, 1993).

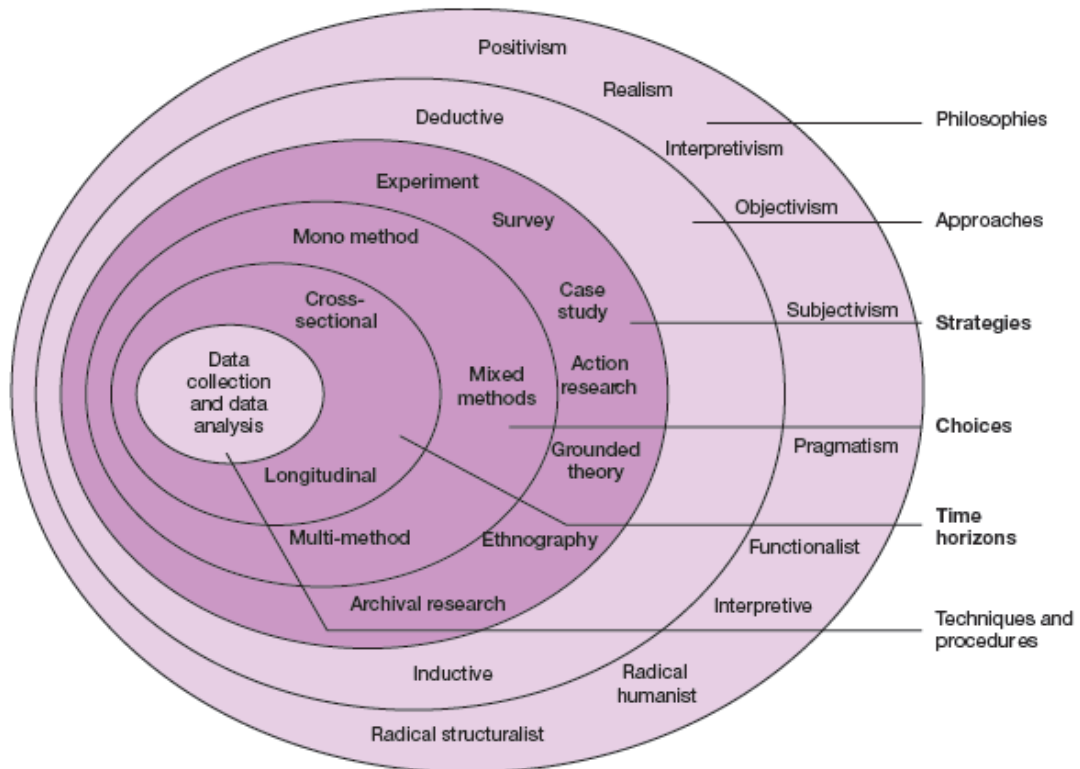
Positivism holds that reality exists external to a researcher, and should be investigated through a rigorous process of scientific inquiry. In contrast, constructivism rejects this view of human knowledge, and instead meaning is constructed rather than discovered, with subjects constructing their own meaning in different ways, even in relation to the same phenomenon. A theoretical perspective linked to constructivism is interpretivism, and Chia (2002) states that while interpretivism and objectivism hold different epistemological positions, both are based upon a being ontology.

According to Gray (2004), in the philosophy of subjectivism, meaning does not emerge from the interplay between a subject and their outside world, but instead is imposed on an object by a subject. Subjects do construct meaning, but do so from within a collective unconsciousness, dreams, religious beliefs, etc. Despite Crotty's assertion that this is 'the most slippery of terms' (1998, p.183), postmodernism can be taken as an example of a theoretical perspective linked to subjectivism (and becoming ontology).

### **3.3 Research Philosophy**

According to Saunders and Tosey (2013), most researchers select their techniques to obtain data, and analyse it in order to address a research problem. They apply the metaphor of a research onion to depict the final elements within the core, while other design elements are found in the outer layers. A researcher provides context and boundaries for the data collection and analysis procedure. There is a strong relationship between research and theory, with the latter having a vital role in the research approach, and can increase the credibility of the work. Johnston (2014) describes the research philosophy of ontology and epistemology as conceived by various researchers, including Easterby-Smith et al. (2012), who consider these as a tree trunk, suggesting that they are at the core. Stokes (2011) highlights that individual theories have their own ontological and epistemological roots, while Farquhar (2012) argues that the

credibility of research rests on the philosophical assumptions underpinning it. Saunders, Lewis and Thornhill (2006) argue that a research philosophy adopts important assumptions which underpin a research strategy, and identified three forms of research philosophy, epistemology, ontology and axiology, and their differences influence how a researcher thinks about the research process.



**Figure 3.2: Research onion**

(Source: Saunders, Lewis and Thornhill, 2006)

Figure 3.2 illustrates the relationship between ontology, epistemology, axiology and research philosophies (Saunders, Lewis and Thornhill, 2006). Sexton (2003) argues that contrasting viewpoints on research philosophies are based on differing ontological, epistemological and axiological assumptions. The ontological assumption is concerned with whether reality is external to an individual and imposes itself individually ('realism ontology'), or is of an objective nature. The epistemological assumption is concerned with 'how one will understand the world'. At one extreme it involves the search for regularities and causal relationships between its constituent elements (positivist), whilst the other extremes (anti-positivist or interpretivist) hold the view that the 'world is essentially relativistic and can only be understood from the point of view of the individuals who are directly involved in the activities which are to be studied' (Burrell & Morgan, 1979, p.5).

The axiological assumption is about the nature of values and the foundation of value judgments (Sexton, 2003). Figure 3.3 illustrates the relationship between ontology, epistemology, axiology and research philosophies.

		Epistemological Assumption	
		Positivist	Anti-positivists
Ontology	Realism	Positivism	Realism
	Idealism		Interpretivism (Social Constructivism)
		Value Free	Value Laden
Axiology			

**Figure 3.3: Relationship between ontology, epistemology, axiology and research philosophies**

(Source: Kulatunga, Amaratunga, and Haigh, 2011).

### 3.3.1 Epistemology

This constitutes acceptable knowledge in a field of study, and considers two types of researchers: one who is a ‘resources’ researcher and another who is a ‘feeling researcher’. Saunders et al. (2006) describe the ‘resources’ researcher as someone who considers reality as represented by ‘real’ objects, whereas the ‘feelings’ researcher is concerned with feelings and attitudes, social phenomena with no external reality. A resources researcher therefore applies a positivist position to the development of knowledge, while the ‘feelings’ researcher adopts an interpretivist perspective.

Gray (2004) asserts that the choice of methods in research is influenced by the research methodology, which is impacted upon by the theoretical perspectives adopted by a researcher, and in turn, their epistemological stance. According to Gray (2004), researchers who decide at an early stage that they intend to use a structured questionnaire as part of a survey and investigate associations between respondents’ perspectives and the type of respondent (e.g. age, gender, etc.) are, whether they are aware of it or not, adopting an objectivist approach.

#### 3.3.1.1 Positivism

In research philosophy a researcher adopts the principles of positivism when they have the philosophical stance of a natural scientist. In positivism, a researcher generates a research strategy in order to collect data, and is likely to use existing theory to develop hypotheses,



which are further tested and confirmed, developing a theory to be tested again by research. In a positivist approach, research is value-free. A 'resources' researcher would claim to be external to the process of data collection, and little can be done to alter the substance of the data collected. It may be argued that the 'feelings' researcher is part of the data collection process. Saunders et al. (2006) cite Gill and Johnson (2002), who advocate that the positivist researcher uses a highly-structured methodology, and emphasises quantifiable observations through statistical analyses.

#### **3.3.1.2 Realism**

Realism is a type of research philosophy adopted from an epistemological position, relating to scientific inquiry. Here, reality is depicted as the truth, in stark contrast to idealism. Realism assumes a scientific approach to the development of knowledge. The first type of realism is direct realism, 'what you see is what you get'; in other words, what we experience through our senses portrays the world accurately. The second type is critical realism, which argues that what we experience are sensations, images of things in the real world, but not things directly. The direct realist perspective suggests that the world is relatively unchanging, and it operates, in a business context, at one level (the individual, the group or the organisation), while in contrast, the critical realist recognises the importance of multi-level study (the individual, the group and the organisation). Each of these levels can change a researcher's understanding Saunders et al. (2007)

#### **3.3.1.3 Interpretivism**

According to Saunders et al. (2007), interpretivism is an epistemology which advocates the necessity of the researcher understanding differences between humans, in our role as social actors. This emphasises the difference between conducting research among people rather than objects. Interpretivism comes from two intellectual traditions: phenomenology and symbolic interactionism. The former refers to the way in which humans make sense of the world around us, whilst the latter features a continual process of interpreting the social world around us whereby we interpret the actions of others with whom we interact, leading to an adjustment of our own meanings and actions. Critical to the interpretivist epistemology is that the researcher must adopt an empathetic stance.

### **3.3.2 Ontology**

Crotty (1998) describes ontology as the study of being, and it is concerned with 'what is', with the nature of existence and the structure of reality as such. Were it to be introduced into a

framework, then it would sit alongside epistemology informing the theoretical perspective, as each theoretical perspective embodies a certain way of understanding what is (ontology), as well as a certain way of understanding what it means to know (epistemology). Ontological issues and epistemological issues tend to emerge together. Guba and Lincoln (1994, p.108, cited by Crotty, 1998) consider that there is a necessary link between the two when they claim that 'if, for example, a 'real' reality is assumed, the posture of the knower must be one of objective detachment or value freedom in order to be able to discover "how things really are" and "how things really work".'

### **3.3.2.1 Objectivism**

Saunders et al. (2007) provide the example of managers in an organisation who are prescribed jobs and operating procedures to which they adhere, and are part of a formal structure which locates them in a hierarchy, where people report to them and they report to more senior managers. Managers in an organisation differ in their notions and styles, yet management has a reality which is separate from the managers who inhabit it. Objectivism portrays the position that social entities exist external to social actors.

### **3.3.2.2 Subjectivism**

According to Gray (2004) and in contrast to constructivism, for subjectivism meaning does not emerge from the interplay between a subject and the outside world, but is imposed on the object by the subject. Subjects do construct meaning, but do so from within collective unconsciousness, from dreams, and from religious beliefs, etc. Saunders et al. (2007) describe subjectivism as a social phenomenon created from the perceptions and consequent actions of social actors, and it is a continual process of social interaction, associated with the term 'social constructionism'. Social constructionism views reality as being socially constructed.

### **3.3.2.3 Pragmatism**

Pragmatist researchers mix quantitative and qualitative data within a single study. Although research paradigms can remain separate, they can be mixed or combined into another research design (Gray, 2004). Saunders et al. (2007) argue that the debates on both epistemology and ontology are a choice between positivism and interpretivism, and that a researcher must adopt a position as a pragmatist. The important determinant of the research philosophy is the research question. If this does not suggest unambiguously that either a positivist or interpretivist philosophy should be adopted, then this confirms the pragmatist's view that it is perfectly

possible to work with both philosophies. In this case, mixed methods, both qualitative and quantitative, are possible, and may be highly appropriate within one study.

### **3.3.3 Axiology**

Mertens (2015) contended that regardless of the research paradigm a researcher uses, ethics in research are an integral part of the research planning and implementation process, and should not be viewed as an afterthought or a burden. Increased consciousness of the need for strict ethical guidelines for researchers occurs each time another atrocity is discovered under the guise of research. Axiology is a branch of philosophy which studies judgements about value, and although this may include the fields of aesthetics and ethics, these are part of the process of social inquiry (Saunders et al., 2007). The philosophical approach of a researcher reflects their values and choice of data collection at a personal level. Conducting data through interviews based on personal interactions adds more value than collecting anonymous views via a questionnaire.

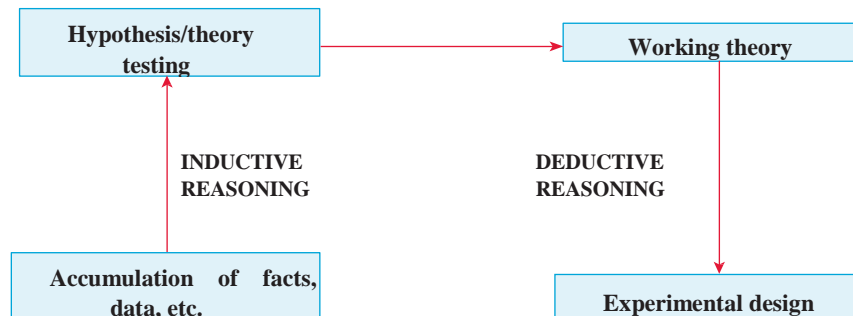
## **3.4 Research Approach**

According to Johnston (2014), the research approach should consider the relationship between theory and research. The approach is influenced from start to finish by ontological and epistemological concerns, and meaning is created through interpretation and application. Saunders et al. (2007) discuss the deductive approach, including a theory, hypotheses, and a research strategy which tests these, and the inductive approach, in which data is collected and theory developed from the data analysis. Deduction is closer to positivism, and induction to interpretivism.

Figure 3.4 illustrates the combination of deductive and inductive approaches (Gray, 2004). These hypotheses present an assertion about two or more concepts and attempt to explain the relationships between them. Concepts themselves are abstract ideas which form the building blocks of hypotheses and theories. The first stage, therefore, is the elaboration of a set of principles or allied ideas which are then tested through empirical observations or experimentation.

According to Gray (2004), the first stage of the inductive approach includes data collection, followed by data analysis, to determine if any patterns emerge that suggest relationships between the variables. Through induction a researcher moves towards discovering a binding

principle, with a hypothesis which constitutes a testable proposition concerning a relationship between two or more concepts. The inductive process does not consider pre-existing theories or ideas when approaching a problem or falsifying a theory. Instead, through a process of gathering data it attempts to establish patterns, consistencies and meanings.



**Figure 3.4: An illustration of how the inductive and deductive methods can be combined**  
(Source: Gray, 2004)

Dubois and Gadde (2002) consider that deductive approaches are concerned with developing propositions from current theories which are then tested in the real world, while inductive approaches rely on grounded theory. Systematically combining both the approaches is closer to an inductive than a deductive approach, and the abductive approach is seen as being different from a mixture of deductive and inductive approaches. The purpose of an abductive approach is to discover new variables and relationships through research. Figure 3.4 illustrates the concept of both the inductive and deductive methods that can be applied to working theory for experimental design.

### 3.5 Quantitative Analysis

In quantitative analysis the opportunities and challenges in designing and conducting inquiry treatments or programmes, and methods of assignment, work together to try to address the central research questions (Trochim and Land, 1982, cited by Harwell, 2011). According to Saunders et al. (2007), quantitative analysis techniques involve numerical data or contain data that can be quantified in order to formulate a research question to meet the research objectives. Graphs, charts and statistics help to explore the relationships and variables between data, and the frequency of occurrences is important as the data has to be collected, analysed and interpreted. Statistics, such as indices, guide to establish a statistical relationship between variables.

Creswell (2004) states that quantitative studies use theory deductively before beginning research and have the objective of testing or verifying a theory rather than developing it. The data collected is tested and then reflected upon for confirmation or disconfirmation according to the results. A researcher tests or verifies a theory by examining hypotheses or questions derived from it, and these contain variables (or constructs) that a researcher needs to define. This deductive approach to quantitative research has implications for the placement of a theory within a quantitative research study. The quantitative approach includes survey and experimental research.

### ***Survey research***

This approach provides a quantitative or numeric description of trends, attitudes or opinions from a sample population and uses a questionnaire or structured interviews for data collection.

### ***Experimental research***

This includes true experiments with the random assignment of subjects, where researchers seek to determine the outcome.

Harwell (2011) describes the five phases in quantitative research design, which start with an introduction, the purpose of the study and research questions, followed by the second phase which consists of theoretical perspectives or models. The third phase is the methodology and encompasses sampling and an evaluation of external validity, instrumentation which may include an evaluation of construct validity, and experimental design that includes an evaluation of internal validity, while data collection and data analysis includes an evaluation of statistical conclusion validity. The fourth phase consists of the reporting of the results, and the final phase is the conclusions and implications.

## **3.6 Qualitative Analysis**

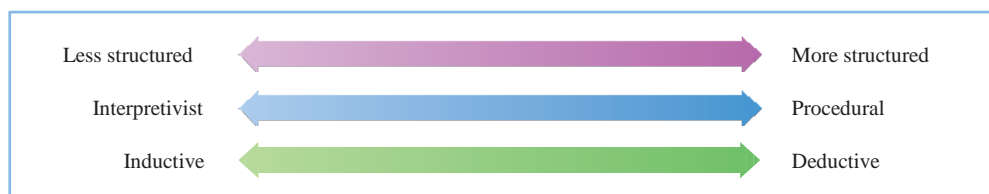
Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world, and turn it into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. (Denzin & Lincoln, 2005, p. 3, cited by Harwell, 2011).

Saunders et al. (2007) refer to qualitative data as non-numeric data or data that have not been quantified and is the product of all strategies. This includes open-ended questions, online questionnaires, and transcripts of in-depth interviews. Qualitative data analysis procedures assist the researcher to develop their own theory from the data. It includes both deductive and inductive approaches, ranging from the simple categorisation of responses to processes for identifying relationships between categories. In the qualitative approach one of the key elements is to collect data and observe participant behaviour during engagement in activities and to prepare a narrative design, open-ended interview, whereby the researcher seeks to establish the meaning of a phenomenon from the perspective of the respondents.

According to Harwell (2011), qualitative research methods are inductive, as the researcher may construct theories or hypotheses, explanations, and conceptualisations from details provided by a participant. The process depicts the fact that researchers cannot set aside their experiences, perceptions, and biases, and thus cannot pretend to be objective bystanders to the research.

Creswell (2004) lists five strategies of inquiry in qualitative research: narratives, phenomenological studies, grounded theory studies, ethnographies, and case studies. Creswell also describes six phases embedded in each research design: the first phase is philosophical or theoretical perspectives; the second phase is an introduction to a study, which includes the purpose and research questions; the third phase is data collection; the fourth phase includes data analysis; the fifth phase is report writing; and the final phase is the check on the quality standards.

Figure 3.5 indicates the dimensions of qualitative analysis that have differentiating approaches which may be highly or less structured, highly formalised or depend on interpretation, inductive or deductive approaches.



**Figure 3.5: Dimensions of qualitative analysis**

(Source: Saunders et al., 2007)

### **3.7 Mixed Method Approach**

Mixed methods research is formally defined here as research where a researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study. Mixed methods research also is an attempt to legitimate the use of multiple approaches for answering research questions, rather than restricting or constraining a researcher's choices (i.e. it rejects dogmatism). It is an expansive and creative form of research, not a limiting form of research.

Creswell and Miller (1997) identified the rationale in conducting both quantitative and qualitative results to reflect both the methodologies, and identified four methodologies for doctoral programmes. Positivist approaches help doctoral candidates to identify a theoretical perspective to use, methods to employ in a study, store, analyse and report quantitative data, and are advised studies in the fields of sociology, psychology, economics, or political science in order to build a solid foundation for research through survey or experimental data. Interpretive approaches include epistemological and philosophical issues, and set the positivist researcher apart. These approaches address topics such as the formation of research, problems and questions, typical data collection and analysis procedures, strategies for writing a qualitative narrative, validity or verification approaches, and ethical issues. Ideological approaches were suggested when an ideological perspective for change and advocacy was adopted, whether this is feminist, critical theory, postmodern, or some other perspective. Pragmatic approaches are where one must become proficient in both qualitative and quantitative research, as well as understanding the interface between the two, and includes the understanding of mixed-use methods.

Harwell (2011) considered that in the debate between qualitative versus quantitative, there has been a rapid development of mixed methods, which combine qualitative and quantitative methods in ways that bridge their differences in addressing a research question. Table 3.1 provides a comparison between quantitative, qualitative and mixed methods as outlined by Creswell (2004). While the philosophical assumptions of quantitative approaches are post-positivist, the qualitative approach is constructivist or transformative. Mixed methods follow pragmatism and the strategies of inquiry for mixed methods are discussed, in terms of the timing of data collection and the process of both quantitative and qualitative methods. In mixed method research a rationale is required in order to develop quantitative and qualitative approaches which vary in terms of practice, where quantitative identifies variables and

qualitative collects meanings.

**Table 3.1: Comparison between quantitative, qualitative and mixed methods**

(Source: Creswell, 2004)

<b>Tend to or typically</b>	<b>Quantitative Approaches</b>	<b>Qualitative Approaches</b>	<b>Mixed Methods Approaches</b>
Use these philosophical assumptions	Post-positivist knowledge claims	Constructivist /transformative knowledge claims	Pragmatic knowledge claims
Employ these strategies of inquiry	Surveys and experiments	Phenomenology, grounded theory, ethnography, case study, narrative	Sequential, concurrent and transformative
Use these practise of research as a researcher	Tests or verifies theories or explanations	Positions himself or herself	Collects both quantitative and qualitative data
	Identifies variables to study	Collects participant's meanings	Developing a rationale for mixing
	Relates variables in questions or hypotheses	Focuses on single concept or phenomenon	Integrates data at different stages of inquiry
	Uses standards of validity and reliability	Brings personal values into the study	Presents visual pictures of procedures in the study
	Observes and measures information numerically	Studies the context or setting of respondents	Employs the practices of both qualitative and quantitative research
	Uses unbiased approaches	Validates the accuracy of findings	
	Employs statistical procedures	Makes interpretations of the data	
		Creates an agenda for change or reform	
		Collaborates with the respondents	

There are six designs for mixed methods which a researcher can adapt based on their research problem (Creswell and PlanoClark, 2011).

- The convergent parallel design
- The explanatory sequential design



- The exploratory sequential design
- The embedded design
- The transformative design
- The multiphase design

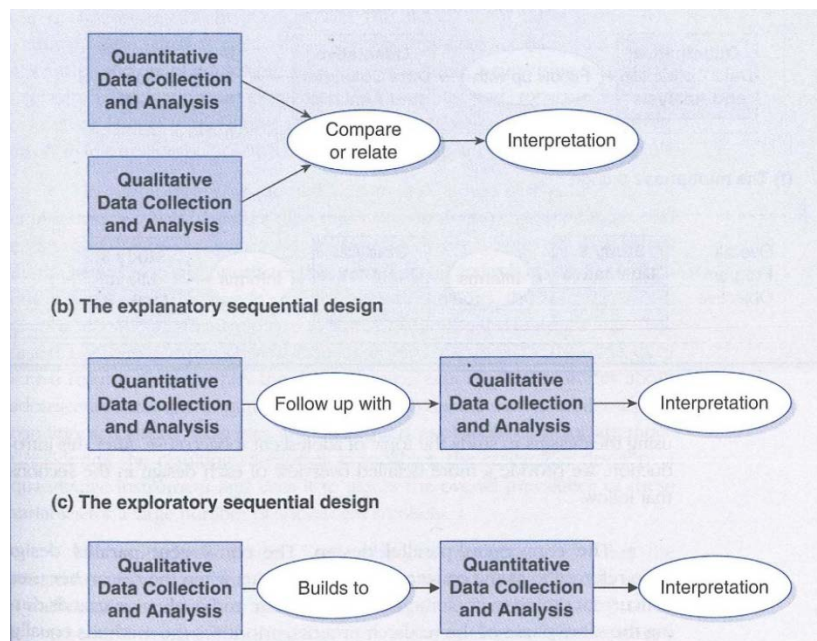
Creswell and PlanoClark (2011) state that researchers make decisions regarding the timings of two strands, where timing is the temporal relationship between the quantitative and qualitative strands within a study, as shown in Figure 3.6.

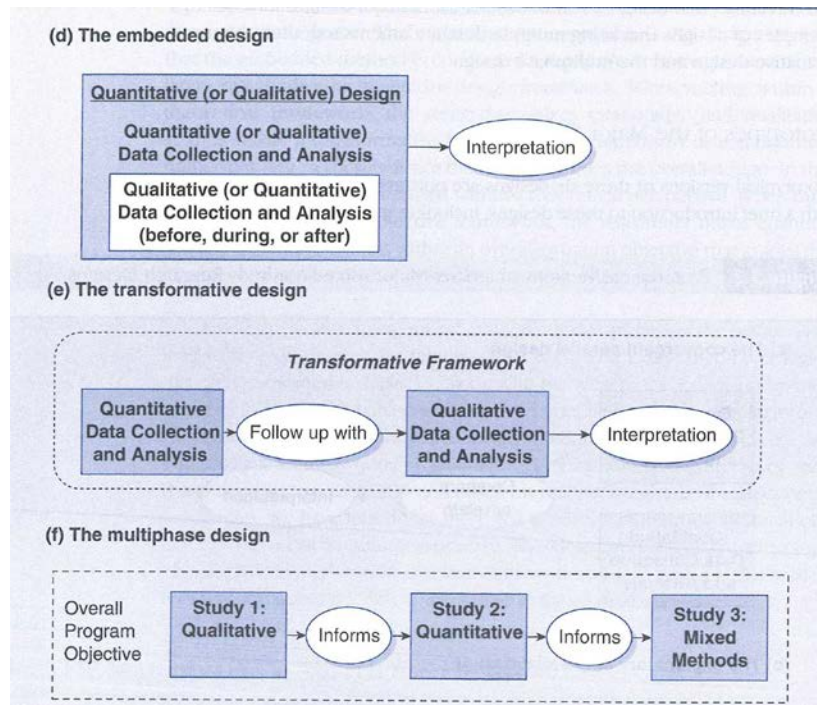
*Convergent parallel design:*

Researchers use concurrent timing to implement the quantitative and qualitative strands during the same phase of the research process; strands are kept independent during analysis and then results are mixed during the overall interpretation. The results are assessed in a convergent manner.

*Explanatory sequential design:*

This occurs in two distinct interactive phases, where design starts with data collection and the analysis of quantitative data. The second qualitative phase is based on the results of the quantitative data collected during the first phase. A researcher interprets how the qualitative results help to explain the quantitative results.





**Figure 3.6: The six prototypes of mixed methods research**

(Source: Creswell and Plano-Clark, 2011)

*Exploratory sequential design:*

In contrast to the explanatory sequential design, here the analysis of qualitative data is undertaken during the first phase, and a researcher then interprets how quantitative results build on the qualitative results.

*Embedded design:*

A researcher collects and analyses both quantitative and qualitative data within a traditional quantitative or qualitative design. An additional quantitative strand, such as an experiment, may be added within a quantitative design, while an additional qualitative strand, such as a case study can be added to a qualitative design. The embedded design enhances the overall design.

*Transformative design:*

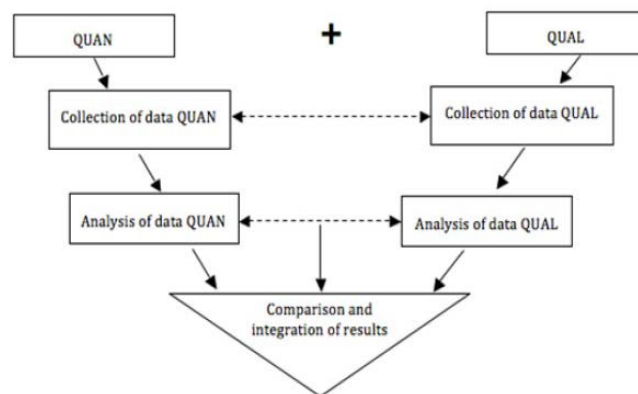
A framework is created, and all decisions adhere to this framework. The design phase highlights the important role of a theoretical perspective that depicts the possible methods that have been selected.

*Multiphase design:*

A researcher combines both sequential and concurrent strands over a period of time addressing

an overall programme objective. The multiphase design is adapted in specific programme evaluations where quantitative and qualitative approaches are used over time.

Bentahar and Cameron (2015) discuss the importance of mixed methods research in many disciplines, including sociology, psychology, health, and education, and describe triangulation as one of the main objectives of mixed methods research. Denzin (1978) states that ‘triangulation is the combination of methodologies in the study of the same phenomenon’ and it allows a researcher to corroborate and support the results about a particular phenomenon via the use of different methods, providing internal and external validity. Figure 3.7 illustrates how quantitative and qualitative methods are combined in mixed approach to analyse the data, compare and integrate the results obtained by both the methods.



**Figure 3.7: Research design, qualitative, quantitative and mixed approaches**

(Source: Creswell, 2003, cited in Bentahar and Cameron, 2015)

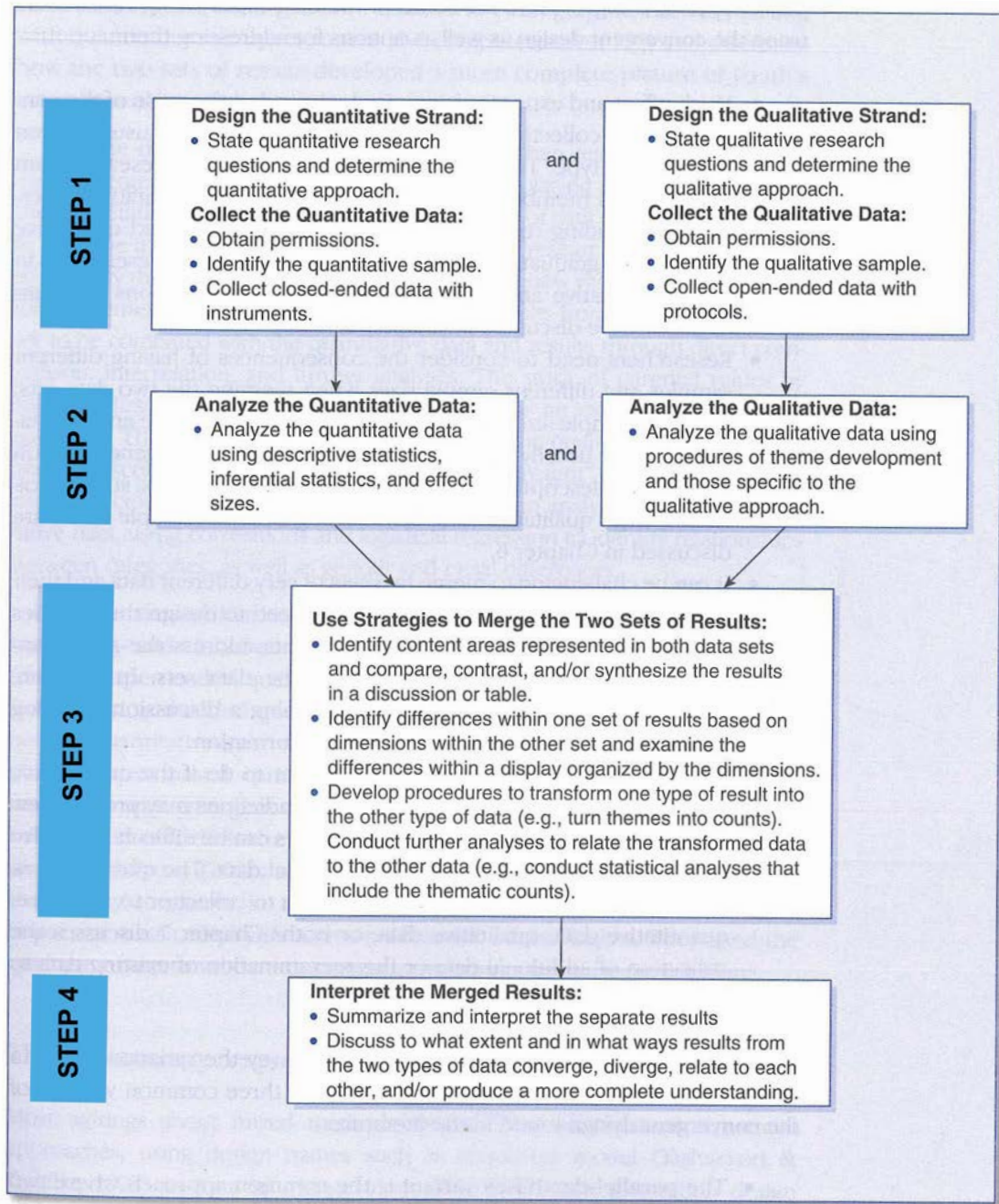
In their study of community social networks, Xerez and Fonseca (2011) adapted mixed methods to enrich theoretical and empirical urban research. Through this mixed method approach they explore the city and community social capital, and integrate research design, the gathering of data and the results. The mixed methods employed include interviews, ethnographic observations and archives, and open and closed-ended questions about the community and social networks neighbourhood are utilised. This provided an opportunity to understand the experiences of the respondents through the quotes from their interviews, as well as statistical analysis of their social networks.

Figure 3.8 illustrates the overall process implemented via four steps in mixed methods. The first step is to state the design approach, and data collection procedure for both the quantitative and qualitative strands. In step two the data is analysed using relevant tools and in the third step

the results are merged. In this step data synthesis occurs, which identifies the differences to be analysed and examined. In the final step the results are converged, diverged and related in order to obtain the end results.

Creswell and PlanoClark (2011) describe that the timing of data collection for quantitative and qualitative strands is important and can be classified as:

- Concurrent timing: both the qualitative and quantitative strands are implemented during a single phase of research.
- Sequential timing: different timings for both strands which occur in distinct phases. The collection and analysis of one data set take place after the other.
- Multiphase combination timing: concurrent and sequential elements are combined and research is undertaken in multiple phases.



**Figure 3.8: The basic procedures implemented in a convergent parallel design**

(Source: Creswell and Plano Clark, 2011)

### 3.8 Data Sampling

The mode of data collection affects the quality of the survey design, and Fowler (2014) states that the major steps in data collection start with data sampling. Easterby-Smith, Thorpe and Jackson (2008) describe sampling designs where the probability of each entity being part of the sample is known in a quantitative analysis.

### *Simple random sampling:*

Members of a population are selected one at a time, independent of one another, and without replacement; every sample entity has an equal chance of being part of the sample. Use of computers in drawing up a list for selection of the sample is possible using current technology.

### *Stratified random sampling:*

Simple random sampling has a drawback in that small but important parts of a population can be missed all together or sampled so infrequently that researchers cannot make confident statements about them. Hence a population is divided into homogenous groups and subjected to simple random sampling. Proportional stratified random sampling maintains the same sampling within all strata. Hence a non-proportional stratified sample can be proposed which can take a larger proportion of sample units from the small strata and a smaller proportion from the larger strata.

### *Systematic random sampling*

A list in the form of a database, such as a customer database, employee list, is referred to. A source list is assumed to be organised in a systematic way which rules out any bias in selection. However, if a list is based on alphabetical order then individuals with same last name have less probability of being selected.

### *Cluster sampling*

This has an advantage over random sampling as the population is divided into clusters and then all the units within the selected clusters are sampled. The cost of approaching an entire population in random sampling is high as they are more spread out and reaching them is expensive. Hence cluster sampling in such cases is preferable.

### *Multi-stage sampling*

This involves processes that are more cost effective and combines the methods described above to achieve higher efficiency. This design is commonly used in social research. Stratified random sampling divides a population into strata and then samples from them, but instead a sampling approach at each level can be used for more efficiency.

Fowler (2014) believes that once a researcher has made a decision concerning the sample frame or approach, the selection of samples can be decided by any one of the above methods.

## 3.9 Data Collection

### 3.9.1 Quantitative Methods

The primary data in quantitative analysis is collected through various sources. Smith, Thorpe and Jackson (2012) describe various methods, including collecting data through surveys, observational methods, and using secondary databases.

#### *Self-completion questionnaires*

In this method of data collection questionnaire surveys are posted and there is no cost involved, although the disadvantage is that the response rate is very low. There is no control in the answering of questions and there is no personal contact with the participants. In today's context of the digital world, web-based surveys are becoming important. Gunn (2002, cited in Easterby-Smith et al., 2012) notes that the internet is becoming a common space for questionnaire surveys to be conducted, and time constraints are also overcome in this method.

#### *Interviewer-administered questionnaires*

These are structured interview surveys in the presence of the interviewer who records the answers. The process involves appointments with the respondents and the time of the interviewer, travel, allowances and other miscellaneous expenses. The advantage of face-to-face contact with the respondents is that accurate data can be collected, and confidentiality can be maintained. The interviewer can also build a relationship of trust with the respondents.

#### *Telephone interview surveys*

These are very commonly used since they combine the cost-effectiveness of a postal survey and at the same time there is a contact with the participants. The advantage of this method is respondents can be located anyway around the world and new media has encouraged this mode of surveys.

#### *Observational methods*

This method implies the analysis of behaviour, and includes visual data that can be captured through various modes including video and audio; the observer is a non-participant. The researcher collects data through verbal behaviour, which explores the words and meaning through language, while non-verbal behaviour is based on visual aspects, behaviour, gestures, and expressions. Coding of observation data is accomplished by adapting Interaction Process Analysis (IPA) to group behaviour using categories based on relationships or other socio-

emotional aspects. Sampling strategy is also important when collecting observational data.

#### *Secondary databases*

Archival sources are a form of secondary data, although frequently this data is confidential and can only be accessed after seeking permission and for research purposes only. The data required is collected based on a specific design by accessing the secondary data sources.

### **3.9.2 Qualitative Methods**

According to Creswell (2014), a researcher can collect qualitative data via unstructured or semistructured observations and interviews, documents, and visual materials in order to record information.

#### *Observations*

A researcher gathers field notes by conducting an observation as a participant, or observation as an observer, or by spending time more as a participant than as an observer. The advantage of data collection through the observation method is that unusual aspects can be noticed, while the disadvantage is that a researcher may not have good observation skills to carry out data collection.

#### *In-depth Interviews*

Easterby-Smith et al. (2012) note that these can be both semi-structured and unstructured. This method is an opportunity to gain maximum insights from respondent, although in a one-to-one situation respondents may sometimes be reluctant to disclose facts. A real time chronology is what a researcher can expect and hence understanding the details presented by the respondents is necessary as part of the data collection process.

#### *Documents*

These may include public or private documents, which can be accessed as sources of information. Using documents saves the researcher time in transcribing, however documents are not authentic sources of information.

#### *Audio visual methods*

Sources include audio, video, art objects, computer messages, sounds, and films. Although this provides a realistic way for respondents to share experiences directly, a researcher may find them difficult to interpret.



### *Group and focus interviews*

When group interviews are conducted some type of investigation or conversation is implied. The role of the facilitator is of vital importance and a topic guide facilitates the discussion which is held in a suitable environment. The disadvantage to group interviews is that due to social pressure respondents may not be open to voice their opinions.

## **3.10 Questionnaire Design**

The design of a questionnaire is vital to address the research questions, hypothesis and also the research problem. Easterby-Smith et al. (2012) identify five principles for good questionnaire design for quantitative research, and note that each item should express only one idea. The second principle is to avoid jargon, which may be unclear to respondents, and colloquialisms should also be avoided. The third is to use simple expressions in the active tense, while the fourth is to avoid negativities. The final principle is to avoid leading questions to prompt respondents to provide an expected answer.

The use of measurement scales for recording responses is preferred, which may consist of category scales or continuous scales, for example male/female (category) or age/weight (continuous).

## **3.11 Research Process and Strategy**

Figure 3.9 illustrates the stages of the research process, which starts with the identification of the research proposal, rationale and background of a study. The research aim and objectives were defined through secondary data available within the academic literature, including journals, books, reports and publications that discuss the concept, theories, and research undertaken in the area of urban social sustainability. The research motivation began with the identification of a research gap in the area of urban social sustainability in the Gulf region.

### *Philosophical level*

It is the endeavour of this project to understand and explain the respondents' perceptions of what it means to be a resident in Dubai today, and to explore the construction and negotiation of the meaning of social interaction and sustainable living; thus, it is this 'other purpose', the pursuit of *verstehen* from which this project derives its mandate to adopt an 'idiographic position'. However, the endeavour to access the domain of perceptions and meanings provides the rationale for the research adopting a qualitative methodological technique, with the added

value of quantitative techniques within the social sciences.

Conventional investigators tend to reject idiographic interpretation as useless; what use is it to know about only a single site? Such evaluations are made in terms of what is taken to be science's central purpose: prediction and control. If some other purpose is postulated, as for example, verstehen (understanding, or meaning experienced in situations), then the idiographic position becomes not only tenable but mandatory (Lincoln and Guba, 1985, p.216).

This study involves the attitudes, behaviour and interpretation of socio-cultural aspects, and perceptions, hence the epistemological and ontological approach of positivism and interpretivism will be of added value; epistemology is a theory of knowledge, while ontology is the science of existence. The epistemological paradigm with ontological beliefs is the approach adopted for this study and positivism and phenomenological methods are employed. The rationale for this stance is illustrated in Table 3.2.

**Table 3.2: Positivist Paradigm and Phenomenological Paradigm**

(Source: Lincoln and Guba, 1985; Maykut and Morehouse, 1994)

<b>Axioms About</b>	<b>Positivist Paradigm</b>	<b>Phenomenological Paradigm</b>
The nature of reality	Reality is single, tangible and fragmentable into independent variables and processes, any of which can be studied independently of the others; inquiry can converge onto that reality until, finally, it can be predicted and controlled.	There are multiple realities. These realities are socio-psychological constructions forming an inter-connected whole. These realities can only be studied holistically. Given the multi-dimensionality of these realities, prediction and control are unlikely outcomes of inquiry, although some level of understanding (verstehen) can be achieved.
The relationship of knower to known	The knower can stand outside what is to be known. True objectivity is possible.	The inquirer and the 'object' of inquiry interact to influence one another; knower and known are inseparable.
The possibility of generalisation	Time- and context-free generalisations are possible (nomothetic statements).	Only time- and context-bound working hypotheses are possible (idiographic statements).
The possibility of causal linkages	One event comes before another event and can be said to cause that event.	Events shape each other. Multi-directional relationships can be discovered.

<b>Axioms About</b>	<b>Positivist Paradigm</b>	<b>Phenomenological Paradigm</b>
The role of values	Inquiry is value-free.	Inquiry is value-bound; values mediate and shape approaches to, and engagement in, the research process.

*Reasoning level*

At the reasoning level this study adapts a deductive approach that commences by analysing the literature, followed by identifying the gaps between existing theories and available evidence, and formulating a series of research questions in order to conduct an inquiry. The hypotheses are assumptions that test the relationships between variables. Since the study is on the experiences of residents living in a neighbourhood, in order to gain more insights this research adapts an inductive approach to understand the phenomenon via a less structured methodology. The deductive and inductive approaches of the research are further enhanced by the abductive approach where unknown variables are considered during the process.

*Data level*

Quantitative methods are deductive in nature and adopt positivism in their philosophy, while qualitative methods are inductive in nature and consider the interpretivist approach, consequently the combination of both by applying a mixed method design is adopted. This study adapts a convergent parallel mixed method with concurrent, quantitative and qualitative methods.

The data is collected using the spatial analysis method in addition to the mixed methods. Longley and Batty (1996) discuss the spatial analysis approach to understanding space and time, geographical areas in urban planning, and dynamics in the urban context through a visual environment. Spatial analysis can guide understanding of the development of urban patterns and morphology. Since this study is focusing on the master planning context of neighbourhoods in Dubai, the use of spatial analysis is appropriate as it investigates land use, transportation and important built forms in the area of study.

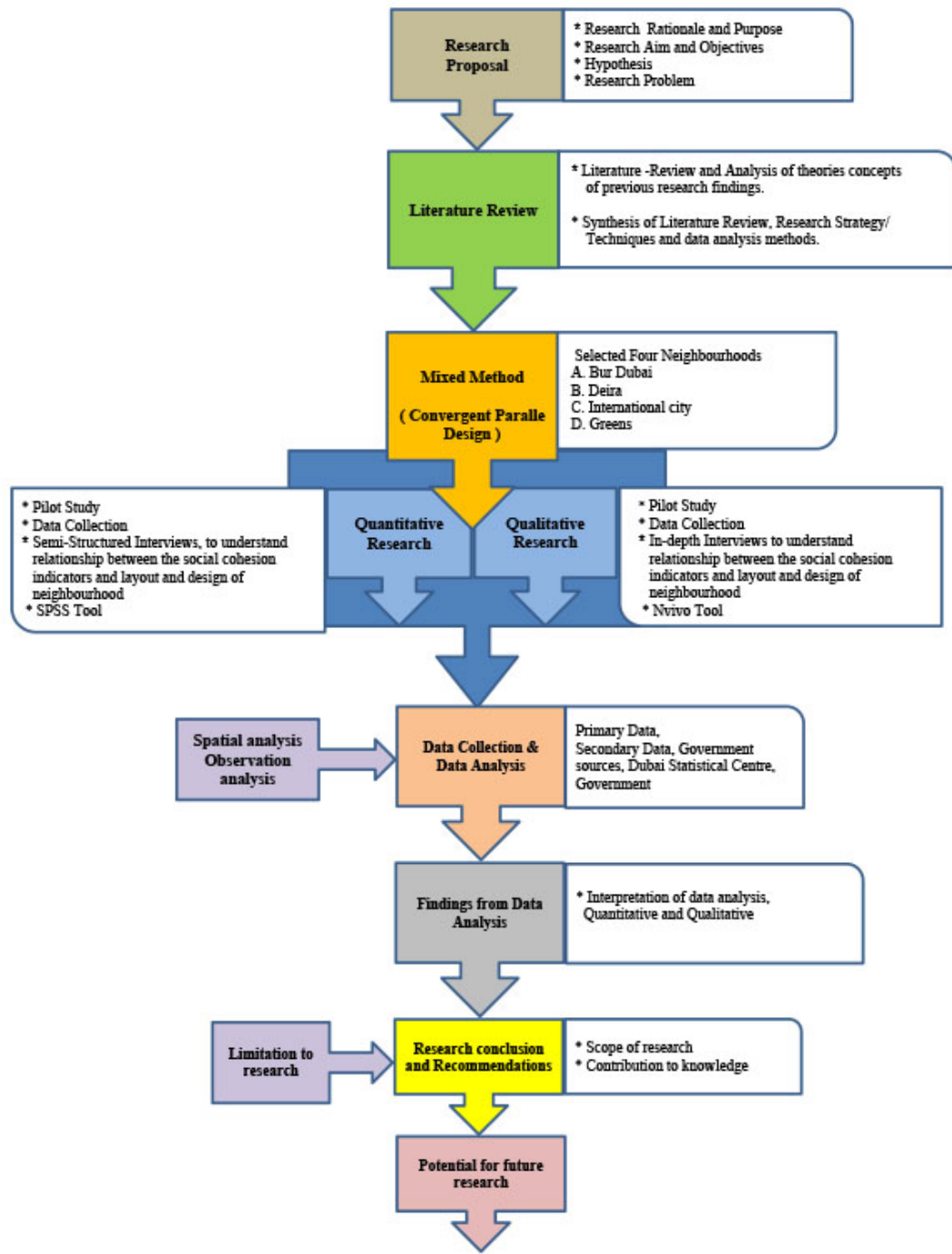
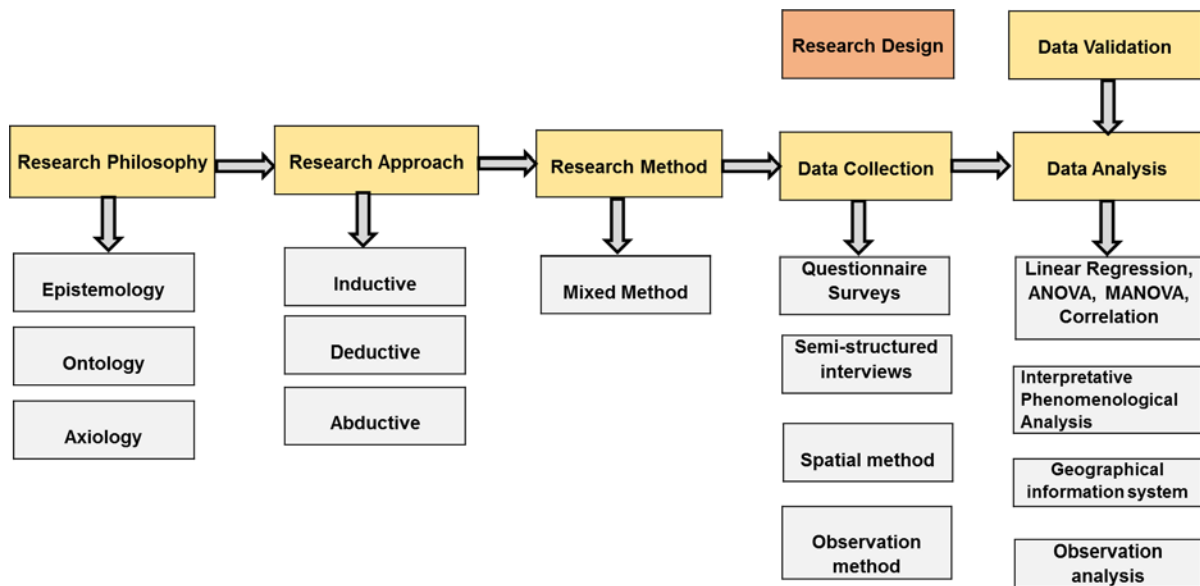


Figure 3.9: Research framework



**Figure 3.10: Conceptual model**

This mixed method, as stated by Creswell and Plano Clark (2011), brings different strengths and non-overlapping weaknesses of quantitative methods together those of qualitative methods. They identified convergent design variants in the literature, including the parallel-data base variant, data-transformation variant, and data-validation variant. The parallel-databases variant includes the use of two types of data, which examine facets of the phenomenon and are then compared during the discussion. The data-transformation variant occurs when a researcher implements the convergent design with unequal priority, with an emphasis on the quantitative strand and then merges the findings in the data transformation. The data validation variant is used when the results from open-ended questions are used to confirm or validate the results from closed-ended questions.

This study is based on the concept of urban social sustainability, and one of the primary and key elements in social sustainability identified through the academic literature is social cohesion. This study connects the aspects of architecture, urban planning and design to disciplines of sociology. As identified through empirical studies, the role of physical elements in urban planning has been conducive to social cohesiveness within a neighbourhood. The hypothesis and research questions are based on the discussions presented in Chapter 2 in order to test, evaluate and assess the relationships between the variables of urban planning and social cohesiveness. The aim of the research is addressed through this inquiry.

*Hypothesis 1:*

The common spaces in a neighbourhood contribute to social cohesiveness amongst residents in neighbourhoods in Dubai.

*Hypothesis 2:*

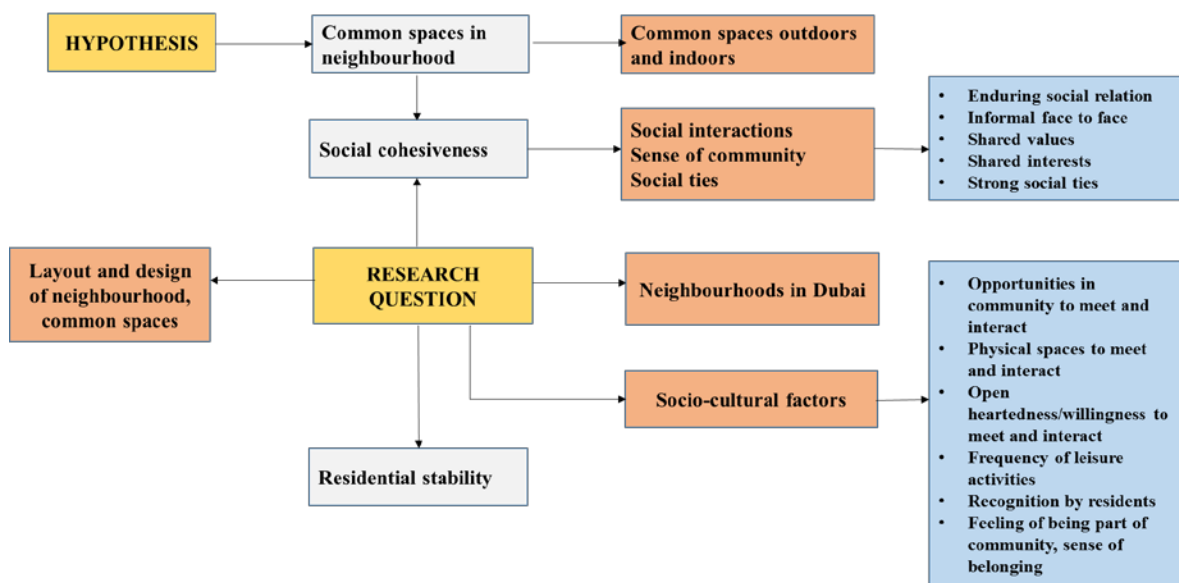
The layout and design of a neighbourhood impacts upon socio-cultural aspects of residents in neighbourhoods in Dubai.

*Research Questions:*

Q. To what extent is there residential stability amongst neighbourhoods in Dubai?

Q. Does the social cohesiveness amongst residents in Dubai neighbourhoods differ?

Q. To what extent does the layout and design of neighbourhoods and their common spaces contribute to socio-cultural factors amongst residents in neighbourhoods in Dubai?



**Figure 3.11: Overview of hypothesis and research questions**

The conceptual model incorporates the social cohesiveness indicators identified in the literature review, which are social interactions, sense of community, and social ties. The relationships between the layout and design of a neighbourhood and common spaces are analysed through a questionnaire survey and in-depth interviews. The indicators of socio-cultural factors are identified within the available literature in order to understand the relationship between the physical planning of neighbourhoods and socio-cultural factors.

## 3.12 Quantitative Method

### 3.12.1 Data Collection

The data for the quantitative part of this study was collected via random sampling of 200 residents from the four neighbourhoods, with a sample size of 50 for each individual neighbourhood. Confidentiality and anonymity was maintained for all the respondents, and all the surveys were conducted face-to-face. Einspruch (2005) suggests that conducting research is an important skill, and it is essential when conducting research to learn about perceptions, knowledge and behaviours. Quantitative methods are concerned with numbers, and the Statistical Package for the Social Sciences (SPSS) is an appropriate tool for a variety of data analysis tasks. Quantitative data was analysed using statistical tools, and responses were coded on a Likert scale ranging from 1 (lowest) to 5 (highest).

### 3.12.2 Questionnaire Design

The questionnaire design is illustrated in Table 3.3.

**Table 3.3: Rationale for the questionnaire design**

Topic	Data variables	Rationale for data collection
Demographics	<ul style="list-style-type: none"> <li>• Age Group</li> <li>• Marital status</li> <li>• Family size</li> <li>• Number of school going children</li> <li>• Monthly income</li> <li>• Occupation</li> <li>• Qualification</li> </ul>	The demographic profile of the respondents is important in order to understand their family structure, as all the selected four neighbourhoods are residential communities
Years of residency	<ul style="list-style-type: none"> <li>• Years of residency in Dubai</li> <li>• Years of residency in current neighbourhood</li> </ul>	Residential stability as discussed in the literature review is identified as more than 5 years of residency in the same place. The research questions addressing residential stability is vital for a Dubai model with a transient population
Available amenities	<ul style="list-style-type: none"> <li>• Indoor activities (Recreational, clubs)</li> <li>• Children play area</li> <li>• Day care centre (child care)</li> <li>• Grocery stores</li> <li>• Laundry</li> </ul>	Amenities have played a vital role in community living within neighbourhoods, as discussed in the literature review, and amenities contribute to social capital within a community. The research question on common

	<ul style="list-style-type: none"> <li>• Medical</li> <li>• Parks/Outdoors</li> <li>• Pharmacy</li> </ul> <p>* Common outdoor spaces</p>	<p>outdoor spaces and the contribution to social interactions is addressed here to understand the availability of common open spaces</p>
Rating of the Amenities	<ul style="list-style-type: none"> <li>• Likert scale for rating above amenities</li> </ul>	
Availability of transport	<ul style="list-style-type: none"> <li>• Metro</li> <li>• Private Taxi</li> <li>• RTA Bus</li> <li>• Tram</li> <li>• * Own vehicle</li> </ul>	<p>The literature on neighbourhood addresses accessibility as one of the contributing factor that decides choice of selection of neighbourhood</p>
Factors deciding choice of neighbourhood	<ul style="list-style-type: none"> <li>• Affordability</li> <li>• Layout and design of neighbourhood</li> <li>• Accessibility to amenities like supermarkets</li> <li>• Accessibility to children's school</li> <li>• Accessibility to parks</li> <li>• Private Taxi</li> <li>• Accessibility to amenities like supermarkets</li> <li>• Accessibility to children's school</li> <li>• Accessibility to parks</li> <li>• Private Taxi</li> </ul>	<p>While comparing the four neighbourhoods the reasons why respondents preferred to reside in their neighbourhood was important to understand</p>
Housing unit	<ul style="list-style-type: none"> <li>• Light &amp; Ventilation</li> <li>• Residential space planning</li> <li>• Size of unit</li> </ul>	<p>This is an important factor for respondents to consider regarding their choice of neighbourhood</p>
Rating of the Housing unit	<ul style="list-style-type: none"> <li>• Likert scale for rating housing unit</li> </ul>	
Social interactions	<ul style="list-style-type: none"> <li>• How favourable are common spaces outdoors</li> <li>• How favourable are common spaces indoors</li> <li>• Frequency of meet and interact</li> <li>• Level of social interactions</li> </ul>	<p>The relationship between common spaces and social interactions is addressed in order to answer one of the research questions, if they are favourable for meeting and interacting with others</p>
Sense of community	<ul style="list-style-type: none"> <li>• Level of satisfaction of sense of community</li> </ul>	<p>Sense of community is one of the indicators of social cohesiveness</p>



Belonging		
Issues faced (Physical)	<ul style="list-style-type: none"> <li>• Accessibility within the city</li> <li>• Lack of amenities</li> <li>• Accessibility to amenities</li> </ul>	These questions relate to what the respondents consider to be issues or challenges within their neighbourhood
Issues faced (Non-physical)	<ul style="list-style-type: none"> <li>• Lack of common spaces for social interaction</li> <li>• Lack of self-initiatives by residents to interact</li> <li>• (Landau &amp; Everitt, 2004)Lack of sense of community belonging</li> </ul>	
Sociocultural factors	<p>(Factors and rating)</p> <ul style="list-style-type: none"> <li>• Regular social interactions</li> <li>• Available opportunities for social interactions</li> <li>• Positive attitudes</li> <li>• Open heartedness/willingness amongst residents to interact</li> <li>• Number of socio-cultural activities within the community</li> <li>• Participation in community organised activities</li> </ul>	Socio-cultural factors are one of the elements identified in the literature review that foster sustainable communities
Socio-cultural factors	<ul style="list-style-type: none"> <li>• Level of ‘participations’ in the community organised activities</li> <li>• Level of ‘involvement’ in the community organised activities</li> <li>• Level of informal supports support within the community</li> <li>• Level of formal supports to improve their inclusion</li> <li>• Level of social ties of respect and recognition</li> </ul>	The research question considers the relationship between the layout design of neighbourhoods’ common spaces and socio-cultural factors
Social cohesion indicators	<ul style="list-style-type: none"> <li>• Enduring social relationships</li> <li>• Informal face-to-face interaction</li> <li>• Shared values</li> <li>• Shared interests</li> <li>• Strong social ties and bonds</li> </ul>	Social cohesion indicators identified in the review of the literature are social interactions, a sense of community, and strong social ties and bonds
Layout and design of neighbourhood	<ul style="list-style-type: none"> <li>• Contribution to social interactions</li> </ul>	The relationship between common spaces in the layout and design of a neighbourhood and social cohesion indicators is tested

Gaur and Gaur (2009) note that quantitative data involves collecting quantitative data based on structured, reliable and validated data collection instruments. The nature of the data is in form of variables and data analysis involves establishing statistical relationships. A variable is a characteristic of an individual or an object and SPSS is a powerful tool for statistical analysis. The variables differ in degree and hence can be measured on interval or ratio scales.

### 3.12.3 Simple Linear Regression

According to Bajpai (2014), regression analysis is a process of developing a statistical model that predicts the value of a dependent variable by at least one independent variable. The variable whose value is predicted is called the dependent variable, and the variable which influences the value or is used in the prediction is called the independent variable. In simple regression analysis the independent variable is known as the regression or predictor or explanatory, while the dependent variable is the regressed or explained variable. In this , a straight line relationship between two variables is examined by developing a regression model in which the value of a dependent variable can be predicted using an independent variable, based on the linear relationship between the two.

Kowal (2016) explains the model of simple linear regression as:

$$y = \alpha + \beta x + \varepsilon,$$

where  $y$  is the dependent variable,  $x$  is the independent variable,  $\alpha$  and  $\beta$  are the structural parameters, and  $\varepsilon$  is the random component. In the design of  $n$ -observations performed on  $y$  and  $x$  it is written as:

$$1, 2, \dots, i \quad y = \alpha + \beta x + \varepsilon \quad i = n$$

Artemiou (2016) states that regression analysis is a set of techniques and tools used in statistics to explore the relationship between variables. In its simplest form (simple linear regression), there is one variable that is treated as the response and one variable that is treated as the predictor, and the ordinary least squares (OLS) method is used to estimate the linear regression line, which is the line that best fits the data. Yet rather than assuming there is a linear relationship between the predictor and the response variable, there are some other important assumptions; the errors are normally distributed and homoscedasticity (or constant variance) which implies that the variance of the error term is constant and does not depend on the value

of the predictors. If these assumptions are violated one can use a different estimation technique to estimate the regression coefficients, and the weighted least squares method is a very common choice, together with the independence of errors, which implies that the errors are uncorrelated. If this assumption is violated, then there are further estimation techniques available, including the generalised least squares method.

### **3.13 Qualitative Method**

#### **3.13.1 Overview of the Analytical Approach**

Qualitative research is a holistic approach which takes account of the context within which human experiences occur, and is concerned with learning from particular instances or cases. Qualitative research seeks to access the inner world of perception and meaning-making in order to understand, describe and explain social processes from the perspective of study respondents. As Maykut and Morehouse (1994) point out: ‘Words are the way that most people come to understand their situations; we create our world with words; we explain ourselves with words; we defend and hide ourselves with words.’ Thus, in qualitative data analysis and presentation, ‘the task of the researcher is to find patterns within those words and to present those patterns for others to inspect while at the same time staying as close to the construction of the world as the respondents originally experienced it’ (p18). This approach does not commence with a prior hypothesis to be tested and proved, but with a focus-of-inquiry that takes the researcher on a voyage of discovery. It takes an inductive approach to data analysis, while research outcomes are not broad generalisations, but contextual findings; qualitative researchers, tend to speak of ‘transferability’ (from context to context) rather than generalisability.

Creswell (2004) describes qualitative research as an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The historic origin of qualitative research comes from anthropology, sociology, the humanities and evaluation. This process of research involves emerging questions and procedures, data collecting within a participant’s setting, and data analysis from particular to general themes, where a researcher interprets the themes. The qualitative process has a form of inquiry that supports a way of looking at research in an inductive style, focusing on individual meaning and rendering the complexity of the situation.

Some of the approaches in qualitative research mentioned by Creswell (2004) are ground theory and ethnography. Grounded theory is a design of inquiry from sociology in which the

researcher derives a general, abstract theory of a process, action, or interaction, grounded in the views of the participants. This process involves using multiple stages of data collection and the refinement and interrelationship of categories of information (Charmaz, 2006; Corbin & Strauss, 2007). Ethnography is a design of inquiry which comes from anthropology and sociology, in which the researcher studies the shared patterns of behaviours, language, and actions of an intact cultural group within a natural setting over a prolonged period of time, and data collection often involves observations and interviews.

Content analysis is one of numerous research methods used to analyse text data in qualitative research technique. According to Hsieh and Shannon (2005), content analysis has three distinct approaches: conventional, directed and summative. All three approaches are used to interpret meaning from the context of text data, with differences in these approaches being the coding schemes, the origin of codes, and threats to trustworthiness. In conventional content analysis the theory or relevant research findings are the guide for initial codes, whereas summative content analysis involves counting and comparisons with keywords or content followed by an interpretation of the underlying context. Researchers delineate analytical procedures specific to each approach and techniques addressing trustworthiness with hypothetical examples drawn from the area of end-of-life care.

Discourse analysis, as explained by Biggerstaff (2010), is about a conversation concerning the use of language, which can be a conversation between two people or the delivery of a political speech. Willig (2008, p.95, cited by Biggerstaff, 2010) considers discourse analysis to be more than a methodology due to the interest of social scientists in the language used in communication and as a 'social construct' for the environment and lived experience.

Narrative research is a design of inquiry from the humanities in which a researcher studies the lives of individuals and asks one or more to provide stories about their lives (Riessman, 2008). This information is then often retold or restored by a researcher into a narrative chronology. Clandinin and Connelly (2000) describe narrative research as a process that combines views from a participant's life with those of a researcher's life in a collaborative manner.

Case studies are a design of inquiry found in many fields, especially evaluation, in which a researcher develops an in-depth analysis of a case, often a programme, event, activity, process, or one or more individuals. Cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1995; Yin, 2009, 2012).

Thematic analysis, as described by Braun and Clarke (2006), is a qualitative method for identifying, analysing and reporting patterns (themes) within data. In thematic analysis a data set is explained in detail and is interpreted through various aspects of the research topic. This can be via a realist method that reports experiences, meanings and the reality of participants, or a constructionist method, which examines how events, realities, meanings, experiences and so on are the effects of a range of discourses operating within society.

Biggerstaff (2010) discusses the approach of phenomenology, which has been applied to explore participants' lived experiences within qualitative research. The concept of phenomenological research has developed from the philosophy of the European phenomenological 'school' of philosophy, and the most prominent proponents are Edmund Husserl, Martin Heidegger and Maurice Merleau-Ponty. Smith and Osborn (2008) developed a phenomenological method which is specific to psychology based on the European phenomenological philosophers, which is interpretative phenomenological analysis (IPA).

Phenomenological research is a design of inquiry which comes from philosophy and psychology in which a researcher describes the lived experiences of individuals as described by participants concerning a specific phenomenon. This description culminates in the essence of the experiences for several individuals who have all experienced the same phenomenon. This design has strong philosophical underpinnings and typically involves conducting interviews (Giorgi, 2009; Moustakas, 1994). In qualitative methods, while discourse analysis explores the role of language in participants' description of events and conversations, the phenomenological approach examines how people assign meaning to their experiences in their interactions with their environment (Biggerstaff & Thompson, 2008; Pringle et al., 2011; Shinebourne, 2011; Smith et al., 2009; Smith et al., 1999, cited by Biggerstaff, 2010).

While qualitative research is not given to mathematical abstractions, it is nonetheless systematic in its approach to data collection and analysis. Framed by a focus of inquiry, whether data are collected through interviews or questionnaires, open-ended questioning allows respondents to articulate their perceptions and experiences freely and spontaneously. This approach involves breaking down the data into discrete segments or 'units of meaning' (Maykut and Morehouse, 1994), and then coding them into categories. The categories arising from this method generally take two forms: those derived from respondents' customs and language, and those which a researcher identifies as being significant to the project's focus-of-inquiry. The goal of the former 'is to reconstruct the categories used by subjects to conceptualise their own

experiences and world view', while the goal of the latter is to assist a researcher in developing theoretical insights through themes that illuminate the social processes in operation. Thus the analytical process stimulates thinking which leads to both descriptive and explanatory categories (Lincoln and Guba, 1985, pp.334-341).

In analysing data generated in this format responses are not grouped by pre-defined categories, but by salient categories of meaning. Relationships between these categories are derived from the data through a process of inductive reasoning, known as coding. This IPA approach offers the means for a researcher to access and analyse these perspectives, so that they may be integrated into a model that seeks to explain the social processes under study.

### **3.13.2 Interpretative Phenomenological Analysis Methodology**

The methodology adopted by this study is based on the principles of IPA. Smith (2008) drew on the work of Husserl, Heidegger, and Merleau-Ponty in developing the IPA framework, although there is no one definitive method of data analysis in IPA, rather it adopts flexible strategies towards analytical development. Common processes in IPA move from the particular (idiographic) to the shared, and from the descriptive to the interpretative (hermeneutic). Key IPA principles include a commitment to understanding a participant's lived, conscious experience, and adopting a psychological focus on personal meaning-making within specific contexts (the double hermeneutic: the researcher aims to make sense of the participant, who is trying to make sense of their own experiences using memory and language) (Smith 2011; Smith and Osborn 2008).

IPA is phenomenological in its desire to understand and elucidate the human lived conscious experience of phenomena, but psychological in its analysis of meaning-making and hermeneutic interpretation. The analytical strategy adopted by this study is informed by these principles and is derived from Smith's (2008) practical guidelines for the process of data analysis and interpretation.

Hancock, Ockleford and Windridge (2009) describe the two components of IPA, the phenomenological, which attempts to understand how participants make sense of their experiences, and also its recognition that this involves a process of interpretation by the researcher. IPA is a popular approach in psychology and looks at subjective states where it takes an insider perspective. It is interpretative, as it recognises the negotiation between a researcher and the researched to produce an account of the insider's perspective, so that both

the researcher and researched are 'present'. IPA is often combined with the constant comparison method and elements of content analysis.

Some of the examples in which IPA has been adapted justify the reasons for adapting the approach and Reid, Flowers and Larkin (2005) summarise how IPA is deeper in its approach than traditional psychological methods. IPA is an inductive approach and is 'bottom up' rather than 'top down'. Reid et al. (2005) explain some of the important elements of IPA which are relevant to this study, noting that IPA does not test hypotheses and any prior assumptions are avoided. IPA captures and explores meanings that participants assign to their experiences, as they are experts on their own experiences and can provide researchers with an understanding of their thoughts, commitments, and feelings through their own stories. This benefits researchers by reducing any complexity in experiential data through rigorous and systematic analysis. Reid et al. (2005) consider that in IPA a successful analysis is the one which is interpretative and in which researchers reflect upon their role in the interpretative and collaborative nature of IPA interviews, data analysis and subsequent publications.

### **3.13.3 Rationale for Applying Interpretative Phenomenological Analysis**

#### **Methodology**

This study involves the respondents residing in four neighbourhoods who discuss their lived experiences, reasons for residing there, extent of their interactions with neighbours, and involvement in community activities. The semi-structured interviews address the inclusion of these residents in their community, sense of belonging, and social ties, together with the socio-cultural parameters that describe aspects of community living, problems and issues in their neighbourhood. Therefore the appropriate approach for this study is IPA. Table 3.4 describes the various different methods (Qda Training, 2017) and the rationale for adopting IPA.

**Table 3.4: Rationale for the IPA Method**

<b>Method</b>	<b>Description</b>	<b>Critique</b>	<b>Rationale for Discounting Method</b>
<b>Grounded Theory (GT)</b>	GT (Glaser and Strauss, 1967) is a systematic methodology involving the discovery of theory through the analysis of data (Martin and Turner, 1986). GT requires the analysis to be directed towards theory development (Holloway and Todres, 2003) in a 'bottom up' approach. It was later broadened by other contributors to three paradigms, Classic, Straussian (Strauss and Corbin, 1998) and Constructivist GT (Thornberg, 2012)	GT is often misunderstood. There is significant disagreement between grounded theorists as to what constitutes GT. Critics argue that 'it is impossible to free oneself of preconceptions in the collection and analysis of data in the way Glaser and Strauss say it is necessary.' (Thomas and James, 2006)	Classic GT requires the researcher to re-enter the field, having analysed the first round of data collected and conduct further interviews to address questions arising from the previous analysis; a process known as 'data saturation'. This option is not available in this study. In addition, the study does not aim to develop theory
<b>Content Analysis</b>	Content Analysis was first introduced by Lasswell and Casey (1946) and is the analysis of texts of various types including writing, images, recordings and cultural artefacts. It tends to focus at a more micro level, often provides (frequency) counts (Wilkinson, 2000) and allows for quantitative analyses of initially qualitative data (Ryan and Bernard, 2000)	Is commonly used for analysis of communication such as documents and analysts should draw distinctions between 'prescriptive analysis', text or subject for example, and 'open analysis' meaning dominant messages (McKeone, 1995)	The themes are often quantified, and the unit of analysis tends to be a word or phrase. In the set research project, the themes are not quantified, and the unit of analysis is the participants



<b>Method</b>	<b>Description</b>	<b>Critique</b>	<b>Rationale for Discounting Method</b>
<b>Discourse Analysis (DA)</b>	DA first came to prominence after publication by Harris (1952), and it covers some approaches to analyse written, vocal, or sign language use or any significant semiotic event	DA takes many forms and includes semiotics, psycholinguistics and sociolinguistics to name but three. Choices must be directed by the research aims which may lead to difficult decisions early in the research process (Brown and Yule, 1983)	For DA (e.g. Potter and Wetherell, 1987; Burman and Parker, 1993; Willig, 2003) different manifestations of the method exist, from within a board theoretical framework, making a choice difficult. It also requires a detailed theoretical and technological knowledge of the approach
<b>Narrative Analysis (NA)</b>	NA emerged as a discipline from within the broader field of qualitative research in the early 20th century (Riessman, 1993). NA uses field texts, such as stories, autobiography, journals, field notes, letters, conversations, interviews, family stories, photographs (and other artefacts), and life experience, as the units of analysis to research and understand the way people create meaning in their lives as narratives (Clandinin and Connelly, 2000)	Critics argue that whereas NA challenges the idea of quantitative objectivity, it is nonetheless lacking in theoretical insights of its own (Boje, 2001)	For NA different manifestations of the method exist, from within a board theoretical framework, making a choice difficult (Murray, 2003)

<b>Method</b>	<b>Description</b>	<b>Critique</b>	<b>Rationale for Discounting Method</b>
<b>Case Study</b>	Case studies have their origins as far back as 1879 (Healy, 1947), but is more often associated today with Classic GT. It is a method which focuses on complex situations while taking the context into account (Keen and Packwood, 1995), thus capturing the holistic and meaningful characteristics of events (Yin, 1994)	Critics argue that whereas IPA allows for deeper and richer in-depth analysis, small sample sizes can inhibit a broader or more transferable set of findings (Pringle, Drummond, McLafferty and Hendry, 2011)	Case studies focus on in depth discussions with typically up to five cases. This study conducted 90 interviews resulting in the data set being too large to rely on a case study approach. However, each of the four research sites was considered to be a unit of analysis and direct comparisons were made on this basis during analysis.
<b>Thematic Analysis</b>	Thematic analysis is the most commonly used method of analysis in qualitative research analysis (Thomas and Harden, 2008; Guest, MacQueen and Namey, 2011) and is used for identifying, analysing, and reporting (themes) within data (Braun and Clarke, 2006). The method of analysis should be driven by both theoretical assumptions and the research questions. Thematic analysis provides a flexible method of data analysis and allows for researchers with various methodological backgrounds to engage in this type of analysis	Critics argue that reliability with this method is a concern because of the wide variety of interpretations that arise from the themes, as well as applying themes to large amounts of text. Increasing reliability may occur if multiple researchers are coding simultaneously, which is possible with this form of analysis (Guest, MacQueen and Namey, 2011)	Thematic analysis is sometimes over reliant on the presentation of themes supported by participant quotes as the primary form of analysis rather than as an outcome of rigorous data analysis processes (Bazeley, 2009)

Method	Description	Critique	Rationale for Discounting Method
<p><b>Interpretative Phenomenological Analysis (IPA)</b></p>	<p>IPA is a relatively recent qualitative approach developed specifically within psychology. It has an idiographic focus, which means that it aims to offer insights into how a given person, in a given context, makes sense of a given phenomenon. Wed to a phenomenological epistemology (Smith, Jarman and Osborn, 1999; Smith and Osborn, 2003), it is about understanding people's everyday experience of reality, in great detail, to gain an understanding of the phenomenon in question</p>	<p>Critics of IPA argue that 'it is kept somewhat mysterious. Guidelines are offered to the researcher who is then informed that they cannot do good qualitative research simply by following guidelines. Thus, the judgement about what is a good qualitative analysis remains rather subjective and ineffable' (Brocki and Wearden, 2006)</p>	<p>IPA was considered most appropriate for this study notwithstanding its critics. The study aimed to uncover and understand the lived experiences of residents Dubai through their own eyes and ears; to recognise phenomena experienced by these residents and through recognition learn to understand such phenomena so that the study can ultimately inform policy and influence design of community living and social cohesiveness Dubai. Rigour will be demonstrated by following the guidelines from Smith, 2008.</p>

### 3.13.4 Data Analysis Software

It must be stressed that in using qualitative data analysis software, a researcher does not hand over the hermeneutic task to the logic of a computer, rather it is used as a tool for efficiency, not to conduct the analysis and make conclusions. As Fielding and Lee (1998, p.167) explain, qualitative researchers 'want tools which support analysis, but leave the analyst firmly in charge.' Importantly, such software also serves a tool for transparency, and arguably the production of an audit trail is the most important criteria upon which the trustworthiness and plausibility of a study can be established. Qualitative analysis software's logging of data

movements and coding patterns, and mapping of conceptual categories and thought progression, render all stages of the analytical process traceable and transparent, facilitating a researcher in producing a more detailed and comprehensive audit trail than manual mapping of this complicated process can allow.

### **3.13.5 NVivo Application and Process**

Eight discrete cycles of analyses were conducted across the iterative process of data analysis. These involved three separate cycles of coding, two cycles of managing codes, one for initial categorisation of open codes, one for data reduction by consolidating codes into a more abstract theoretical framework (themes), and one which uses writing itself as a tool to prompt deeper thinking of the data (Bazeley, 2009), leading to findings from which conclusions may be drawn. These eight cycles are described and explained below:

**Phase 1: *Reading and Initial Noting*** involved transcribing, reading and re-reading the interview data and noting down initial ideas. It also involved importing the transcripts and related notes and observations into the data management tool NVivo (QSR International Pty Ltd. Version 10, 2014).

**Phase 2: *Open Coding*** involved broad participant-driven initial coding of the interviews, in order to deconstruct the data from its original chronology into initial, non-hierarchical general codes. These codes, containing ‘units of meaning’ coded from the interview scripts, were assigned clear names and definitions which would serve as ‘rules for inclusion’ as the coding process progressed (Maykut and Morehouse 1994, pp.126-149). (Appendix V)

**Phase 3: *Categorisation of Codes*** involved re-ordering the codes identified in phase 2 into categories, by grouping related codes under these categories and organising them into a framework, which would help further the analysis of the data set and address the research questions. This phase also included the distilling, re-naming and merging of categories, to ensure that names and definitions accurately reflected the coded content. Categories could be described as a halfway house between organising initial codes into logical groups and generating themes. (Appendix V)

**Phase 4: *Coding On*** involved breaking down the now restructured categories into subordinate ones in order to offer a more in-depth understanding of the highly qualitative aspects under scrutiny and consider divergent views, negative cases, attitudes, beliefs and behaviours coded to these categories, thereby gleaning clearer insights into the meanings embedded.

**Phase 5: *Data Reduction*** involved consolidating codes from preceding cycles into more abstract, philosophical and literature-based superordinate themes, creating a final framework to form the basis of the write-up (Appendix V). These final themes were placed in a matrix comparing each neighbourhood in order to facilitate both ‘in-case’ and ‘cross-case’ analysis. Reading the matrix downwards revealed the extent to which themes and sub-themes impacted upon any individual neighbourhood, while reading it across allowed for a comparison of the extent to which themes were shared across neighbourhoods. An example of the application of this analytical tool is shown in Appendix V

**Phase 6: *Writing analytical memos*** against the higher-level themes was undertaken in order to accurately summarise the content of each category and its codes, and to propose empirical findings. These memos considered five key areas:

- The content of the cluster of codes on which it is reporting (what was said).
- The coding patterns where relevant (for example, levels of coding, although this could be used to identify exceptional cases as well as shared experiences).
- Considering background information recorded against respondents and any patterns which may exist about respondents’ profiles (who said it).
- Situating the code(s) in the storyboard, considering the relatedness of themes to each other, their importance regarding the research questions, and sequencing disparate codes and clusters of codes into a story or narrative, which is structured and can be expressed in a coherent, cohesive findings chapter
- Considering primary sources in the context of relationships with the literature, as well as identifying gaps.



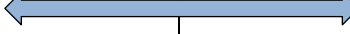
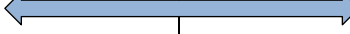
**Phase 7: *Validation*** involved testing, validating and revising analytical memos, self-auditing proposed findings by seeking evidence in the data beyond textual quotes, and seeking to expand on deeper meanings embedded within this. This process involved the interrogation of data and forces a researcher to consider elements beyond the theme itself, drawing on relationships across and between themes and cross-tabulation with demographics, observations and literature.

**Phase 8: *Synthesising analytical memos*** was undertaken to facilitate a coherent, cohesive and well-supported findings chapter, offering a descriptive account of respondents’ views and perceptions of drivers and inhibitors of salesforce effectiveness in their respective neighbourhoods.

The IPA analytical focus is depicted in Table 3.5

**Table 3.5: IPA analytical focus**

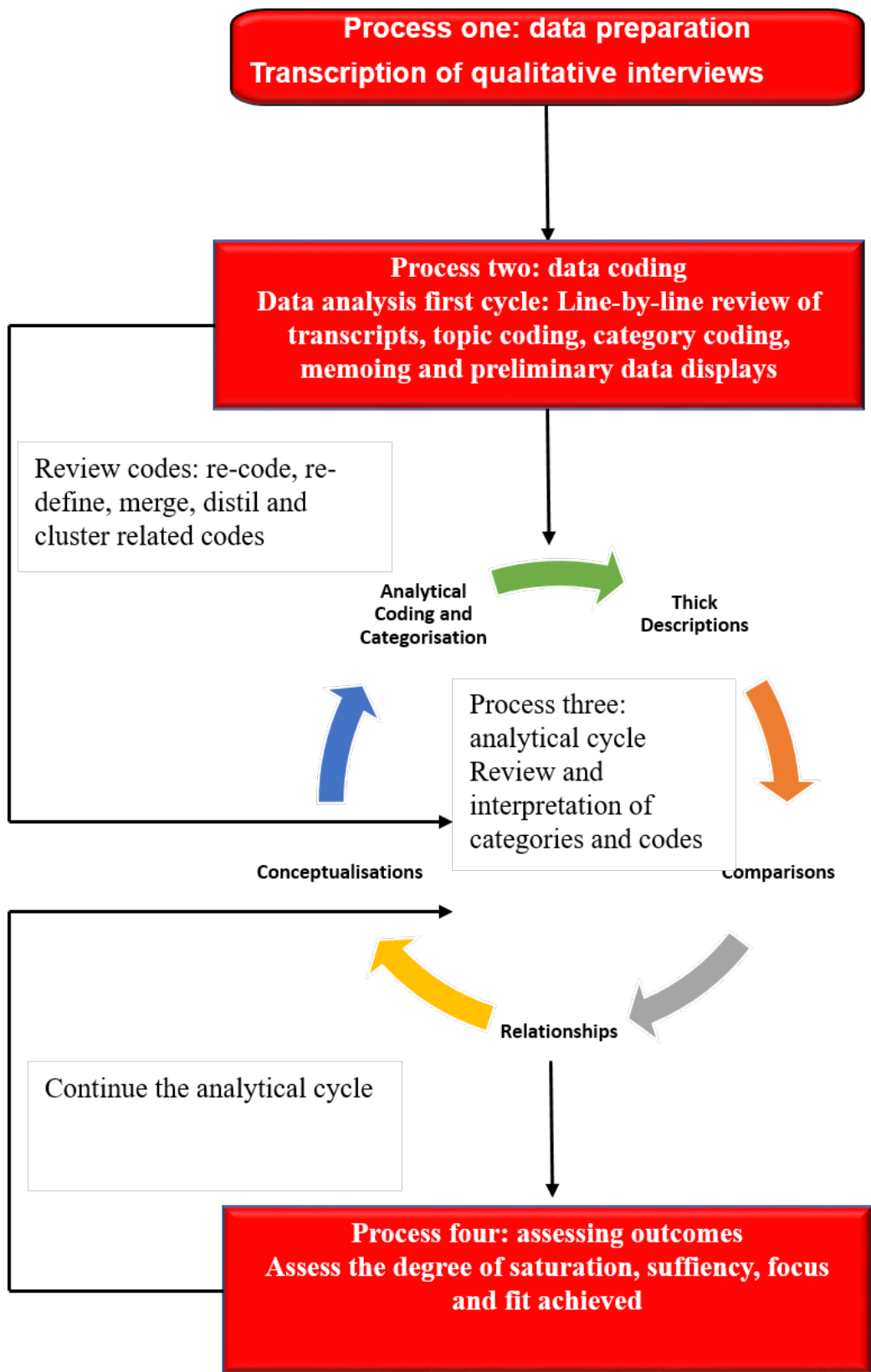
IPA analytical focus (Smith et al. 2009)	NVivo Process
<p><i>Steps 1 and 2: Reading and Initial Noting</i></p> <p>Complete immersion in the original data (interview transcripts) and initial noting. To attend to the participant and focus on the sense and meanings they make about their experiences – hopefully moving from the broad and general to specific details about events. Initial noting examines language use and semantic content ‘on a very exploratory level’ (p.83), and the ways the participant uses language to address issues relevant to the research questions. The aim is to produce detailed, comprehensive descriptive notes and exploratory comments on the data, rather than seek out meaning units at this stage.</p> <p>Three main processes are involved:</p> <ol style="list-style-type: none"> <li>1. Descriptive comments on the content of the transcript</li> <li>2. Linguistic comments on how the participant has used language</li> <li>3. Conceptual (interrogative and reflexive) comments to start interpreting the text.</li> </ol>	<p>Open coding</p> <p>As far as possible, the participant’s own words are used to summarise the sense or meaning they are trying to convey about a specific experience from the transcript. Open codes (‘nodes’ in NVivo) are created for the participant transcript. Codes make a first attempt at reducing the original data to descriptive phrases and notes. This is an iterative process: going through each transcript several times to code, re-code and add comments, both interrogative and reflexive, as follows:</p> <ol style="list-style-type: none"> <li>1. Code Names capture the overall description of the content</li> <li>2. Rich descriptive comments to provide coding transparency are included in the Code Description.</li> <li>3. A journal captures reflexive, conceptual comments arising from the interview.</li> </ol>
<p><i>Step 3: Developing emerging themes</i></p> <p>The researcher attempts to reduce the volume of data by summarising while retaining its complexity by looking for patterns and connections. The hermeneutic circle (Gadamer 2013; Grondin 2003; Heidegger 2012) involves interpreting part of the transcript in relation to the whole, and the whole in relation to the part. Themes should be “a synergistic process of description and interpretation” (p.92), reflecting both the participant’s original words and thoughts, and the researcher’s interpretation:</p>	<p>Category creation</p> <p>As the first step in data reduction, a new ‘Category’ folder for the participant’s transcript in NVivo holds a copy of the set of open codes, leaving the original open codes folder for the participant intact. Reviewing each code in the category folder, reordering codes into broad categories (codes are added to other codes, either as a parent or, more usually, as child codes), merged and re-named: ensuring that new names accurately reflect coded content, to allow a more in-depth understanding of the participant’s</p>

IPA analytical focus (Smith et al. 2009)	NVivo Process
"Capturing an understanding".	lifeworld.
<p style="text-align: center;"></p> <p><i>Step 4:</i> Searching for connections across emergent themes. This step maps how the themes fit together. Several strategies may be helpful:</p> <p><u>Abstraction:</u> Development of a 'superordinate' theme for theme clusters.</p> <p><u>Subsumption:</u> An emergent theme may naturally become a superordinate theme.</p> <p><u>Polarisation:</u> Looking for differences and similarities: oppositional relationship.</p> <p><u>Contextualisation:</u> Identifying narrative contextual elements. Organising into explicit temporal, cultural and narrative themes can highlight patterns.</p> <p><u>Numeration:</u> An indication of frequency themes appears.</p> <p><u>Function:</u> E.g. positive and negative meanings (language/discourse analysis).</p> <p><u>Bringing it together:</u> Summarising the development of the emergent themes from the raw data in a table or graphic.</p>	<p style="text-align: center;"></p> <p>Category Development</p> <p>Employing IPA strategies to create superordinate themes for clusters of codes. The first step is to consider how categories may be linked or reduced further into emergent themes. New names are created for category themes that reflect both the descriptive and the interpretative to create 'superordinate' themes. For example, reducing risk, avoiding risk, and taking a risk may all be clustered under one theme, e.g. 'attitudes to risk'. The aim is to reduce the original data to between three and six themes relevant to the research question: consolidating codes into a more abstract, conceptual map of a final framework of nodes.</p>
<p style="text-align: center;"></p> <p>Step 5: Moving to the next case</p> <p>Repeating all the previous steps for each participant without, as far as possible, reference to the other transcripts (i.e. bracketing ideas emerging from one case to the next). IPA is committed to idiographic analysis: a different type of bracketing from epochē, which Husserl (Hopkins 2011) meant to refer to bracketing out the 'natural attitude' or taken-for-grantedness of everyday life; and Merleau-Ponty (2012) argues is never possible to attain anyway: human perception is always fully embodied and cannot be separated from the world. Bracketing as used by Smith et al. simply means allowing new structures to emerge with each case, yet being</p>	<p style="text-align: center;"></p> <p>Next Transcript</p> <p>A new open codes folder is created in NVivo, to store the new codes created for each participant's transcript, separate from other transcripts. Each transcript is therefore treated as a new analysis (corresponding to Steps 1-4) as far as possible, bracketing out references to codes in other transcripts.</p>

IPA analytical focus (Smith et al. 2009)	NVivo Process
<p>aware that the ‘fore-structures’ (hermeneutics) have inevitably changed and been influenced by what was previously found.</p>	
<p>Step 6: Looking for patterns across cases            Looking at themes across respondents to detect patterns. Do themes from one case illuminate another? Which themes are the most potent? This can help move towards a more theoretical level of analysis, as an individual or superordinate themes may reflect higher order concepts shared by all cases. Thus far, the analysis has moved from the part to the whole. This is now reversed, and the whole looked at in terms of each part. Recurrence of themes across cases is also considered. For a superordinate theme to be classed as recurrent, it must be present in at least half of cases; in the best-case scenario, across all participant interviews.</p>	<p>Consolidation and Matrix coding            Emergent themes from the participant’s transcript are copied into a common ‘Themes’ folder, where they are merged for the first time (leaving the category folders for each participant intact).            A process of merging and further consolidation of superordinate themes may be conducted within the Themes folder.            A specific type of query in NVivo (Matrix Coding) produces a table which shows respondents in columns and themes in rows. This can be used to look at themes between and within respondents’ transcripts (Appendix 5).</p>

In the design of the data analysis steps outlined in Table 3.5, consideration was given to the aim of the study and its underlying philosophical foundation. King (2004, p.267) states that tensions exist ‘between the need to be open to the data and the need to impose some shape and structure on the analytical process.’ The objective was to design and undertake a systematic, disciplined data analysis process that encouraged completeness and impartiality (Lillis, 1999), while recognising the complexity of the data under review and the interpretative nature of the study. As Figure 3.12 illustrates, the data analysis process involved four inter-linked, iterative processes, first being data preparation, followed by data coding, the analytical cycle, and assessing conceptualisations and outcomes.





**Figure 3.12: Overview of the analytical process**

(Source: Hennink, Hutter and Bailey, 2011)

### 3.13.6 Data Analysis Processes

NVivo (QSR International) is qualitative data analysis software and supports qualitative and mixed methods. The software is designed to analyse and find insights in unstructured or qualitative data, such as open-ended surveys, interviews, articles, social media and web content. The software works on rich text-based and multimedia information for small and large volumes of data as required (What is NVivo? | QSR International, 2017).

Wong (2008) describes data analysis as part of qualitative research which distinguishes it from quantitative methods. The methods employed are more of a dynamic, intuitive and a creative process of inductive reasoning, thinking and theorising. Qualitative research uses the exploration of values, meaning, beliefs, thoughts, experiences and feelings which are characteristics of a phenomenon. NVivo allows for qualitative inquiry and is designed to integrate coding, linking, shaping and modelling.

Table 3.6 and Table 3.7 illustrate that the qualitative analysis process for the selected neighbourhood was carried out in four phases, Phase I was reading and initial coding, Phase II was developing subordinate themes, Phase III was developing superordinate themes, and Phase IV was in-case and cross-case analysis.

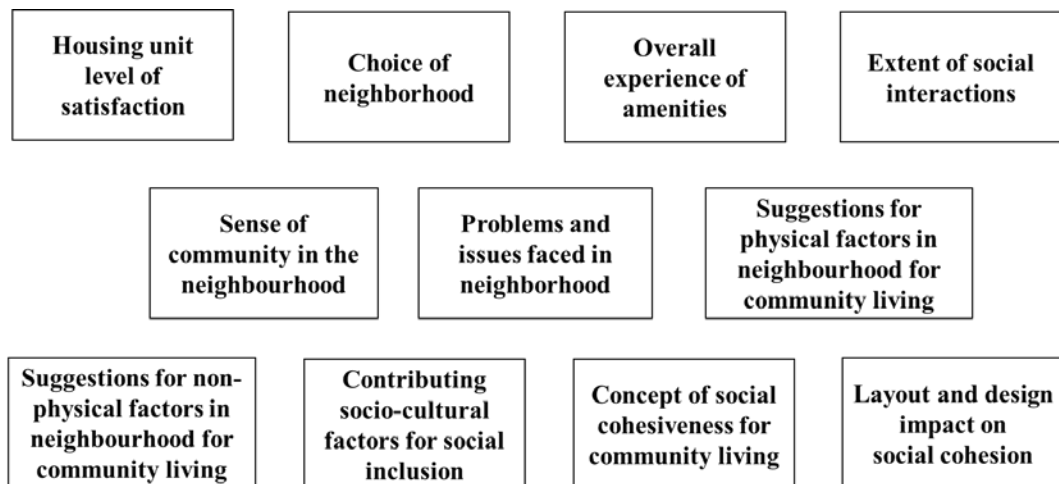
Data collection in NVivo included managing the data, which included files from interviews and completed questionnaires. Memos and information about data sources and conceptual maps were created and provide theoretical knowledge generated during the study, as well as the data that support it, while at the same time enabling ready access to the context of the data. Right clicking on a quote in a theme within NVivo enables access to the full context from which it was drawn (Appendix V)

Phase I included the transcribing of the in-depth interviews with respondents from the four neighbourhoods of Bur Dubai, Deira, International City and The Greens, which are referred to as the research sites. Simple random sampling was the basic sampling technique implemented and 20 respondents from each neighbourhood were selected together with 10 key stakeholders, including urban planners, architects, developers and real estate agents. As the data process is an inductively coded IPA process which requires in-depth cycles of coding consistent with the IPA guidelines (Smith, 2008), 20 participants from each of the four research sites was considered to be a manageable number of interviews for in-depth coding. In addition, 80 participants is a large qualitative data sample and included many diverse resident types from

families to single residents and from long term to recently arrived participants, as shown in the participant profile overview.

The process included reading and re-reading the interviews, and noting down initial ideas, then the transcripts were imported with related notes and observations into NVivo. Nodes were created with specific themes, and references were gathered by ‘coding’ sources to the nodes. Case nodes were created for all the four research sites to which demographic attributes were attached. In NVivo, cases are nodes that represent ‘units of observation’. Cases are differentiated from other nodes because they can have attributes (variables), such as age, gender or location. Using queries, cases were compared based on attributes. Setting up a case involved creating a case node, classifying the case node and assigning attributes, and coding relevant content to the case node for later cross referencing in themes (Smith, 2008).

Figure 3.13 indicates the main themes that were identified which focused on experiences of the residents living in the neighbourhoods. A theme node is a collection of references to a specific theme, topic, concept, idea or experience, and references are gathered to a theme by 'coding' sources at the node. The interviews included the various experiences of the respondents of housing units, reasons for residents’ choosing a neighbourhood, and their overall experience of amenities available within the vicinity of their neighbourhood. Parent nodes and child nodes were created for each of the theme nodes



**Figure 3.13: Theme nodes**

**Table 3.6: Phase I reading and initial coding**

<b>Phase I: Reading and initial coding (Parent nodes and child nodes)</b>
<ul style="list-style-type: none"> <li>❖ Housing unit, level of satisfaction</li> <li>❖ Satisfactory</li> <li>❖ Not satisfactory</li> </ul>
<ul style="list-style-type: none"> <li>❖ Reasons to reside neighbourhood</li> <li>❖ Accessibility of the location</li> <li>❖ Affordability</li> <li>❖ Amenities</li> <li>❖ Community belonging</li> <li>❖ Cultural reasons</li> <li>❖ Multicultural aspects</li> <li>❖ Overall design of community</li> <li>❖ Proximity to children's school</li> <li>❖ Proximity to family and relatives</li> <li>❖ Proximity to place of workshop</li> <li>❖ Proximity to workplace</li> <li>❖ Safety and security</li> </ul>
<ul style="list-style-type: none"> <li>❖ Overall experience of amenities in the neighbourhood</li> <li>❖ Children play areas</li> <li>❖ Day care facilities</li> <li>❖ Grocery</li> <li>❖ Healthcare facilities</li> <li>❖ Hospitals</li> <li>❖ Landry</li> <li>❖ Open spaces</li> <li>❖ Parks</li> <li>❖ Supermarkets</li> </ul>
<ul style="list-style-type: none"> <li>❖ Extent of social interaction in the neighbourhood</li> <li>❖ Average level of social interaction</li> <li>❖ No social interaction</li> <li>❖ No social interaction due to cultural differences</li> <li>❖ No opportunities to interact</li> <li>❖ There is no necessity to socially interact</li> <li>❖ Very high level of social interaction</li> <li>❖ Very less level of social interaction</li> </ul>
<ul style="list-style-type: none"> <li>❖ Sense of community in the neighbourhood</li> </ul>
<ul style="list-style-type: none"> <li>❖ Problems and issues in the neighbourhood</li> <li>❖ Issues related to housing unit</li> <li>❖ Lack of children play areas</li> </ul>

<ul style="list-style-type: none"> <li>❖ Lack of open spaces and green areas</li> <li>❖ No problems or issues faced</li> <li>❖ No social interaction amongst residents</li> <li>❖ Issues related to parking</li> <li>❖ Issues related to safety and security</li> <li>❖ Issues related to sewage problems</li> <li>❖ Issues related to traffic</li> </ul>
<ul style="list-style-type: none"> <li>❖ Suggestions for physical factors for better community living</li> <li>❖ Common spaces for residents to meet and interact</li> <li>❖ Planning of adequate parking spaces</li> <li>❖ Roads infrastructure to solve traffic issues</li> <li>❖ Provision of street furniture</li> <li>❖ Provision of walkways and cycling paths for pedestrians.</li> </ul>
<ul style="list-style-type: none"> <li>❖ Suggestions for non-physical factors for better community living</li> <li>❖ Formal supports</li> <li>❖ Informal supports</li> <li>❖ Participation in common activities within the community</li> <li>❖ Social ties</li> </ul>
<ul style="list-style-type: none"> <li>❖ Contributing socio-cultural factors for social inclusion in the neighbourhood</li> <li>❖ Attitude of residents</li> <li>❖ Community belongingness</li> <li>❖ Frequency of socio-cultural activities</li> <li>❖ Involvement and engagement</li> <li>❖ Opportunities for social interactions</li> <li>❖ Social ties</li> <li>❖ Willingness to meet and interact</li> </ul>
<ul style="list-style-type: none"> <li>❖ Concept of social cohesiveness</li> <li>❖ Not important in community living</li> <li>❖ Very important in community living</li> <li>❖ Social cohesiveness caters to the concept of secure community living</li> <li>❖ Social cohesiveness brings socio-cultural exchanges between the expats</li> <li>❖ Social cohesiveness caters good physical and mental health</li> </ul>
<ul style="list-style-type: none"> <li>❖ Layout and design, impact on social cohesion</li> <li>❖ No impact on social cohesion</li> <li>❖ Yes, impact on social cohesion</li> <li>❖ Buildings close to each other do not favour social interaction</li> <li>❖ Green areas favour social interaction</li> <li>❖ Physical layout can enhance social interaction and build social cohesion</li> </ul>

In Phase II sub-ordinate themes were developed based on emergent themes, which were then grouped into different superordinate themes. The superordinate themes were based on subordinate themes, but at the same time were guided by theoretical knowledge. Under each of the superordinate themes, subordinate themes from the interviews were organised chronologically so that they could be traced. At this stage a hierarchical node tree was visually created so that the organisation and relationship of the themes were clearly visible. At the top of the node tree were the research questions, under which there were the superordinate themes, and then subordinated themes.

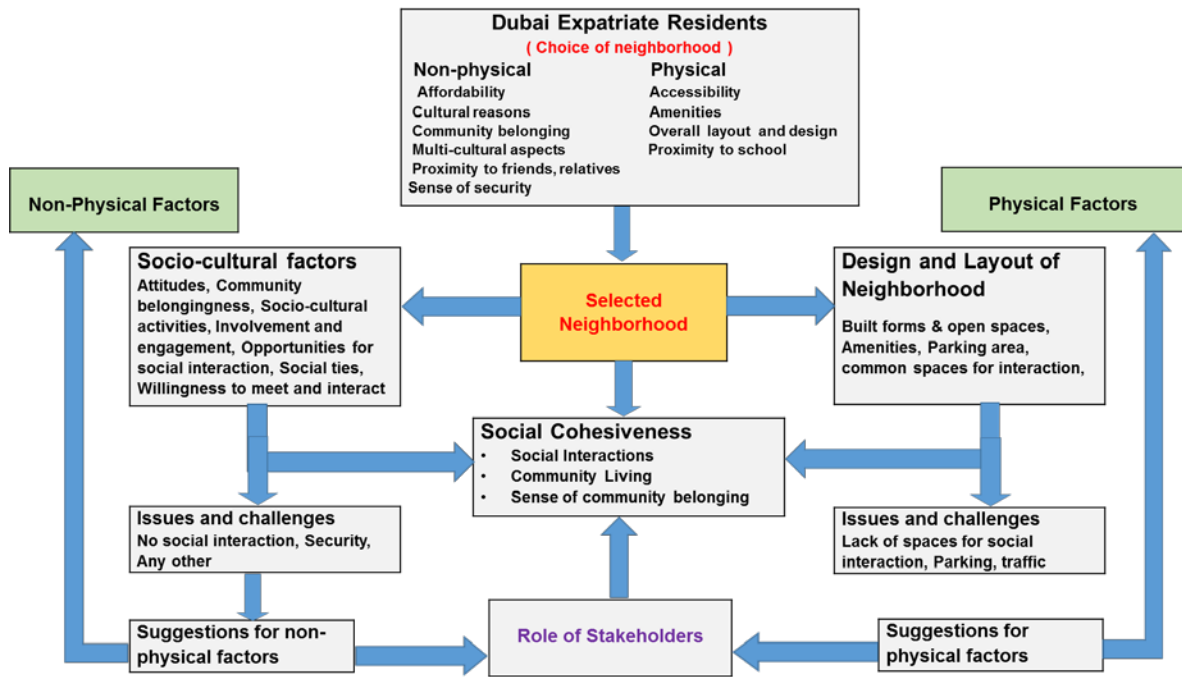
**Table 3.7: Phase II development of subordinate themes, Phase III development of superordinate themes and Phase IV in-case and cross-case analysis**

<b>Phase-II: Developing sub-ordinate themes</b>
<ul style="list-style-type: none"> <li>❖ Housing unit, level of satisfaction</li> <li>❖ Challenges faced by the residents</li> <li>❖ Social interaction</li> <li>❖ Socio-cultural factors</li> <li>❖ Layout and Design of neighbourhood</li> <li>❖ Social inclusion</li> <li>❖ Living experiences (amenities)</li> <li>❖ Non-physical factors for social cohesion</li> <li>❖ Participant profiles</li> <li>❖ Physical factors for social cohesion</li> <li>❖ Relevance of social cohesion</li> <li>❖ Why here (Choice of neighbourhood)</li> </ul>
<b>Phase-III: Developing super-ordinate themes</b>
<ul style="list-style-type: none"> <li>❖ Choice of neighbourhood</li> <li>❖ Accessibility of the location</li> <li>❖ Affordability</li> <li>❖ Amenities</li> <li>❖ Community belonging</li> <li>❖ Cultural reasons</li> <li>❖ Multicultural aspects</li> <li>❖ Overall design of community</li> <li>❖ Proximity to children's school</li> <li>❖ Proximity to family and relatives</li> <li>❖ Proximity to place of workshop</li> <li>❖ Proximity to workplace</li> <li>❖ Safety and security</li> </ul>

- ❖ Layout and Design of neighbourhood
- ❖ Children play areas
- ❖ Common indoor spaces
- ❖ Common outdoor spaces
- ❖ Housing unit
- ❖ Parking spaces
- ❖ Parks
  
- ❖ Key stakeholders
- ❖ Dubai 2021 Plan
- ❖ Factors for project development
- ❖ Infrastructure provision
- ❖ Planning of common spaces between built forms
- ❖ Return of investments for developer
- ❖ Social cohesiveness amongst residents
  
- ❖ Suggestions for social cohesiveness
- ❖ Concept of social cohesiveness
- ❖ Participatory approach
- ❖ Role of Layout and design of neighbourhood
- ❖ Socio-cultural factors amongst residents

#### **Phase-IV: In-case and cross-case analysis**

- ❖ Choice of neighbourhood by gender
- ❖ Choice of neighbourhood by families with children/without children
- ❖ Choice of neighbourhood by research site
- ❖ Superordinate themes x children
- ❖ Superordinate themes x occupancy
- ❖ Superordinate themes x research site
- ❖ Superordinate themes x stakeholder types
- ❖ Superordinate themes x number of years in Dubai



**Figure 3.14: Conceptual model for processes and outcomes of the encoding and analysis of primary data**

### 3.14 Spatial Analysis

The spatial analysis focused on mapping urban features, including natural and built-up forms and social interactions within these. To analyse this the following procedures were applied:

1. People movement pattern analysis, based on road-type complexity and the associated built-up structure
2. Listing the Geodatabase features required for the analysis (objects representing the real-world scenario, e.g. roads as a polyline feature)
3. Georectification of aerial and satellite images.
4. Digitisation of features
5. Geodatabase designing
6. GPS observations and surveying
7. Geodatabase table creation
8. Geocoding of observations
9. Clustering analysis
10. Fixing the area of interest
11. Mapping open areas, parking lots and associated open places



12. Mapping GPS observations
13. Mapping major amenities of the neighbourhoods
14. Mapping transport accessibility of the neighbourhoods
15. Mapping broad land types of the neighbourhoods.

#### *People movement pattern analysis*

This was based on road-type complexity and the associated built-up structure was undertaken using the urban network analysis (UNA) toolbox, which runs in Arc Map GIS Software. In this analysis the UNA Toolbox is used only as a supporting reference tool to verify real world GPS observations which are more accurate, as these are made at multiple times and in a real-world scenario, rather than through the form of software network topology. Combined, this is both efficient and effective.

UNA incorporates three important features which make them particularly suited for spatial analysis of urban street networks. First, they can account for geometry and topology in the input networks, using either metric distance (e.g. metres) or topological distance (e.g. turns) as impedance factors in the analysis. Second, unlike previous software tools which operate via two network elements (nodes and edges), UNA tools include a third network element, buildings, which are used as spatial units of analysis for all measures. Two neighbouring buildings on the same street segments can, therefore, obtain different accessibility results. Finally, the UNA tools optionally allow buildings to be weighted by their particular characteristics. More voluminous, populated, or otherwise more important buildings can be specified to have a proportionately stronger effect on analysis outcomes, yielding more accurate and reliable results (Urban Network Analysis Toolbox for ArcGIS, 2017).

#### *Listing the Geodatabase features required for the analysis*

In simple terms, feature classes are a group of common features each with the same spatial representation, such as points, lines, or polygons, and a common set of attribute columns, such as a line feature class representing road centre lines. The four most commonly used feature classes are points, lines, polygons, and annotation (the Geodatabase name for map text). In this analysis, a list of real world objects was generated, which were represented on the map by creating a set of vector features, versatile, frequently used geographical data objects with vector geometry, well suited for representing features with discrete boundaries, such as streets, states, and parcels (ARCGIS Desktop, 2017).

A feature is an object that stores its geographical representation, typically a point, line, or polygon, as one of its properties (or fields) in the row. This study used ArcGIS feature classes, which are homogeneous collections of features with a common spatial representation and a set of attributes stored in a database table, for example, a line feature class representing road centre lines.

The following features were listed and processed for digitisation.

- Building footprints
- Bus stops
- Traffic features
- Transportation line features
- POI landmarks and complete amenities
- Metro stations
- Land use classes
- Open vacant areas
- Other open areas
- AOI
- Metro line
- Roads
- Green
- Water

#### *Geo rectification process*

This was carried out to prepare the aerial and satellite images for feature extraction through a digitisation process (Esri Support, 2017). Geo rectification is the process of digital alignment of a satellite or aerial image with a map of the same area. Some corresponding control points, such as street intersections, are marked on both the image and the map, and these locations become reference points in the subsequent processing of the image.

#### *Digitise the listed features*

The next step was to digitise the listed features on aerial (Google maps) and satellite images (Digital Globe 2017) of the four neighbourhoods. The digitisation process was carried out using Arc Map (ArcGIS 10.4.1) software (ARCGIS Desktop, 2017), and this is the process of converting features into a digital format, one way of creating Geo Data. There are several ways

to digitise new features, on-screen or heads up over an image, a hard copy of a map on a digitising board, or automated digitisation. Interactive, or heads-up digitisation, is one of the most common methods, in which an aerial photograph, satellite image, or orthophotograph is displayed on-screen as a base map, then features, such as roads, buildings, or parcels, are drawn on top. In this project an interactive, on-screen digitisation process was performed.

ArcGIS software allows the creation and editing of several kinds of Geo Data. The task in this study was to edit the feature data stored in Shapefiles and Geodatabases, as well as various tabular formats. This included points, lines, polygons, text (annotations and dimensions), multi-patches, and multi-points. It also focused on creating shared edges and coincident geometry, using topologies, geometric road and metro networks.

#### *Geodatabase designing*

This was undertaken after the digitisation process had been completed. All the data created was converted to Geodatabase feature classes in order to maintain topological accuracies and thorough quality control (ARCGIS Desktop, 2017). GIS design involves organising geographical information into a series of data themes and layers, which are integrated using geographical locations. Thus, it makes sense that Geodatabase design begins by identifying the data themes to be used (listing of layers and the digitisation process), then specifying the contents and representations of each thematic layer (cartographical process). Geodatabase designing helps answer the following:

- How the geographical features are to be represented for each theme (for example, points, lines, polygons, or rasters), along with their tabular attributes.
- How the data will be organised into datasets, such as feature classes, attributes, raster datasets, etc.
- What additional spatial and database elements will be needed for integrity rules, to implement rich GIS behaviour (such as topologies, networks, and raster catalogues), and define spatial and attribute relationships between data sets.

#### *GPS observation*

This plays a key role in tracking movement across urban spaces, and people movement in the four specified neighbourhoods was observed and tracked on multiple occasions, based on peak time intervals. This was then geostatistically scrutinised in order to plot the average observations, and referenced using the UNA tool in ArcGIS to create the mapping results.

### *Geo Database table creation*

The results from the GPS observations were geostatistically scrutinised and converted to Microsoft Dbase tables which were geocoded and reverse geocoded to create the final Geodatabase table, which geocodes people's location points through addressing and coordinate plotting in the GIS Software (ARCGIS Desktop, 2017). Geocoding is the process of transforming a description of a location, such as a pair of coordinates, address, or the name of a place, to a location on the Earth's surface. Geocoding can be accomplished by entering one location description at a time or providing many within a table. The resulting locations are output as geographical features with attributes, which can be used for mapping or spatial analysis.

Various types of locations can be quickly found through geocoding, and the types of locations which can be searched for include points of interest or names from a gazetteer, such as mountains, bridges, and stores, coordinates based on latitude and longitude, or other reference systems, such as the Military Grid Reference System (MGRS) or the United States National Grid system. These come in a variety of styles and formats, including street intersections, house numbers with street names, and postal codes.

### *Clustering analysis*

This was carried out to identify the cluster pattern of the GPS observations and is a statistical classification technique for dividing a population into relatively homogeneous groups. The similarities between members belonging to a class, or cluster, are high, while similarities between members belonging to different clusters are low. Cluster analysis is frequently used in market analysis for consumer segmentation and locating customers, but is also applied in other fields.

### *Fixing the Area of Interest*

This is a major task in the precise mapping of features which allow the user to view and interact with the map in different ways. A well-scaled, fixed area of interest helps generate a clear data view and provides a geographical window to explore, display and query the data. An area of interest helps the data, created concerning real-world coordinates and measurements, to be reflected in the final map and is fixed for all map layout elements, such as titles, north arrows, scale bars, and the data frame, all of which will be finally displayed in the single map. Fixing the area of interest helps in precisely using the page space, which in turn creates mapping accurate to the millimetre level.

### *Mapping and layout preparation*

The final GIS task was to clearly and precisely display the observations, to identify the spatial cohesiveness of the urban features and the human population in the area of interest. Five or six maps were prepared for each neighbourhood based on a particular theme and scientific objective. The following mapping was undertaken:

1. Open areas, parking lots and associated open places
2. GPS observations
3. Complete major amenities of the neighbourhoods
4. Transport accessibility of the neighbourhoods
5. Broad land types of the neighbourhoods.

This mapping was performed with high levels of accuracy, and all the steps involved in creating them are clearly geospatially referred and correct regarding the location and precision mapping.

### **3.15 Summary of the Chapter**

This research methodology chapter is one of the most important chapters in research. The chapter summaries the research philosophy and the justification of the research strategy adopted for the study. Quantitative, qualitative and mixed methods are explained with relevance to their processes, and this chapter explains why mixed methods were applied in this study. The application of SPSS and NVivo software as research tools has been detailed and the questionnaire design for the survey and in-depth interviews has been explained within the context of the aim and objectives.

The adaption of spatial and observation methods further adds to the data collection and are summarised in the findings. The methodology section has explained the rationale of the methods employed in this study.

## **Chapter 4 - Research Findings**

### **4.1 Introduction**

This chapter introduces the selected four neighbourhoods in order to understand their built environment and its relevance to the physical characteristics via observation and spatial analysis. The observation analysis considers physical and social aspects of the neighbourhoods and records observations which were carried out during both weekends and weekdays. The purpose of the spatial analysis is to explain the physical planning of the layout and design of the neighbourhoods. The research utilised surveys completed by respondents, and semi-structured interviews to bring together respondents' experiences of living in their neighbourhoods. The findings of a pilot study were used to guide the questionnaire employed in the final study. The findings derived from the quantitative and qualitative research are then interpreted and the research findings form the basis of the conclusions and recommendations which are presented in the following chapter.

### **4.2 Pilot Study**

The pilot study was administered in two neighbourhoods, Bur Dubai and The Greens, and 50 respondents from each were recruited. The purpose of this study was to explore and understand the relationships between the design of a neighbourhood and social interactions within a neighbourhood. The study focused on common spaces in a neighbourhood and addressed the socio-cultural aspects of the residents. The other dimension of this study addressed the role of key stake holders, who primarily create these neighbourhoods and play an important role in the development process.

#### **4.2.1 Findings of the Pilot Study**

The null hypothesis (H0) states that there is no significant correlation between common spaces and social interactions, while the alternate hypothesis (H1) states that there is significant correlation between common spaces and social interactions. The research correlation indicates that there is no significant relationship between common outdoor spaces in Bur Dubai where the only common spaces available for meeting and interacting are indoor common spaces. There is a significant relationship between outdoor common spaces in The Greens, and also common indoor spaces. Table 4.1 illustrates the results of this correlation.

**Table 4.1: Correlation in the pilot study between common spaces and social interactions**

(Source: Firoz and More, 2016)

Bur Dubai		
		Social Interaction
Common spaces (outdoor)	Pearson Correlation	0.178
	Sig. (2-tailed)	0.216
Common spaces (indoor)	Pearson Correlation	0.248
	Sig. (2-tailed)	0.082
The Greens		
Common spaces (outdoor)	Pearson Correlation	.522**
	Sig. (2-tailed)	0
Common spaces (indoor)	Pearson Correlation	.631**
	Sig. (2-tailed)	0

\*\* Correlation is significant at the 0.01 level (2-tailed).

The bivariate Pearson correlation was used to determine whether the relationships between common spaces and social interaction variables were significant. In The Greens the relationship was found to be significant ( $p \leq 0.05$ ), but in Bur Dubai it was not. The available common spaces in Bur Dubai were not related to social interaction indicators, compared to The Greens (Firoz and More, 2016). Figure 4.1 and Figure 4.2 illustrate the common open spaces in Bur Dubai and The Greens respectively.

The observation method was employed in the pilot study to understand the physical features of the neighbourhoods. In Bur Dubai open spaces between buildings, unoccupied open plots, were spaces in which to interact, while in The Greens there were designated areas, such as parks, and areas enclosed between buildings favoured social interactions.



**Figure 4.1: Common open spaces in Bur Dubai**

(Source: Firoz and More, 2016)



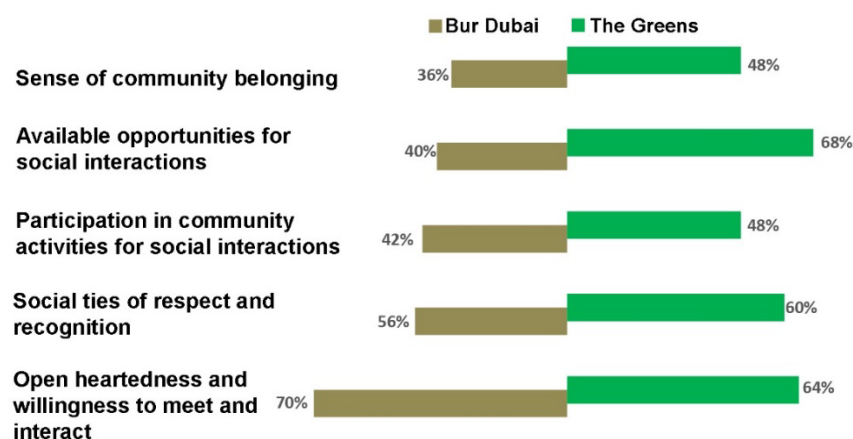
**Figure 4.2: Parks, children play areas, and the lake at The Greens**

(Source: Firoz and More, 2016)

Socio-cultural factors include:

- Available opportunities for social interactions
- Participation in community activities for social interactions
- Social ties of respect and recognition
- Number of socio-cultural activities
- Sense of community belonging

The results of the pilot study illustrated in Figure 4.3 indicate that available opportunities for social interaction in The Greens are more than in Bur Dubai. Available opportunities for social interactions in Bur Dubai are limited due to the few common spaces available where residents can interact. Another significant finding suggests that the respondents of Bur Dubai are open-hearted and more willing to interact than those in The Greens, even though there were fewer common spaces available for interacting.



**Figure 4.3: Socio-cultural factors**

(Source: Firoz and More, 2016)

The findings from the qualitative analysis were that urban planning can play an important role



in building socially cohesive neighbourhoods when indicators like the layout and design of a neighbourhood, common indoor and outdoor spaces for social interactions, and accessibility and amenities are favourable for social interactions. The findings from the qualitative research indicate that there are various key challenges to building social cohesiveness amongst residents. One of these is the role of key stakeholders, developers and real estate managers, who do not consider social cohesiveness as an important factor when designing neighbourhoods and common spaces for social interaction are often compromised for commercial purposes.

A multi-cultural population is a key challenge, and therefore opportunities for social interaction through the layout and design of a neighbourhood and community based events can enhance social interactions. The results of the qualitative analysis with stakeholders concluded that a participatory approach in planning and design, where end users are part of the process, and the role of policy makers, can contribute to building a cohesive society.

#### **4.2.2 Recommendations from the Pilot Study**

The recommendations of the pilot study suggested considering residential stability as an important area of the study in order to understand if residents who had resided for a longer period within the same neighbourhood had more social interactions. The pilot study also guided the understanding of indicators of social cohesiveness, which includes social interactions, a sense of community, and strong social ties. Since the physical features of the neighbourhoods were studied only through observation methods, a geographical information system analysis was recommended in order to understand the overall master plan of a neighbourhood.

### **4.3 Research Findings: Observation and Spatial Analysis**

#### **4.3.1 Bur Dubai**

Bur Dubai is a historic district in Dubai located on the western side of the Dubai Creek known as the Bastakiya district and an old district. Earlier a home for a large number of Iranian traders from the Bastak region, Bur Dubai offered residential enclaves for migrants. During the 1990s many commercial establishments took shape in the area and a central business district emerged with a name that literally translates to mainland Dubai, a reference to the traditional separation of the Bur Dubai area from Deira by the Dubai Creek.

Today it is a very busy district that houses temples, mosques and historic buildings, and Bur Dubai is one of the busiest places for tourists due to the shopping precinct. The study of the

residential neighbourhood is a residential enclave inside Bur Dubai that houses a more Asian with a majority of Indian and Pakistani nationals. The district is densely populated and close to various modes of transport, including metro stations, bus stations and water-based transport services, allowing excellent connectivity to other areas. Table 4.2 illustrates the observation analysis for Bur Dubai

**Table 4.2: Observation analysis for Bur Dubai**

<b>Categories of Observation (Physical and Social factors)</b>	<b>Recorded Observations</b>
Accessibility within the city and availability of public transport	The neighbourhood has easy access to the city via public transport and is connected to Burjuman and Al Fahidi Metro stations. Al Ghubaiba Central Bus Depot which is in the heart of Bur Dubai has excellent inter-city connectivity. Metro and buses are operated by government-owned Roads and Transport Authority (RTA) providing formal support towards social interaction in the city
Master plan for the neighbourhood	The master plan had constantly evolved as part of urban development needs since early 1970's where plots were divided and given to individual plot owners for development. Hence it does not cater to many common public spaces for people to meet and interact
Mixed-use patterns	The community has residential, service apartments, commercial and office spaces.
Accessibility to amenities	Amenities like supermarkets, grocery stores, restaurants, street side shopping areas all being in the vicinity are places for informal meetings for residents.
Building forms and layout planning	Buildings are mid-rise and located along the road with minimum setbacks which therefore does not promote many opportunities for social interactions. There are minimum open spaces between some built forms.
Human scale	Residential Apartments are mid-rise, and the soft edges regarding facades that have active spaces like retails, supermarkets, restaurants favour for pedestrian-friendly neighbourhoods which encourage vibrant spaces within the neighbourhood.
Behavioural study (mobility interaction)	The neighbourhood has residents that belong to similar cultural backgrounds, and hence there is interaction within some of the families that have similar social ties and bonds.
Common Spaces (Indoor)	There are not enough common spaces that can enhance participation in common activities within the residents.

	Hence it provides limited opportunities to for informal face-to-face interactions.
Common Spaces (Outdoor)	The lack of common outdoor spaces which are favourable for leisure and productive activities are not available, and hence it offers fewer opportunities for social cohesion. Parking occupies most of the open spaces, and this restricts opportunities for people to meet in open spaces conducive to social cohesion. Unoccupied open plots or spaces within the buildings serve as spaces for children play areas
Public Realm	The neighbourhood is overall a busy and highly populated area with buildings on individual plots, active streets that create informal meeting spaces which have emerged in the process of urban development with time

Figure 4.4 to Figure 4.9 are the findings from the spatial analysis. Bur Dubai is a highly populated district as indicated by the busy network of streets and activities. Parking, roads and vacant land covers 40% of the land, with the remainder covered with built forms which are mixed use premises. The vacant land is indicated by the analysis as being adopted as spaces for parking. The percentage of green areas is considerably less.

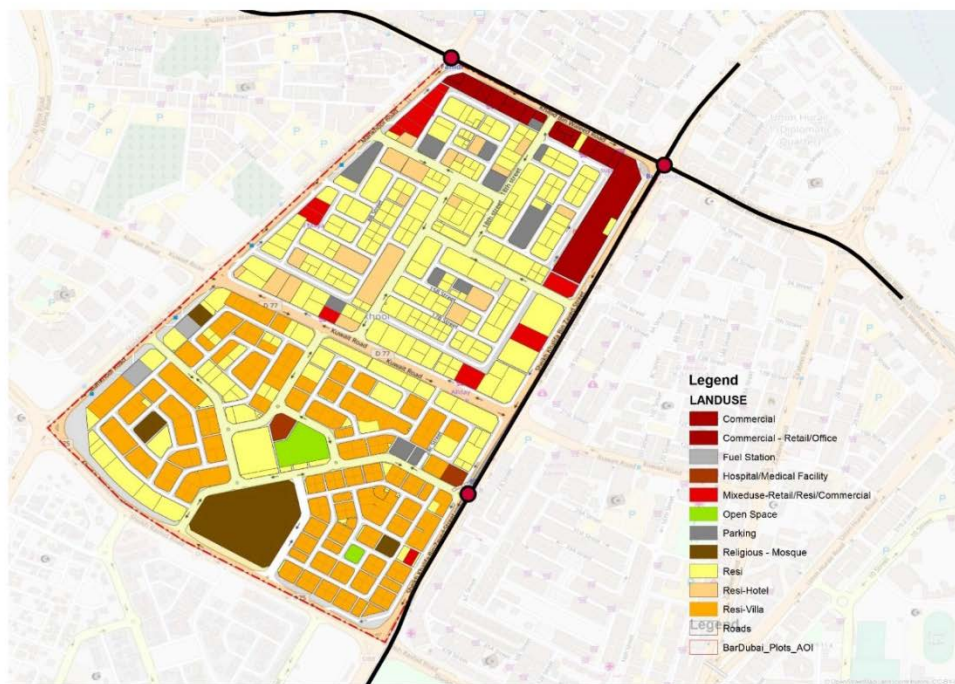


**Figure 4.4: Bur Dubai district (part)**



**Figure 4.5: Bur Dubai - selected area of study**

LANDUSE Type	No. Of Plots	Area(sq. m)	Area(ha)	Percentage	
Commercial	16	32955.11	3.30	1.68%	54.05%
Commercial - Retail/Office	1	41640.39	4.16	2.13%	
Fuel Station	2	8546.55	0.85	0.44%	
Hospital/Medical Facility	3	9363.04	0.94	0.48%	
Mixeduse-Retail/Resi/Commercial	12	39931.25	3.99	2.04%	
Residential Apartments	292	523179.01	52.32	26.74%	
Resi-Hotel	20	68086.70	6.81	3.48%	5.24%
Resi-Villa	249	333786.55	33.38	17.06%	
Religious - Mosque	4	82120.96	8.21	4.20%	40.71%
Open Space	2	20426.50	2.04	1.04%	
Parking	14	43034.61	4.30	2.20%	
Roads	1	753543.15	75.35	38.51%	
<b>Total Site Area</b>		<b>1956613.82</b>	<b>195.66</b>	<b>100.00%</b>	



**Figure 4.6: Bur Dubai - land use plan**



**Figure 4.7: Bur Dubai - view of the study area**



**Figure 4.8: Bur Dubai - plot configuration and street layout**



**Figure 4.9: Bur Dubai - volumetric study**

### 4.3.2 Deira

Deira is the area of Dubai north of Dubai Creek and south of the Sharjah border. A traditional commercial centre of Dubai and the Creek, its dhows were the historic modes of transport. Today Deira is split into two parts; the old souks (gold and spices) near the waterfront, and Dubai International Airport, which covers a major part of the area into the creek inland. Deira suffers a lot from traffic congestion as the bridges to Bur Dubai are at full capacity during the rush hour. Deira is one of the oldest districts in Dubai and in comparison to Bur Dubai, Deira houses a more multicultural population. Table 4.3 illustrates observation analysis for Deira

**Table 4.3: Observation analysis for Deira**

Categories of Observation (Physical and Social factors)	Recorded Observations
Accessibility within the city and availability of public transport	The neighbourhood has easy access to the city via public transport connected to Union Metro stations and RTA Bus station. The connectivity to the city is convenient from metro and bus

Master plan for the neighbourhood	The master plan had evolved during the early 1970's and indicated individual plots with developments
Mixed-use patterns	The community has residential, service apartments, commercial and office spaces.
Accessibility to amenities	Amenities like supermarkets, grocery stores, restaurants, street side shopping areas all being in the vicinity. Paved areas adjoining the roads form areas of encounter for the residents which are used during morning or evening walk
Building forms and layout planning	Buildings are mid-rise and located along the road with minimum setbacks which therefore does not promote many opportunities for social interactions. There are few buildings that enclose common open spaces to give more sociability
Human scale	Many of the parking lots get converted into spaces for human activities for temporary usage.
Behavioural study (mobility interaction)	The district has multicultural population, though not much of social mix is seen, people form their communities and meet between the buildings or in parking lots
Common Spaces (Indoor)	There are not enough common spaces that can enhance participation in common activities within the residents. Hence it provides limited opportunities to for informal face-to-face interactions.
Common Spaces (Outdoor)	Since some buildings enclose common open spaces, activities are seen between these buildings that provide opportunities to meet and interact unoccupied open plots or spaces within the buildings serve as spaces for people to meet.
Public Realm	The neighbourhood is overall a busy and highly populated area with buildings on individual plots, active streets that create informal meeting spaces which have emerged in the process of urban development with time

Figure 4.10 to Figure 4.14 are the findings from the spatial analysis for Deira. Being one of the old districts in Dubai and highly populated is indicated by the busy network of streets and activities, with parking lots being converted into active zones. Parking, roads and vacant land cover 60% of the land, with the other 40% is covered with built forms. The percentage of green areas is considerably less.



**Figure 4.10: Deira district (part)**



**Figure 4.11: Deira - selected area of study**



LANDUSE Type	No. Of Plots	Area(sq. m)	Area(ha)	Percentage	
Commercial	1	15098	1.51	1.19%	40.14%
Commercial - Retail/Office	52	95800	9.58	7.56%	
Fuel Station	0	0.00	0.00	0.00%	
Hospital/Medical Facility	0	0.00	0.00	0.00%	
Mixeduse-Retail/Resi/Commercial	8	11479	1.15	0.91%	
Residential Apartments	315	359665	35.97	28.40%	
Resi-Hotel	5	26315	2.63	2.08%	12.23%
Resi-Villa	0	0.00	0.00	0.00%	
Mosque	0	5000.00	0.50	0.39%	47.63%
Open Space/Plaza	3	40455	4.05	3.19%	
Graveyard	1	109382	10.94	8.64%	
Parking	29	152293	15.23	12.02%	47.63%
Roads	0	450990.10	45.10	35.61%	
<b>Total Site Area</b>		<b>1266477.00</b>	<b>126.65</b>	<b>100.00%</b>	

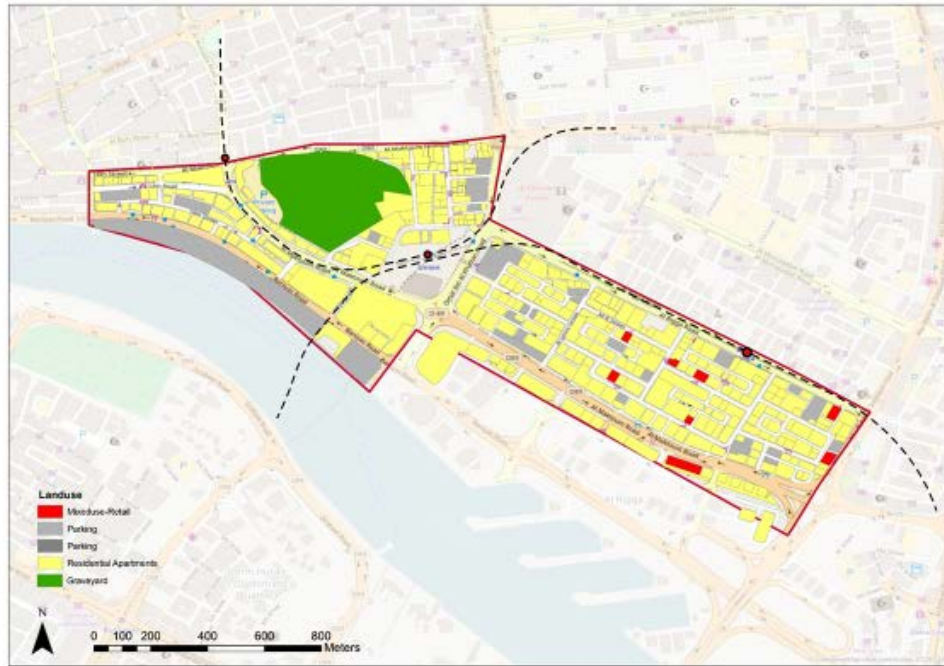


Figure 4.12: Deira - land use plan



Figure 4.13: Deira - volumetric study



**Figure 4.14: Deira - view of the study area**

### 4.3.3 International City

Dubai's International City, located in the Al Warsan region since 2004, is a mixed-use community with residences, business zones and country-themed architecture spanning over 800 hectares. It accommodates over 60,000 residents of various nationalities and there are 485 buildings with over 22,000 residences. Residences are in the Central Business District and other themed districts, named Persia, Greece, Spain, Morocco, England, France, Italy, Russia, China and the Emirates. Table 4.4 illustrates observation analysis for the International City

**Table 4.4: Observation analysis for International City**

<b>Categories of Observation (Physical and Social Factors)</b>	<b>Recorded Observations</b>
Accessibility of Public Transport	The neighbourhood has access via public transport connected to Bus Terminals in the nearby locality
Master Plan for the Neighbourhood	The overall layout of the neighbourhood has clusters of buildings accessed through vehicular road, roundabouts and a network of internal roads. The entry to the buildings is directly on the roads through a paved surface.
Mixed Use patterns	The community is solely residential with few commercial buildings in the nearby vicinity.
Accessibility to Amenities	The neighbourhood is self-sufficient with amenities like supermarkets, health centre, pharmacy, grocery.

Building forms and Overall layout planning	Buildings are mid-rise and are located along the road with access directly from the roads. Parking occupies maximum coverage of land use
Human Scale	Residential apartments are mid-rise and relate to a few human activities at ground, podium and terraces levels.
Behavioural Study	Since the open spaces are not well planned, not many community activities are seen Children play areas are next to parking zones that make the place unsafe
Common Spaces (Indoor)	There is the absence of any shared indoor common spaces within the cluster. No community spaces such as clubs, common meeting spaces are available.
Common Spaces (Outdoor)	Common outdoor spaces are occupied by parking, and hence most of them are not available for resident's activities. The green areas are not maintained and hence not favourable for recreational purpose. The spaces between the buildings are not conducive to any social activities. Since most of the residential buildings have direct access from the vehicular road, the social activities are restricted within the buildings itself.

Figure 4.15 to Figure 4.20 are the findings from the spatial analysis for International City. The neighbourhood has been planned as a residential development and also offers freehold property for investment. Parking, roads and vacant land cover 80% of the land, with the remaining 20% covered with built forms. The percentage of green areas is considerably less. This indicates that most of the open spaces are not for recreational use but as parking areas. The children's play areas have parking spaces adjoining them which make these space unsafe.



Figure 4.15: International city - area of study



Figure 4.16: International city - open space analysis

LANDUSE Type	No. Of Plots	Area(sq. m)	Area(ha)	Percentage	
Commercial		0	0.00	0.00	19.19%
Commercial - Retail/Office		5000	0.50	0.14%	
Fuel Station		0.00	0.00	0.00%	
Hospital/Medical Facility		1000.00	0.10	0.03%	
Mixeduse-Retail/Resi/Commercial/Amenity		673201	67.32	19.02%	
Residential Apartments		0	0.00	0.00%	5.14%
Resi-Hotel		0	0.00	0.00%	
Resi-Villa		0.00	0.00	0.00%	75.67%
Mosque		5000.00	0.50	0.14%	
Open Space/Plaza		176958	17.70	5.00%	
Open Space - Unusable		778619	77.86	22.00%	75.67%
Roads		710000.00	71.00	20.06%	
Parking		1189399	118.94	33.61%	
<b>Total Site Area</b>		<b>3539177.00</b>	<b>353.92</b>	<b>100.00%</b>	



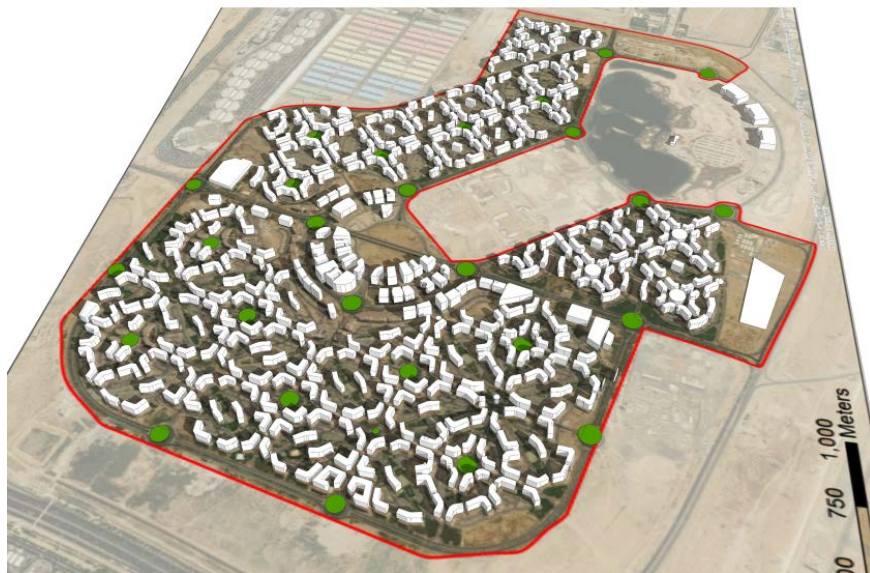
**Figure 4.17: International city - land use plan**



**Figure 4.18: International city - view of the study area**



**Figure 4.19: International city, children play area**



**Figure 4.20: International city, volumetric study**

#### **4.3.4 The Greens**

The Greens, located near the Emirates Golf Club in Dubai, is designed as a planned community by Emaar Properties. A multi-cultural neighbourhood with mid-rise residential apartments and it is based on the grid-iron pattern with parks, walkways and amenities for community living. The master plan is set with green streetscapes and landscapes, with clusters of residential buildings housing 3,500 residential units ranging from studio to four-bedroom apartments. It is a gated community serving as an example of emerging multicultural neighbourhoods with a mix of nationalities. Table 4.5 illustrates the observation analysis for The Greens

**Table 4.5: Observation analysis for The Greens**

Categories of Observation (Physical and Social Factors)	Recorded Observations
Accessibility of Public Transport	The neighbourhood has access via public transport connected to from the Internet City Metro station and the TECOM Metro station. Buses are operated by government-owned Road and Transport Authority (RTA) providing formal supports towards social interactions.
Master Plan for the Neighbourhood	The overall layout of the neighbourhood is in a grid-iron pattern with central road spine, and each complex has four individual clusters with the enclosed common landscape with pool and green areas that cater for opportunities for residents to meet and interact and participate in the community activities
Mixed Use patterns	The community is solely residential with few commercial buildings in the nearby vicinity.
Accessibility to Amenities	The neighbourhood is self-sufficient with The Greens Village that houses most of the amenities like supermarkets, health centre, Pharmacy, grocery. Regent International School in the community for primary and secondary children. Cafes promote for informal meets and play an active role in enhancing social interactions
Building forms and Overall layout planning	Buildings are mid-rise and are located along the road with a private courtyard enclosed within each cluster. The courtyard is at podium level in the new green community, located above the parking bay area which provides for large open spaces within building compounds.
Human Scale	Residential apartments are mid-rise and relate to a lot of human activities at ground, podium and terraces levels.
Behavioural Study	Necessary activities and optional activities are performed; Open spaces favour social interaction through common courtyard spaces which become vibrant by evening. Large open spaces near the lake and various green areas favour for social interaction for children, adults using walking in the neighbourhood.
Common Spaces (Indoor)	The common indoor spaces within the cluster include a gymnasium, community hall where residents come together for common activities. These are occasionally used for festivals and community gatherings also.
Common Spaces (Outdoor)	Common outdoor spaces comprise of courtyard space landscaped with seating area; children play area, access to barbeque areas, common meeting spaces which promote social ties and interaction. The Lake is a central area for residents to interact which strengthens the social ties within the community

Figure 4.21 to Figure 4.25 are the findings from the spatial analysis for The Greens. As a planned community development, almost the same amount of land coverage is devoted to green spaces and built forms. The built forms indicate modules of four buildings enclosing common space for activities of the residents. The lake as a water body is a distinct feature of the master plan. Overall, The Greens encourages the use of open spaces by its community.



**Figure 4.21: The Greens - study area**



**Figure 4.22: The Greens - layout**





Figure 4.23: The Greens - volumetric study

LANDUSE Type	No. Of Plots	Area(sq. m)	Area(ha)	Percentage	
Commercial	0	0.00	0.00	0.00%	24.27%
Commercial - Retail/Office	1	4034.7	0.40	1.20%	
Fuel Station	0	0.00	0.00	0.00%	
Hospital/Medical Facility	0	0.00	0.00	0.00%	
Mixed-use-Retail/Resi/Commercial	0	0.00	0.00	0.00%	
Residential Apartments -Type1	17	32230.5	3.22	9.62%	
Residential Apartments -Type2	23	45087.9	4.51	13.45%	27.27%
Resi-Villa	0	0.00	0.00	0.00%	
Religious - Mosque	1	566.6	0.06	0.17%	48.29%
Open Space	14	91378.7	9.14	27.27%	
Parking	0	0.00	0.00	0.00%	
Roads	1	161844.67	16.18	48.29%	
<b>Total Site Area</b>		<b>335143.00</b>	<b>33.51</b>	<b>100.00%</b>	



Figure 4.24: The Greens - land use plan



**Figure 4.25: The Greens - an overview**

## **4.4 Research Findings: Quantitative Analysis**

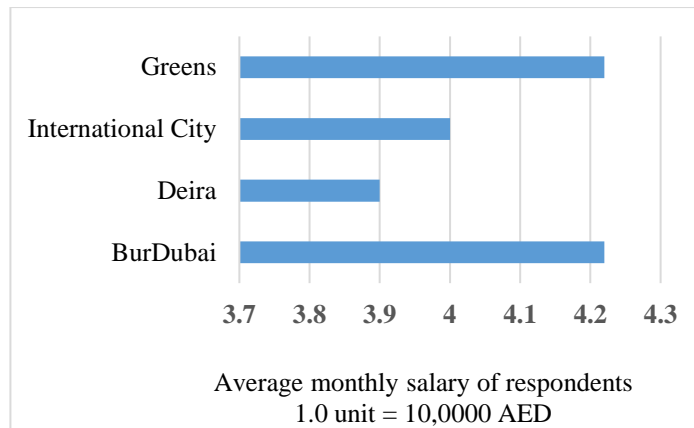
### **4.4.1 Demographic Profile of the Respondents**

The study recruited 50 respondents each from the four neighbourhoods, and their demographic profiles indicate that among the 200 respondents most were residing in families with their children, as indicated in the Table 4.6. The percentage of families with children in all four neighbourhoods were more than families without children.

**Table 4.6: Percentage of families and number of children**

Details	Bur Dubai	Deira	International city	The Greens
No children	30%	19%	19%	22%
1 child	19%	15%	12%	15%
2 children	12%	10%	21%	15%
3 children	4%	5%	0%	0%
4 children	0%	1%	1%	1%

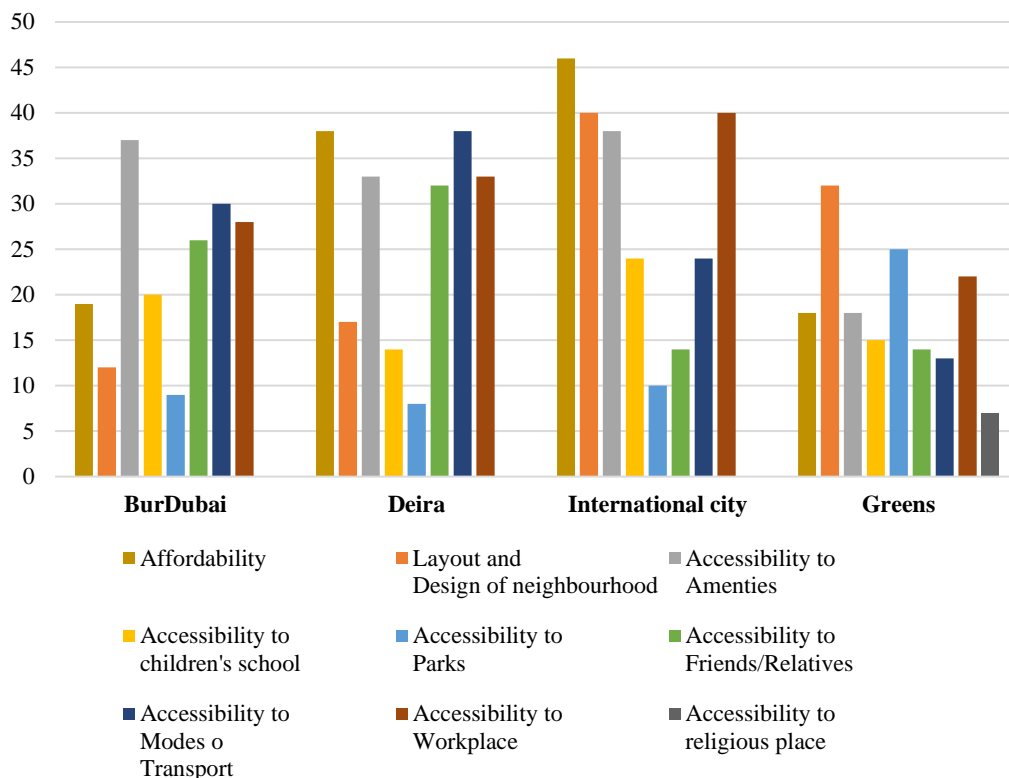
Figure 4.26 shows that the average monthly family income of respondents from each neighbourhood is in the range of Dhs 37,000 to Dhs 42,000.



**Figure 4.26: Average monthly income of respondents**

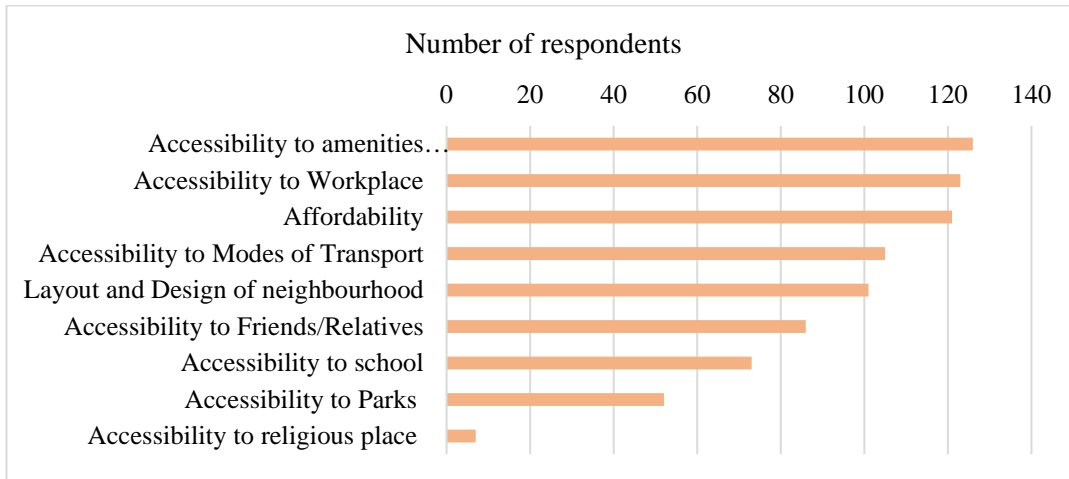
### 4.4.2 Choice of Neighbourhood

The respondents were asked about the reasons why they chose their neighbourhood and Figure 4.27 illustrates the reasons given. In Bur Dubai accessibility to amenities was considered as the most important factor, while in Deira affordability and accessibility to modes of transport were the priority. In the International City affordability was one of the main factors followed by accessibility to workplaces. In The Greens, the respondents considered the layout and design of the neighbourhood as the most important factor when choosing this neighbourhood.



**Figure 4.27: Factors influencing the choice of neighbourhood**

Figure 4.28 provides an overall summary of the survey results and indicates that accessibility to amenities, accessibility to workplaces, and affordability, were the most important reasons for respondents in their choice of neighbourhood.



**Figure 4.28: Summary of factors in the choice of neighbourhood**

### 4.4.3 Residential Stability

**Research Question: To what extent is there residential stability amongst the neighbourhoods in Dubai?**

A correlation bivariate analysis was performed to test the strength of the relationship between the two variables, number of years the respondents had resided in Dubai and the number of years respondents had resided within the same neighbourhood in Dubai. The descriptive statistics indicate the mean and standard deviation for the 50 respondents in all four neighbourhoods. The null hypothesis ( $H_0$ ) and alternate hypothesis ( $H_1$ ) were:

*H<sub>0</sub>: There is no residential stability in the neighbourhoods in Dubai.*

*H<sub>1</sub>: There is residential stability in the neighbourhoods in Dubai.*

Table 4.7 presents the descriptive statistics and the numerical methods include a measure of central tendency and measures of validity. The application of the analysis is used to summarise and present the data in a meaningful manner so that underlying information becomes clear. The analysis involves measures of central tendency, measures of variability, percentiles, quartiles and the interquartile range, in addition to whether the given distribution is symmetrical.

**Table 4.7: Descriptive statistics for residential stability**

Descriptive Statistics				
Type		Mean	Std. Deviation	Number of observations
BurDubai	Years of residence in Dubai	4.04	1.906	50
	Years of residence in the same neighbourhood	2.76	1.611	50
Deira	Years of residence in Dubai	4.26	1.946	50
	Years of residence in the same neighbourhood	3.18	1.535	50
International city	Years of residence in Dubai	2.30	.931	50
	Years of residence in the same neighbourhood	2.16	.650	50
The Greens	Years of residence in Dubai	3.10	1.717	50
	Years of residence in the same neighbourhood	2.28	.757	50

\*\* . Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 4.8, for years of residency in Dubai for respondents in Bur Dubai, the mean was 4.04 and the standard deviation 1.906, while for years of residency in the same neighbourhood the mean was 2.76 and the standard deviation 1.611. For the years of residency in Dubai for respondents in Deira, the mean was 4,26 and the standard deviation 1.946, while for the years of residency in the same neighbourhood the mean was 3.18 and the standard deviation 1.535. For the years of residency in Dubai for respondents in the International City, the mean was 2.30 and the standard deviation 0.931, while for the years of residency in the same neighbourhood the mean was 2.16 and the standard deviation 0.650. For the years of residency in Dubai for respondents in Bur Dubai, the mean was 3.10 and the standard deviation 1.717, while for the years of residency in the same neighbourhood the mean was 2.28 and the standard deviation 0.757.

**Table 4.8: Correlation between the number of years respondents had resided in Dubai and the number of years they had resided in the same neighbourhood**

Correlations				
Type			Years of residence in Dubai	Years of residence in the same neighbourhood
BurDubai	Years of residence in Dubai	Pearson Correlation	1	.642**
		Sig. (2-tailed)		.000
		N	50	50
	Years of residence in the same neighbourhood	Pearson Correlation	.642**	1
		Sig. (2-tailed)	.000	
		N	50	50
Deira	Years of residence in Dubai	Pearson Correlation	1	.708**
		Sig. (2-tailed)		.000
		N	50	50
	Years of residence in the same neighbourhood	Pearson Correlation	.708**	1
		Sig. (2-tailed)	.000	
		N	50	50
International city	Years of residence in Dubai	Pearson Correlation	1	.896**
		Sig. (2-tailed)		.000
		N	50	50
	Years of residence in the same neighbourhood	Pearson Correlation	.896**	1
		Sig. (2-tailed)	.000	
		N	50	50
The Greens	Years of residence in Dubai	Pearson Correlation	1	.653**
		Sig. (2-tailed)		.000
		N	50	50
	Years of residence in the same neighbourhood	Pearson Correlation	.653**	1
		Sig. (2-tailed)	.000	
		N	50	50

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Based on the results for all four neighbourhood, the Pearson's correlation coefficient for the number of years respondents had resided in the city and the number of years they had resided in the same neighbourhood for Bur Dubai was 0.642, for Deira was 0.708, for the International City was 0.896, and for The Greens was 0.653. The  $p$ -values for the two-tailed test of significance was less than 0.05 ( $p \leq 0.05$ ) for all the correlations and therefore the null hypothesis was rejected, and the alternate hypothesis accepted - there is residential stability in neighbourhoods in Dubai.

Hence it can be concluded that there is a significant correlation between the number of years respondents had resided in Dubai and the number of years they had resided in the same neighbourhood, which corresponds to residential stability within neighbourhoods. Residential stability is relevant in order to understand if residents residing in a neighbourhood for more than five years have social cohesiveness. Turney and Harknett (2010) and Schieman (2009)

discussed residential stability based on a minimum of five years residency within the same neighbourhood and the fostering of social cohesiveness.

#### **4.4.4 Extent of Social Cohesiveness**

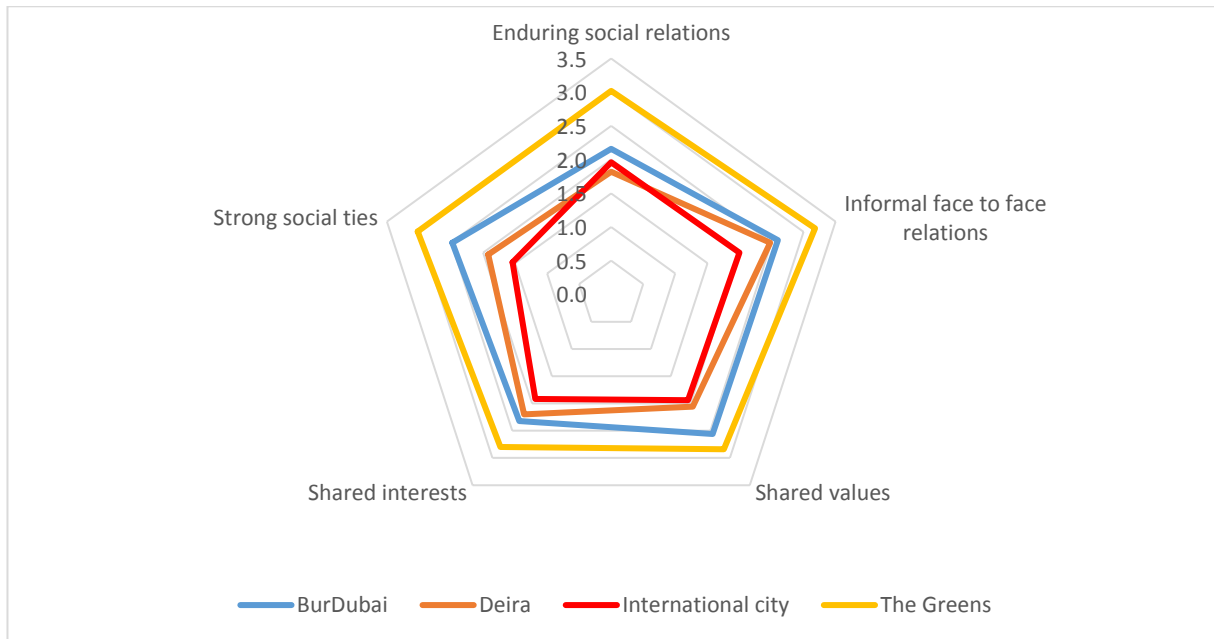
The second research objective sought to evaluate the extent of social cohesiveness among the residents in the four neighbourhoods in Dubai. The social cohesion indicators of this study are:

- *Enduring social relations*
- *Informal face-to-face relations*
- *Shared values*
- *Shared interests*
- *Strong social ties*

The respective ratings of cohesiveness for each of the neighbourhoods are summarised in Table 4.9. With respect to enduring social relations, the highest rating was observed in The Greens at 3.02, followed by Bur Dubai, with a much lower rating of 2.16, while the International City and Deira were marginal. With respect to informal face-to-face relations, again The Greens had the highest mean rating of 3.18, followed by 2.60 for Bur Dubai, with Deira coming next at 2.48, and finally the International City at 2.00. The Greens was again top for shared values at 2.84, followed by the other neighbourhoods in the same order as before. The same trend was evident for the fourth construct, shared interests, as well as the fifth construct, strong social ties. These results are shown in Figure 4.29

**Table 4.9: Descriptive statistics for social cohesion indicators**

Descriptives		N	Mean	Std. Deviation
Enduring social relation	BurDubai	50	2.16	.766
	Deira	50	1.82	.661
	International city	50	1.96	.402
	The Greens	50	3.02	1.000
	Total	200	2.24	.870
Informal face to face relations	BurDubai	50	2.60	.990
	Deira	50	2.48	1.015
	International city	50	2.00	.571
	The Greens	50	3.18	.919
	Total	200	2.57	.980
Shared values	BurDubai	50	2.56	.993
	Deira	50	2.06	.956
	International city	50	1.94	.424
	Greens	50	2.84	.889
	Total	200	2.35	.917
Shared interests	BurDubai	50	2.32	.978
	Deira	50	2.20	.926
	International city	50	1.92	.396
	The Greens	50	2.80	.904
	Total	200	2.31	.888
Strong social ties	BurDubai	50	2.48	1.054
	Deira	50	1.92	.922
	International city	50	1.54	.646
	The Greens	50	3.02	1.301
	Total	200	2.24	1.148



**Figure 4.29: Social cohesion indicators across the four neighbourhoods**



It is evident that The Greens surpasses all the other neighbourhoods in all five social cohesion indicators, followed by Bur Dubai. The second objective sought to establish whether the differences observed in social cohesion were statistically significant or not and the following hypotheses were therefore tested:

*H<sub>0</sub>: There is no significant difference in social cohesiveness among residents in selected neighbourhoods in Dubai.*

*H<sub>1</sub>: There is significant difference in social cohesiveness among residents in selected neighbourhoods in Dubai.*

These constructs were scale variables, and thus were able to be compared across the four locations through the use of parametric tests. According to Bryman and Bell (2015), ANOVA tends to be the optimal test compared to a t-test, and its key strength is the ability to compare across multiple groups, as well as to compare within groups, using post-hoc analyses.

To help compare the mean ratings for each of the constructs across the four locations, a one-ANOVA was computed using social cohesion indicators as categorical independent variables and the results are shown in Table 4.10.

**Table 4.10: ANOVA for social cohesion indicators across the neighbourhoods**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Enduring social relation	Between Groups	43.480	3	14.493	26.549	.000
	Within Groups	107.000	196	.546		
	Total	150.480	199			
Informal face to face relations	Between Groups	35.295	3	11.765	14.795	.000
	Within Groups	155.860	196	.795		
	Total	191.155	199			
Shared values	Between Groups	26.820	3	8.940	12.456	.000
	Within Groups	140.680	196	.718		
	Total	167.500	199			
Shared interests	Between Groups	20.220	3	6.740	9.674	.000
	Within Groups	136.560	196	.697		
	Total	156.780	199			
Strong social ties	Between Groups	62.920	3	20.973	20.599	.000
	Within Groups	199.560	196	1.018		
	Total	262.480	199			

There was a significant effect across the social cohesion indicators, enduring social relations, informal face-to-face relations, shared values, shared interests, and strong social ties, across all four neighbourhoods at the  $p \leq 0.05$  level with respective F-ratios of:  $F(199)=26.549$ ,  $p \leq 0.05$ ;

$F(199)=14.795, p\leq 0.05$ ;  $F(199)=12.456, p\leq 0.05$ ;  $F(199)=9.674, p\leq 0.05$ ; and  $F(199)=20.599, p\leq 0.05$ . Therefore there was enough statistical evidence at the 95% confidence level to demonstrate that the observed ratings for the social cohesion indicators significantly varied across the four neighbourhoods studied. Therefore the null hypothesis was rejected and the alternative hypothesis accepted – there is a significant difference in social cohesiveness among residents in the selected neighbourhoods in Dubai

The post-hoc tests revealed that the Tukey HSD was significant ( $p\leq 0.05$ ) between the following groups, The Greens and Bur Dubai, The Greens and Deira, The Greens and International City more than for any other groups for enduring social relations with a  $p$  value of 0.000 (see Appendix V). The Tukey HSD was also significant for most of the groups for informal face-to-face relations ( $p\leq 0.05$ ), except between Bur Dubai and Deira. The Tukey HSD was most significant between the groups, The Greens and International City, and The Greens and Deira, for shared values, while for shared interests significance was seen between the groups, Bur Dubai and International City, The Greens and Deira, and The Greens and International City with a  $p$  value of 0.000. Strong social ties was indicated by the post-hoc tests to be significant between the groups, Bur Dubai and International City, The Greens and Deira, International City and Bur Dubai, International City and The Greens, and The Greens and International City. Mean plots show that the mean varies between different groups of data and there is a distinct pattern in the social cohesion indicators for every neighbourhood. The Tukey HSD was not significant for enduring social relations for International City and Deira, informal face-to-face relations between Deira and Bur Dubai, and for shared values between Deira and International City.

The ANOVA results indicate that social cohesiveness among residents in The Greens is the most significant in comparison with the other neighbourhoods. This social cohesiveness in The Greens is attributed to the built form, layout and design of The Greens which encourages social cohesiveness among the residents. The findings of the qualitative analysis of residents' opinions of their neighbourhoods support this, together with the observation analysis. The reasons for social cohesiveness among residents in The Greens are based on common spaces outdoors, and the design and layout of the neighbourhood. The International City is a planned neighbourhood, yet has the least social cohesiveness. The synthesis of all the findings through qualitative and observation methods reveals that this is due to the lack of efficiently planned common spaces and the physical planning of this neighbourhood. Refer Appendix IV for tables

#### 4.4.5 Common Spaces Outdoors and their Influence on Social Cohesion

The research objective sought to establish the extent to which social cohesion indicators (dependent variables) were influenced by common space outdoors (independent variable) within neighbourhoods in Dubai. In other words, the study sought to ascertain whether social cohesion among the residents could be predicted by common spaces outdoors. According to Field (2016) and Cooper and Schindler (2014), for prediction-oriented studies regression-based analyses are the optimal form of tests. However, the nature of the regression test that can be applied to a particular scenario depends on the nature of the variable, with scale dependent variables requiring the use of linear regressions (IBM, 2016), while categorical dependent variables requires logistic regression approaches (Field, 2016).

In the context of this study the dependent variable, social cohesion, was measured by five constructs, all of which were scale variables. As argued by Leedy and Ormrod (2013) and IBM (2016), in such cases the optimal form of analysis is linear regression. Therefore a simple linear regression analysis was conducted to determine if social cohesion indicators within a neighbourhood, such as enduring social interactions, informal face-to-face interactions, shared values, shared interests, and strong social ties (dependent variables) are predicted by common spaces (outdoor) as an independent variable. The corresponding hypotheses for this research objective were:

*H<sub>0</sub>: The social cohesion indicators among the residents are not predicted by the common spaces (outdoors) in the neighbourhood.*

*H<sub>1</sub>: The social cohesion indicators among the residents are predicted by the common spaces (outdoors) in the neighbourhood.*

Prior to the regression analysis, descriptive statistics were established and are summarised in Table 4.11. Common spaces (outdoor) had a mean rating of 2.96 and a standard deviation of 1.076, whereas enduring social relations had a mean score of 2.24 and a standard deviation of 0.870, shared values a mean of 2.35 and a standard deviation of 0.917, strong social ties a mean of 2.24 and a standard deviation of 1.148, shared interests a mean of 2.31 and a standard deviation of 0.888, and informal face-to-face relations a mean of 2.57 and a standard deviation of 0.980.

**Table 4.11: Descriptive statistics for social cohesion indicators and common space outdoors**

Descriptive statistics			
	Mean	Standard deviation	Number of observations
Enduring social relation	2.24	0.87	200
Informal face to face relation	2.57	0.98	200
Shared values	2.35	0.917	200
Shared interests	2.31	0.888	200
Strong social ties	2.24	1.148	200
Common space outdoor	2.96	1.065	200

#### 4.4.5.1 Regression Analysis Assumptions

To help validate the applicability of a parametric or non-parametric regression, Field (2016) argues the need to meet the assumptions of normality, linearity, non-autocorrelation and homoscedasticity. To test the key phenomenon, normality of the data, a one-sample Kolmogorov-Smirnov (K-S) test for normality was conducted for the five variables, at a 95% level of significance, and the results are shown in the Table 4.12.

**Table 4.12: Normality test - one-sample Kolmogorov-Smirnov test**

		Enduring social relations	Informal face to face relations	Shared values	Shared interests	Social ties
N	0	200	200	200	200	200
Most Extreme Differences	Absolute	0.185	0.219	0.172	0.294	0.222
	0 Positive	0.177	0.219	0.172	0.294	0.185
	0 Negative	-0.185	-0.174	-0.16	-0.129	-0.222
Test Statistic	0	0.185	0.219	0.172	0.294	0.222
Asymp. Sig. (2-tailed)	0	.295c,d	.184c,d	.096c,d	.164c	.432c,d

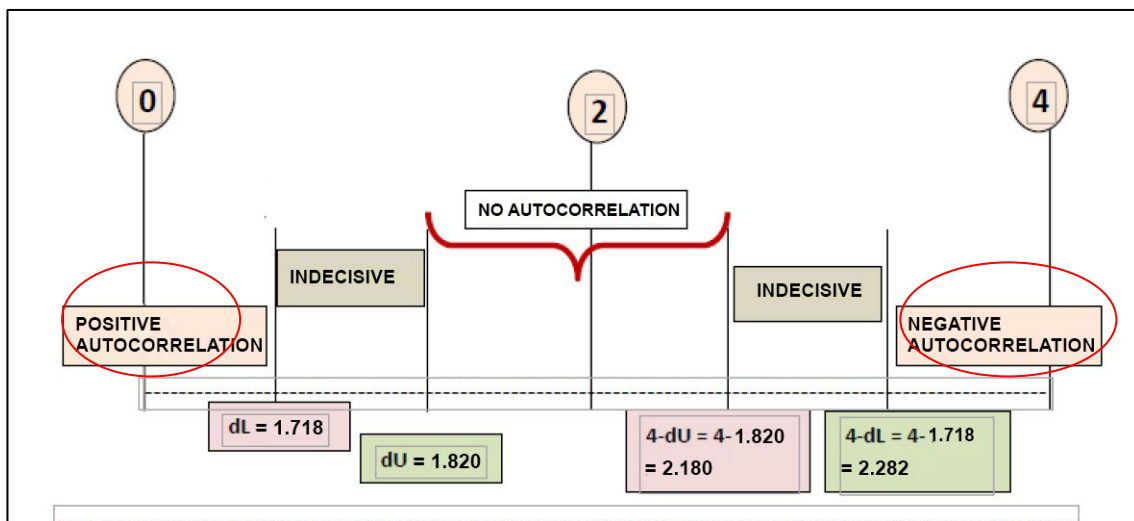
c. Lilliefors Significance Correction

d. This is a lower bound of the true significance

The  $p$ -value in all instances was greater than 0.05, and thus it follows that the distributions of all the dependent variables were normally distributed, thus validating the normality assumption behind the parametric linear regression. With respect to independence, a relatively random display of points in the scatter plot of standardised residuals against the independent variable provided evidence of independence. The assumption of the homogeneity of variance was validated by the relatively random display of points, where the spread of the residuals appears

fairly constant over the range of values for the independent variable (in a scatterplot of standardised residuals against values of the independent variable) provided evidence of homogeneity of variance (see Appendix V).

Figure 4.28 illustrates the Durbin Watson statistics performed for judging autocorrelation, another assumption for the use of regression analysis. The Durbin-Watson statistic ranges in value from 0 to 4: a value near 2 indicates non-autocorrelation; a value towards 0 indicates a positive autocorrelation; and a value towards 4 indicates a negative autocorrelation.



**Figure 4.30: Durbin Watson Statistics**

The Durbin-Watson statistics was computed to evaluate independence of the errors and was found to be 2.115 for enduring social relations, 1.641 for informal face-to-face relations, 1.595 for shared values, 1.725 for shared interests, and 1.456 for strong social ties. As shown in Appendix VI, the Durbin Watson statistic table,  $dL$  (Lower bound) = 1.718 and  $dU$  (Upper bound) = 1.820. Since most of the values lie in the positive correlation range and one is near to the threshold the Durbin Watson statistics are ignored. As the variance inflation factors (VIF) values for all the variables was less than 5, multicollinearity was not an issue of concern.

#### **4.4.5.2 Regression Analysis**

Figure 4.31 presents the significant regression model for enduring social relations, which was ( $F= 75.50, p \leq .000$ ), with an  $R^2$  of 0.28, informal face-to-face relations was ( $F= 7.83, p \leq 0.01$ ) with an  $R^2$  of 0.04, shared values was ( $F=15.13, p \leq 0.00$ ) with an  $R^2$  of 0.07, shared interests was ( $F=13.47, p \leq 0.00$ ) with an  $R^2$  of 0.06, and social ties was ( $F=28.19, p \leq 0.00$ ) with an  $R^2$  of 0.13. The enduring social relations (dependent variable)  $y = 0.962 + 0.429 x$  common space outdoors (independent variable), informal face-to-face relations (dependent variable)  $y$

=2.034 + 0.180 x common space outdoors (independent variable), shared values (dependent variable)  $y = 1.671 + 0.23 \times$  common space outdoors, shared interests (dependent variable)  $y = 1.941 + 0.59 \times$  common space outdoors, and social ties (dependent variable)  $y = 1.113 + 0.381 \times$  common space outdoors.

**Table 4.13: Regression model for social cohesion indicators and common space outdoors**

S.No.	Dependent Variables	Independent Variables	Number of Observatio	R2	Regression Coefficient	T-Statistic	p-value (t-statistic)	F-Ratio	p-value (F-statistic)
1	Enduring social relations	Common Spaces Outdoors	200	0.28	0.43	8.7	0	75.7	0
2	Informal face to face relations		200	0.04	0.18	2.8	0.01	7.83	0.01
3	Shared values		200	0.07	0.23	3.89	0	15.13	0
4	Shared interests		200	0.06	0.21	3.67	0	13.47	0
5	Social ties		200	0.13	0.38	8.7	0	28.19	0

The greatest variance explained by common outdoor spaces was found for enduring social relations, whose variance was 28%, with social ties accounting for 13% of the variance, followed by shared values accounting for 7% of the variance, while shared interests accounted for only 6%. The regression models for predicting enduring social relations, informal face-to-face relations, shared values, shared interests, and strong social ties had a significance value of  $p < 0.00$  for the F test, thus it can be concluded that the regression models were all statistically valid. Overall, it can be argued that social cohesion indicators can be predicted by common outdoor spaces. Among the five social cohesion indicators, enduring social relations was significantly predicted by common spaces outdoors, followed by social ties, shared values, shared interests and finally informal face-to-face relations.

These findings indicate that common space outdoors in a neighbourhood can promote social relations between residents. Theses spaces could be between built forms or open spaces such as parks, gardens or green areas, where there is an opportunity for residents to interact and meet and therefore increase sociability. Raman (2010), as discussed in Chapter 2, notes that there is a relationship between design layout and social interactions, and social relations can be enhanced through open spaces that are designed in the layout. Common spaces outdoors also predict social ties among residents, and as discussed in the literature review, Kazmierczak (2013) notes that parks which provide opportunities for social interactions can strengthen social ties. Freeman (2001) relates social ties with urban forms, and how a neighbourhood with a lack of public spaces can have weak social ties. These social ties are strengthened through social activities through community initiatives within a neighbourhood, as discussed by Coulton,

Theodos, and Turner (2012). Common spaces enable residents to come together for community activities, and the results of the statistical tests indicate that common spaces outdoors are predictors of social ties. Shared values and shared interests were described in earlier in the literature review, where Forrest and Kearns (2001) discussed the role of shared spaces and shared values at the neighbourhood level.

Common space outdoors predicts shared values and shared interests, which determine a sense of community and belonging. Informal face-to-face relations are more intimate relations when neighbours have more close-knit ties, such as where neighbours help each other when required, as discussed by Suka, Yamauchi, Sugimori (2017). Overall, informal face-to-face relations were the weakest amongst residents in all four neighbourhoods. Refer Appendix IV for tables

#### **4.4.6 Layout and Design & Common Spaces and Socio-Cultural Aspects**

The research objective sought to establish the extent of the impact of the layout and design of common spaces on socio-cultural aspects. The corresponding hypotheses being tested, therefore, were:

*H<sub>0</sub>: Common spaces do not impact on socio-cultural aspects among residents.*

*H<sub>1</sub>: Common spaces impact on socio-cultural aspects in the neighbourhood*

*H<sub>0</sub>: The layout and design of a neighbourhood does not impact on socio-cultural aspects.*

*H<sub>2</sub>: The layout and design of a neighbourhood impacts on socio-cultural aspects*

The socio-cultural aspects investigated in this study, which were the dependent variables, were:

- *Regular social interaction*
- *Availability of opportunities for social interaction*
- *Positive attitude*
- *Open heartedness and willingness*
- *Number of socio-cultural activities*
- *Community participation*
- *Involvement in community activities*
- *Sense of community*

According to Field (2016), as the dependent variables are multiple scale variables, together with categorical independent variables, a Multiple Analysis of Variance (MANOVA) tends to

be the ideal statistical test to evaluate hypotheses. Therefore a MANOVA test was computed with the independent variable being the categorical variables for the layout and design of a neighbourhood, and common spaces outdoor. The dependent continuous variables were the socio-cultural aspects, regular social interaction, availability of opportunities for social interaction, positive attitude, open heartedness and willingness, number of socio-cultural activities, community participation, involvement in community activities and a sense of community.

The corresponding breakdown of the between-subject factors is presented in Table 4.14. There were two factors explored, common space outdoors and layout and design. From the analysis of the distribution of common space outdoors, the modal category was somewhat favourable, with 67 cases, and the distribution tended to be rather symmetrical with flat-tailed extremes. In contrast, for the layout and design the majority of respondents (147) indicated that it did not impact on the socio-cultural aspects identified.

**Table 4.14: Between subject factors**

<b>Between-Subjects Factors</b>			
		Value Label	N
Common space outdoor	1	exceptionally unfavorable	14
	2	unfavorable	58
	3	somewhat favorable	67
	4	favourable	44
	5	exceptionally favourable	17
Layout and design impacts socio cultural factors	1	Yes	53
	2	No	147

#### **4.4.6.1 MANOVA Assumptions**

According to Hair et al., (2010), several assumptions should be met in order to be able to validate the MANOVA outcome. In this study, the assumption of homogeneity of covariance, as well as the assumption of the equality of error variances, was tested. For the first assumption Box's test was used to evaluate the homogeneity of covariance across the groups using  $p \leq .05$  as the significance level and the results are presented in Table 4.15.

**Table 4.15: Box's test of the equality of covariance matrix**



<b>Box's Test of Equality of Covariance Matrices<sup>a</sup></b>	
Box's M	516.793
F	2.387
df1	180
df2	11789.988
Sig.	.000
Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across	
a. Design: Intercept + CommonSpace_outdoor + Layout_n_Design + CommonSpace_outdoor *	

The Box's M value of 516.79 was computed with  $p \leq 0.05$ , and it follows then that there was a significant difference between the covariance matrices. Therefore the assumption was violated and Pillai's trace was identified as the appropriate test to use, as prescribed by Field (2016). The second assumption, which was Levine's test of the equality of error variances is presented in Table 4.16.

**Table 4.16: Levene's test of the equality of error variance**

<b>Levene's Test of Equality of Error Variances<sup>a</sup></b>				
	F	df1	df2	Sig.
Regular Social Interaction	9.953	9	190	.000
Availability of opportunities for social interaction	2.040	9	190	.037
Positive attitude	6.655	9	190	.000
Open heartedness and willingness	1.932	9	190	.050
Number of socio cultural activities	29.904	9	190	.000
Community participation	3.165	9	190	.001
Involvement in community activities	13.041	9	190	.000
Sense of community	6.022	9	190	.000
Tests the null hypothesis that the error variance of the dependent variable is				
a. Design: Intercept + CommonSpace_outdoor + Layout_n_Design +				

Levene's test was significant at  $p \leq 0.05$  and therefore the assumption is violated. The most likely cause, according to Hair et al. (2010), was the fact that the groups were unequal, and this

may have contributed to a significant alpha inflation. Considering the fact that the sample was large enough, the MANOVA results were interpreted with caution, with the possibility of using the non-parametric Kruskal-Wallis test or standard regression, should problems arise in the outcome. The resultant analysis is presented in Table 4.17. Based on the assumption tests, Pillai's trace was deemed to be appropriate. Common space outdoors had a significant  $p$ -value  $\leq 0.05$  (0.000), hence the null hypothesis was rejected and it was concluded that there was enough statistical evidence at the 95% confidence level that common space outdoors influenced socio-cultural aspects. Refer Appendix IV for tables

**Table 4.17: Multivariate test**

<b>Multivariate Tests<sup>a</sup></b>									
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Parameter	Observed Power <sup>d</sup>
Intercept	Pillai's Trace	.508	23.651 <sup>b</sup>	8.000	183.000	.000	.508	189.206	1.000
	Wilks' Lambda	.492	23.651 <sup>b</sup>	8.000	183.000	.000	.508	189.206	1.000
	Hotelling's Trace	1.034	23.651 <sup>b</sup>	8.000	183.000	.000	.508	189.206	1.000
	Roy's Largest Root	1.034	23.651 <sup>b</sup>	8.000	183.000	.000	.508	189.206	1.000
CommonSpace_outdoor	Pillai's Trace	.370	2.368	32.000	744.000	.000	.092	75.791	1.000
	Wilks' Lambda	.672	2.410	32.000	676.466	.000	.095	70.785	1.000
	Hotelling's Trace	.430	2.437	32.000	726.000	.000	.097	77.982	1.000
	Roy's Largest Root	.191	4.435 <sup>c</sup>	8.000	186.000	.000	.160	35.480	.996
Layout_n_Design	Pillai's Trace	.169	4.640 <sup>b</sup>	8.000	183.000	.000	.169	37.118	.997
	Wilks' Lambda	.831	4.640 <sup>b</sup>	8.000	183.000	.000	.169	37.118	.997
	Hotelling's Trace	.203	4.640 <sup>b</sup>	8.000	183.000	.000	.169	37.118	.997
	Roy's Largest Root	.203	4.640 <sup>b</sup>	8.000	183.000	.000	.169	37.118	.997
CommonSpace_outdoor * Layout_n_Design	Pillai's Trace	.344	2.190	32.000	744.000	.000	.086	70.073	1.000
	Wilks' Lambda	.690	2.240	32.000	676.466	.000	.089	65.834	.999
	Hotelling's Trace	.402	2.280	32.000	726.000	.000	.091	72.962	1.000
	Roy's Largest Root	.216	5.012 <sup>c</sup>	8.000	186.000	.000	.177	40.093	.999
a. Design: Intercept + CommonSpace_outdoor + Layout_n_Design + CommonSpace_outdoor * Layout_n_Design									
b. Exact statistic									
c. The statistic is an upper bound on F that yields a lower bound on the significance level.									
d. Computed using alpha = .05									

Layout and design was also significant with a  $p$ -value  $< 0.05$  (0.000), and again the null hypothesis was rejected as there was sufficient statistical evidence that layout and design did impact on socio-cultural aspects. Furthermore, the interaction effect between common space outdoors and layout and design had a  $p$ -value  $\leq 0.05$  (0.007) and so it can be argued that this interaction effect was very significant.

The post-hoc tests (shown in Appendix V, Tukey HSD and Bonferroni) were not significant for most of the pairs for common space outdoors as  $p > 0.05$ . For the dependent variables of positive attitude, socio-cultural activities, and community participation, Tukey HSD and Bonferroni were found to be significant with  $p \leq 0.05$  for some of the pairs for common space outdoors. Therefore, the MANOVA test concludes that the layout and design of the neighbourhood and the common space outdoors impacts on socio-cultural aspects among the residents.

This finding is consistent with that of Raman (2010), who also confirmed that there is an impact of layout and building form on community cohesion, communal living, social behaviour of residents, social interactions, and the well-being of a community. The role of open spaces in a neighbourhood was also explored and supported by Ahmed (2012) in the context of socio-cultural factors for Emirati residents. According to the arguments proposed, common outdoor spaces and the layout and design provide opportunities for residents, which can encourage positive attitudes, and participation in community activities, as well as an increase in the number of socio-cultural activities.

#### **4.4.7 Socio-Cultural Factors**

Socio-cultural factors and their respective ratings across the four neighbourhood types, Bur Dubai, Deira, International City and The Greens were examined, and the socio-cultural factors considered were:

- *Regular social interaction*
- *Availability of opportunities for social interaction*
- *Positive attitude*
- *Open heartedness/willingness*
- *Number of socio-cultural activities*
- *Community participation*
- *Involvement in community activities*
- *Sense of community*

- *Social ties*

With a view to ascertaining whether the neighbourhood type influenced the ratings of the above activities, with the dependent variables being scale multiple variables, and the independent variable categorical, according to Zikmund et al. (2012) and IBM (2016), the MANOVA test was optimal, with the additional advantage of facilitating post-hoc tests across the neighbourhood types. The corresponding hypotheses being tested, therefore, were:

*H<sub>0</sub>: Socio-cultural factors depend on the type of neighbourhood*

*H<sub>1</sub>: Social-cultural factors significantly depend on the type of neighbourhood*

Table 4.18 illustrates the types of neighbourhood formed and the between-subject factors.

**Table 4.18: Between-Subjects Factors**

<b>Between-Subjects Factors</b>			
		Value Label	N
Type	1	Bur Dubai	50
	2	Deira	50
	3	International city	50
	4	The Greens	50

#### **4.4.7.1 MANOVA Assumptions**

As presented earlier, it was imperative to ensure that the assumptions of covariance, homogeneity and the supposed equality of error variances, were computed. Box's test was used to test the first assumption and the results are summarised in Table 4.19

**Table 4.19: Box's test of the equality of covariance matrix**

<b>Box's Test of Equality of Covariance Matrices<sup>a</sup></b>	
Box's M	630.605
F	4.290
df1	135
df2	84133.087
Sig.	.000
Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.	
a. Design: Intercept + type	

Based on the results, Box's M (135) =630.605;  $p < 0.05$ ; therefore there was a significant difference between the covariance matrices. According to Hair et al. (2010) and Field (2016),

in such cases where the assumption is violated it will be more accurate to report the Pillai's trace statistic, which is presented in Table 4.20.

**Table 4.20: Levene's test of the equality of error variance**

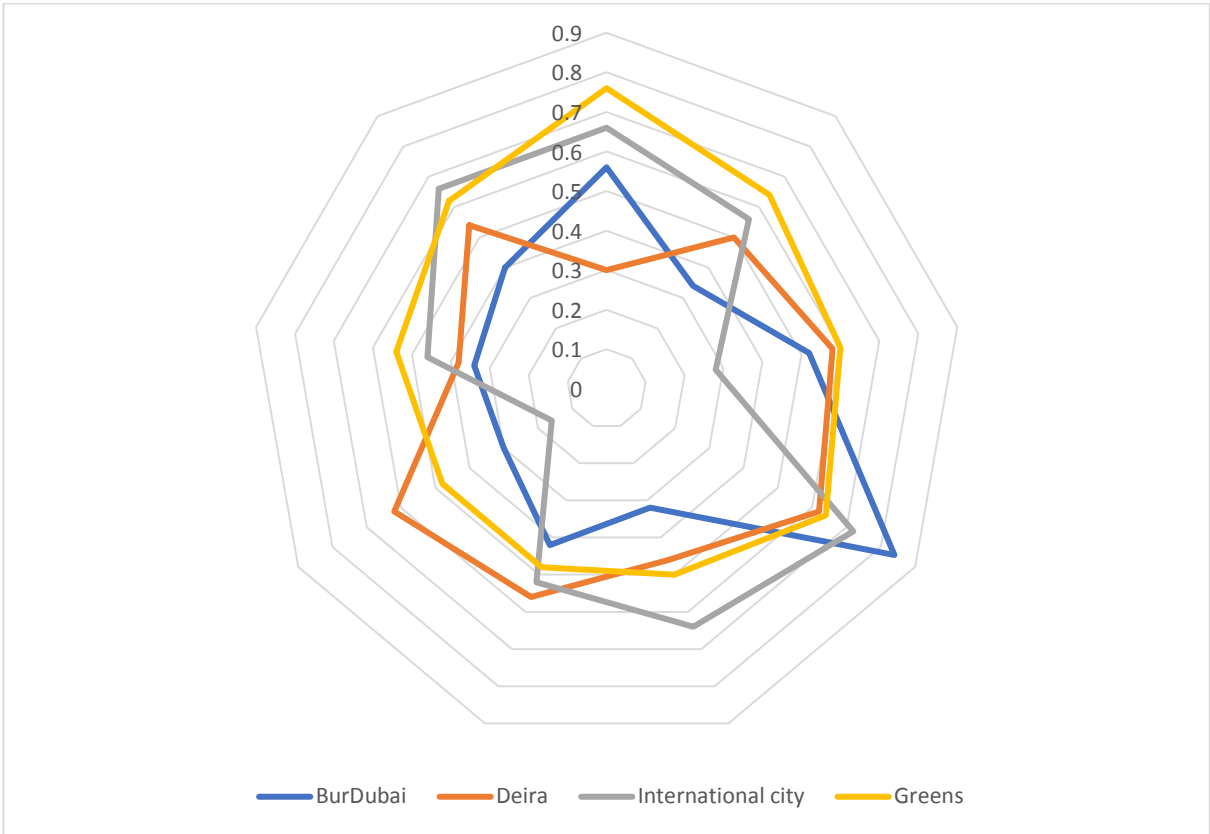
<b>Levene's Test of Equality of Error Variances<sup>a</sup></b>				
	F	df1	df2	Sig.
Regular Social Interaction	5.156	3	196	.000
Availability of opportunities for social interaction	1.450	3	196	.023
Positive attitude	6.720	3	196	.000
Open heartedness and willingness	12,78	3	196	.000
Number of socio cultural activities	2.210	3	196	.090
Community participation	1.180	3	196	.320
Involvement in community activities	8.720	3	196	.000
Sense of community	2.640	3	196	.050
Social ties	1.640	2	196	.180
Tests the null hypothesis that the error variance of the dependent variable is equal				
a. Design: Intercept + Type				

Based on these results, the assumption was met in the majority of the variables ( $p > 0.05$ ), and in this respect the credibility of the outcome was retained. Table 4.21 presents the descriptive statistics for the ratings of socio-cultural aspects

**Table 4.21: Descriptive statistics**

Type		Mean	Std. Deviation	N
Regular social interaction	The Greens	0.56	0.50	50
	Deira	0.30	0.46	50
	International city	0.66	0.48	50
	The Greens	0.76	0.43	50
	Total	0.57	0.50	200
Availability of opportunities for social interaction	The Greens	0.34	0.48	50
	Deira	0.50	1.31	50
	International city	0.56	0.50	50
	The Greens	0.64	0.48	50
	Total	0.51	0.78	200
Positive Attitude	The Greens	0.52	0.50	50
	Deira	0.58	0.50	50
	International city	0.28	0.45	50
	The Greens	0.60	0.49	50
	Total	0.50	0.50	200
Open Heartedness/ Willingness	The Greens	0.84	0.37	50
	Deira	0.62	0.49	50
	International city	0.72	0.45	50
	The Greens	0.64	0.48	50
	Total	0.71	0.46	200
No. of socio-cultural activities	The Greens	0.32	0.47	50
	Deira	0.46	0.71	50
	International city	0.64	0.48	50
	The Greens	0.50	0.51	50
	Total	0.48	0.56	200
Community participation	The Greens	0.42	0.50	50
	Deira	0.56	0.70	50
	International city	0.52	0.50	50
	The Greens	0.48	0.50	50
	Total	0.50	0.56	200
Involvement in community activities	The Greens	0.30	0.46	50
	Deira	0.62	0.99	50
	International city	0.16	0.37	50
	The Greens	0.48	0.71	50
	Total	0.39	0.69	200
Sense of Community	The Greens	0.34	0.48	50
	Deira	0.38	0.49	50
	International city	0.46	0.50	50
	The Greens	0.54	0.50	50
	Total	0.43	0.50	200
Social Ties	The Greens	0.40	0.49	50
	Deira	0.54	0.50	50
	International city	0.66	0.48	50
	The Greens	0.62	0.49	50
	Total	0.56	0.50	200

From the findings social interaction was highly rated in The Greens (0.76), followed by International City (0.66), and the least in Deira (0.3). The availability of opportunities for social interaction was predominant in Deira, International city and The Greens (>0.5), but not for Bur Dubai (0.34). Positive attitude was a characteristic present in all the neighbourhoods (>0.5), with the exception of International City (0.28). It should be highlighted that the most notable variable that was extraordinarily dominant in all neighbourhoods was open-heartedness/willingness, and this was generally dominant in all the neighbourhoods, with the highest rating being in Bur Dubai (0.84). Only International City was greater than 0.5 for the number of socio-cultural activities (0.64), while The Greens had a rating of 0.50, and Deira 0.46, while the least rated was Bur Dubai, with a mean of 0.32. Community participation was invariably homogeneous among the four neighbourhoods. Involvement in community activities was very poor in International City (0.16), as well as in Bur Dubai, with a rating of 0.30. A sense of community was recorded to be highest in The Greens, where it had a mean of 0.54, which was followed by International City with a mean of 0.46. Finally, social ties were highly rated in Deira, International City and The Greens, where it had a rating greater than 0.5, the exception was Bur Dubai where it had a rating of 0.40. These statistics are presented in Figure 4.31.



**Figure 4.31: Social-cultural factors across the four neighbourhoods**

The overall test of between subjects' effects is presented in Table 4.22.

**Table 4.22: Tests of between-subjects effects**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Regular Social Interaction	5.860a	3	1.953	8.871	.0	0.12
	Availability of opportunities for social interaction	2.420b	3	0.807	1.322	0.268	0.02
	Positive Attitude	3.255c	3	1.085	4.55	0.004	0.065
	Open-heartedness Willingness	1.495d	3	0.498	2.436	0.066	0.036
	No of Socio-cultural activities	2.600e	3	0.867	2.864	0.038	0.042
	Community Participation	.535f	3	0.178	0.569	0.636	0.009
	Involvement in Community Activities	6.100g	3	2.033	4.454	0.005	0.064
	Sense of Community	1.180h	3	0.393	1.611	0.188	0.024
	Social Ties	1.975i	3	0.658	2.721	0.046	0.04

From these results, the most significant differences were observed for the following variables ( $p < 0.05$ ):

- Regular social interactions
- Positive attitude
- No of socio-cultural activities
- Involvement in community activities
- Social ties

From the r-square statistics, the most significant differences were noted for regular social interactions, which explained 10.6% of the variance, followed by positive attitude and involvement in community activities, which accounted for 5.1% and 4.9%, respectively. Thus it can be summarised that socio-cultural factors do impact on the type of neighbourhood. Refer Appendix IV for tables

#### 4.4.8 Time Spent by Residents at Weekends in Outdoor Spaces

Correlation bivariate analysis was performed to test the strength of the relationship between the two variables time spent by respondents and the available physical space outdoors. The descriptive statistics indicate the means and standard deviations for the 50 respondents in all four neighbourhoods and are shown in Table 4.23. The null hypothesis ( $H_0$ ) and alternate hypothesis ( $H_1$ ) tested were:

*H<sub>0</sub>: The time spent by residents at weekends in outdoor spaces in their neighbourhood is not dependent on the available physical open space*

*H<sub>1</sub>: The time spent by residents at weekends in outdoor spaces in their neighbourhood is dependent on the available physical open space*



**Table 4.23: Descriptive statistics**

Descriptive Statistics				
Type		Mean	Std. Deviation	Number of observations
Bur Dubai	Time spend on weekends	1.60	.904	50
	Available physical space	2.00	.756	50
Deira	Time spend on weekends	1.80	1.125	50
	Available physical space	1.94	1.077	50
International city	Time spend on weekends	1.90	.909	50
	Available physical space	1.94	.767	50
The Greens	Time spend on weekends	2.68	.935	50
	Available physical space	3.74	.803	50

\*\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 4.24: Correlation between time spent by residents outdoors and the available physical space outdoors in their neighbourhood**

Correlations				
Type			Time spend on weekends	Available physical space
Bur Dubai	Time spend on weekends	Pearson Correlation	1	-.030
		Sig. (2-tailed)		.837
		N	50	50
	Available physical space	Pearson Correlation	-.030	1
		Sig. (2-tailed)	.837	
		N	50	50
Deira	Time spend on weekends	Pearson Correlation	1	.175
		Sig. (2-tailed)		.224
		N	50	50
	Available physical space	Pearson Correlation	.175	1
		Sig. (2-tailed)	.224	
		N	50	50
International city	Time spend on weekends	Pearson Correlation	1	-.038
		Sig. (2-tailed)		.793
		N	50	50
	Available physical space	Pearson Correlation	-.038	1
		Sig. (2-tailed)	.793	
		N	50	50
The Greens	Time spend on weekends	Pearson Correlation	1	.349*
		Sig. (2-tailed)		.013
		N	50	50
	Available physical space	Pearson Correlation	.349*	1
		Sig. (2-tailed)	.013	
		N	50	50

\*. Correlation is significant at the 0.05 level (2-tailed).

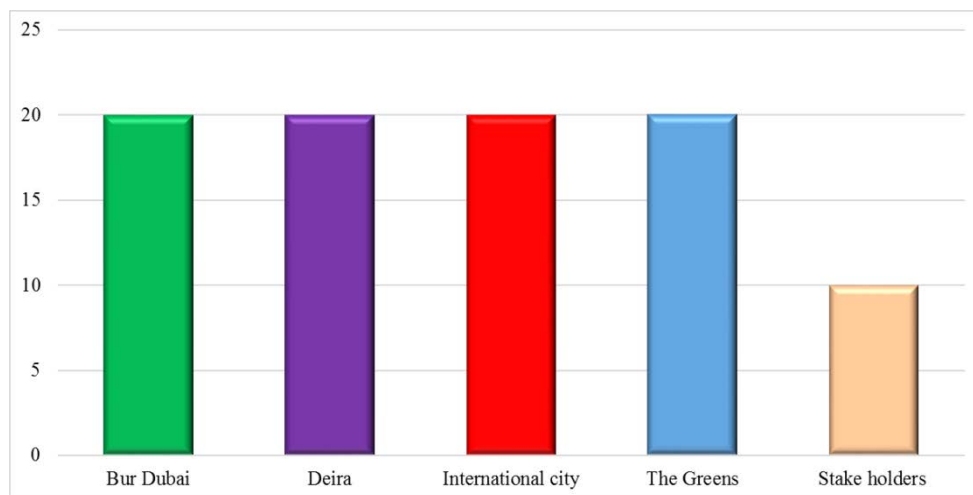
Based on the results for all four neighbourhood presented in Table 4.24, Pearson's correlation coefficient for the time spent by residents at weekends and the available physical space outdoors for Bur Dubai was 0.837, for Deira was 0.224, for International City was 0.793, and

for The Greens was 0.013, and the  $p$ -value for the two-tailed test of significance was less than 0.05 ( $p \leq 0.05$ ) for The Greens. Therefore the null hypothesis was rejected, and alternate hypothesis accepted that the time spent outdoors by residents depends on the available physical outdoor space. The role of the availability of common open spaces for residents to encounter is emphasised in this finding.

## 4.5 Research Findings: Qualitative Analysis

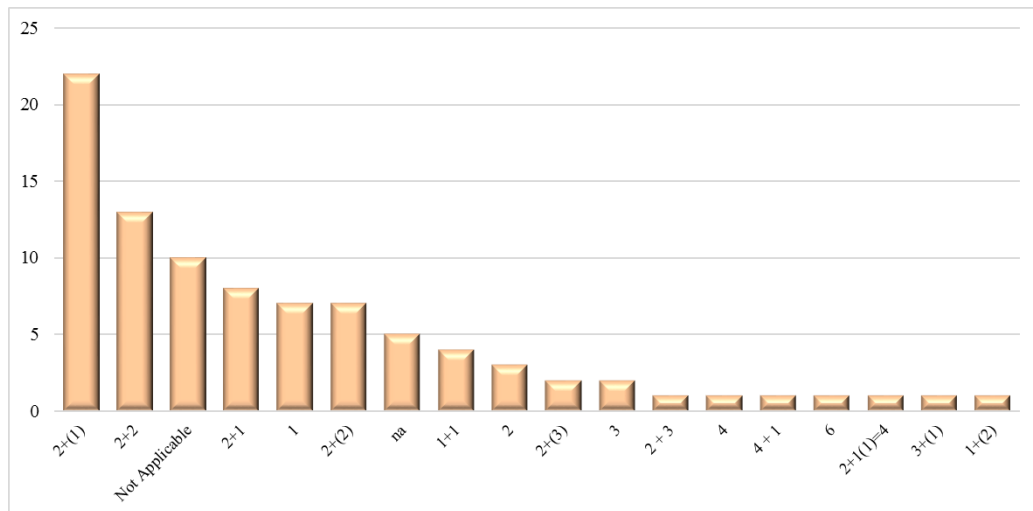
### 4.5.1 Demographic Profile

Figure 4.32 indicates the number of interviewees for the qualitative research, and semi-structured interviews were conducted with 20 respondents from each of the selected neighbourhoods of Bur Dubai, Deira, International City and The Greens. In addition, 10 stake holders were interviewed, including urban planners, architects, developers and real estate agents.



**Figure 4.32: Number of interviewees for selected neighbourhood and stake holders**

Figure 4.33 shows the family composition of the respondents, which included adults and children. Most of the respondents resided in the neighbourhood with children who were below 15 years of age

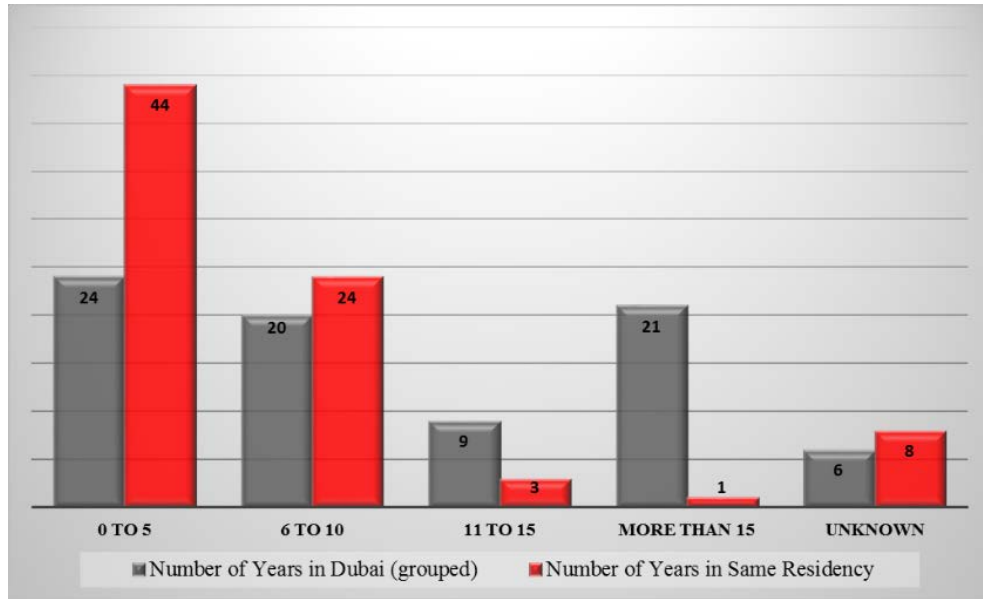


**Figure 4.33: Family composition of the interviewed residents**

Note: 2 +(1), Adult + (Child below 15 years ) / Child above 15 years of Age

#### **4.5.2 Subordinate Themes and Respondents based on Number of Years of Residency in Dubai**

Figure 4.34 indicates the respondents' profiles based on the number of years of residency, and this information includes the number of years they have resided in Dubai and how long they have lived in the neighbourhood in which they were interviewed. This information is broken into groups of years for easier presentation, for example, column 1 (0-5 years) bar 1 – shows that 24 out of the 80 residents have been in Dubai for 0-5 years, while column 1 – bar 2 shows that 44 out of the 80 residents have lived in the same neighbourhood in which they were interviewed for 0-5 years. This figure is designed to provide general profiles of the study participants in order to set the context. Most respondents who have resided in Dubai for 6-10 years have lived in the same neighbourhood.



**Figure 4.34: Number of years of residency of respondent, in Dubai and within the same neighbourhood**

Column 1 of Table 4.25 shows the issues of concern to respondents as recorded in the interviews and coded as superordinate themes (Smith, 2008). This is one of several tables that were constructed to consider the degree (if any) to which participant demographics bore a relationship with the superordinate themes. Tangibles, such as demographics and profiling information of study respondents, may influence intangibles, such as attitudes, beliefs or behaviours, coded for from the in-depth participant interviews. For example, respondents with younger children may be more concerned about green spaces, while those without children may be more concerned with the proximity of a neighbourhood to their workplace. These analyses were conducted to identify the nature of such relationships or the degree to which they exist, if at all. The numbers in the columns represent participant citations, that is, the number of references participants made to each superordinate theme, as shown in columns 1 to 5 of Table 4.25. Columns 2 to 5 show the distribution of the data by the number of years participants have lived in Dubai grouped by years. This was to test if the superordinate themes were uniform across this demographic profile of residents or if for example, some issues were of more concern to residents newer to Dubai. Thus, rows 1 and 2 show that ‘Choice of Neighbourhood’ (row 1) and ‘Reasons to select to reside in neighbourhood’ (row 2) were uniformly distributed across years living in Dubai while row 3, ‘Accessibility of the locality’ was cited proportionately more by respondents newer to Dubai (0-5 years in residency).

**Table 4.25: Subordinate themes and respondents based on number of years of residency in Dubai**

Superordinate Themes	0 to 5	6 to 10	11 to 15	More than 15	Unknown
<b>1 : Choice of Neighborhood</b>	28	20	11	21	6
2 : Accessibility of the locality	16	3	6	4	1
3 : Affordability factor	5	3	2	5	1
4 : Amenities availability	12	7	2	4	1
5 : Community belonging	5	8	2	5	2
6 : Cultural reasons	10	1	2	11	1
7 : Multicultural aspects of neighbourhood	2	0	0	0	3
8 : Overall design of community of neighbourhood	5	4	2	2	1
9 : Proximity to childrens school	5	5	2	0	1
10 : Proximity to family and friends	2	5	0	3	0
11 : Proximity to place of worship	0	1	0	0	0
12 : Proximity to workplace	15	11	3	11	3
13 : Safety and security	5	5	2	1	0
<b>14 : Design &amp; Layout of Neighborhood</b>	<b>61</b>	<b>59</b>	<b>25</b>	<b>63</b>	<b>18</b>
15 : Availability of Children Play Areas	21	17	4	12	8
16 : Inadequate Children Play Areas	18	13	3	8	7
17 : Sufficient Children Play Areas	3	5	1	4	1
18 : Inadequate common indoor spaces to meet and interact	11	7	4	4	3
19 : Availability of Common Outdoor Spaces	17	12	5	21	6
20 : Inadequate common open spaces to meet and interact	10	4	3	16	3
21 : Sufficient Common spaces to meet and interact	7	8	2	5	3
22 : Overall experience of planning, light & ventilation	24	20	9	21	6
23 : Not satisfied with planning of the unit	5	5	4	8	1
24 : Satisfied with planning of the unit	29	25	13	24	6
25 : Suggestions for Parking Areas	4	7	4	12	0
26 : Inadequate parks in neighborhood	4	7	2	14	2
27 : Sufficient parks in the neighborhood	4	8	1	3	2
<b>28 : Social cohesiveness</b>	<b>85</b>	<b>65</b>	<b>33</b>	<b>67</b>	<b>24</b>
29 : Social cohesiveness is essential	27	20	10	23	6
30 : Social cohesiveness: concept of secured community living	11	10	4	7	2
31 : Social cohesiveness: socio-cultural exchanges between expats	13	16	9	18	6
32 : Social cohesiveness: good mental and physical health	7	9	2	4	3
33 : Social cohesiveness is not essential	0	0	0	0	0
<b>34 : Suggestions for Design and Layout of neighborhood</b>	<b>35</b>	<b>26</b>	<b>17</b>	<b>23</b>	<b>10</b>
35 : Suggestions for Children play areas	9	4	3	7	5
36 : Suggestions for spaces for people to meet and interact	28	19	10	18	10
37 : Suggestions for Indoor common spaces	11	7	4	4	3
38 : Suggestions for Outdoor common spaces	23	13	7	17	7
39 : Suggestions for Parks	13	10	2	12	3
40 : Suggestions for Planning adequate parking spaces	5	1	1	3	1
41 : Roads infrastructure to solve traffic issues	1	1	0	5	0
42 : Suggestons for Safe and secured community design	0	0	0	0	0
43 : Suggestions for Street furniture	1	1	0	1	1
44 : Suggestions for Walkways,cycling paths for pedestrians	5	6	4	2	2
45 : Suggestions for Participatory approach	0	0	0	0	0
<b>46 : Socio-cultural factors amongst residents</b>	<b>33</b>	<b>26</b>	<b>11</b>	<b>24</b>	<b>9</b>
47 : Attitudes of residents towards social cohesiveness	1	4	3	3	0
48 : Sense of community belonging	2	1	1	1	1
49 : Frequency of socio-cultural activities	13	5	1	9	1
50 : Involvement and engagement in community	3	0	0	3	3
51 : Opportunities for social interactions	16	8	6	7	3
52 : Social ties in the community	0	2	1	3	2
53 : Willingness to meet and interact	16	10	2	4	3

### Choice of Neighbourhood

The greater the number of responses, the greater the concern shown by respondents to the superordinate themes identified. As indicated in Table 4.25, respondents residing from 0 to 5 years considered the accessibility of the locality, proximity to their workplace, amenities and cultural reasons, as the most important primary factor in their choice of neighbourhood in Dubai. While those respondents who had resided in Dubai for more than 15 years also considered proximity to the workplace and cultural factors when deciding their choice of neighbourhood.

#### *Design and Layout of Neighbourhood*

The superordinate theme of design and layout of the neighbourhood indicates had a high number of responses from those who had resided in Dubai less than five years. Children's play areas were a concern, together with the availability of common spaces to meet and interact, and inadequate children's play areas and parks were discussed during the in-depth interviews. The residents considered these to be important in the design and layout of a neighbourhood. Those who had resided in Dubai for 6 to 10 years also noted the inadequate children's play areas in their neighbourhoods.

#### *Social cohesiveness amongst residents*

The respondents considered social cohesiveness as an essential factor in community living. Those who had resided for 0 to 5 years and 11 to 15 years considered social cohesiveness to be important for cultural exchange between expatriates. All the respondents considered social cohesiveness within a neighbourhood to be essential.

#### *Suggestions for the design and layout of a neighbourhood*

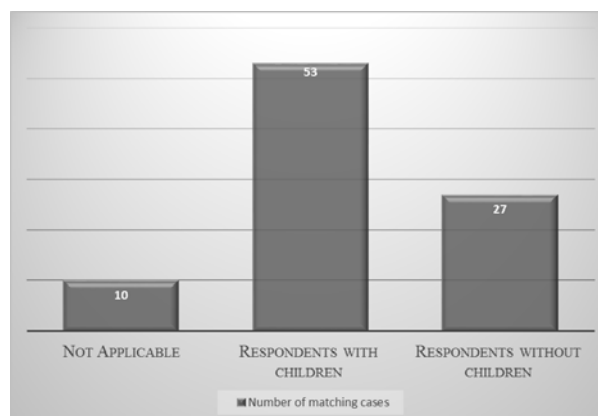
The superordinate theme for the design and layout of a neighbourhood indicates a high number of responses. Social cohesiveness amongst the residents was more of a concern for respondents who were new to Dubai or have lived there less than five years. They also showed a greater willingness to interact, and regarded the concept of social cohesiveness as essential for community living.

#### *Socio-cultural factors amongst residents*

The respondents considered opportunities for social interaction as an important socio-cultural factor, with the highest number of responses from residents of less than five years.

### 4.5.3 Superordinate Themes and Families with Children/ without Children

Some demographics were disproportionately distributed across the study population. For example, the ratio of people with/without children was 2/1 in favour of people with children. Therefore, when testing this demographic against the superordinate themes, this factor needed to be considered. Table 4.26 Column 1 shows the superordinate themes, while columns 2 and 3 show the response distribution for residents with and without children. Column 4 applies a simple formula to show proportionality by discounting the distribution by a factor of 2/1 to show where people with or without children were under or over represented within a theme. Figure 4.35 illustrates the overall number of matching cases (respondents with children, without children). By dividing the number of references to people without children into the number of references for those who have children, numbers exceeding 2 in a column were weighted in favour of those with children and numbers lower than two were weighted in favour of those with no children. The greater the number of 2 or the lower the number under 2 shows the degree of weighting or the disproportionate representation of either group. A colour coding rule was applied for ease of presentation; pink cells represent a proportionately higher representation of people with children, while yellow cells represent a proportionately lower representation of residents without children. For example, row 5, 'Amenities' shows a proportionate weighting score of 3.40 in favour of those with children, meaning that this issue was more of a concern to residents with children, even when compared to the study population. In contrast, row 4, 'Affordability', shows a score of 1.29, meaning this issue was more of a concern to people with no children.



**Figure 4.35: Number of matching cases for respondents with and without children**

**Table 4.26: Superordinate themes and families with children/without children**

(Ratio = 4/1 family) for proportional representation

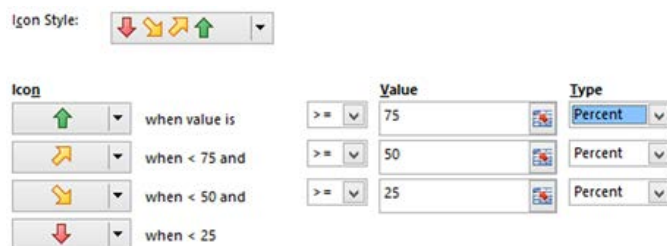
Superordinate Themes	A: Case Profiles:Children=Yes	B: Case Profiles:Children=No	Proportional Representation
<b>1 : Choice of Neighborhood</b>	58	28	2.07
2 : Accessibility of the locality	23	7	3.29
3 : Affordability factor	9	7	1.29
4 : Amenities availability	19	7	2.71
5 : Community belonging	17	5	3.40
6 : Cultural reasons	22	3	7.33
7 : Multicultural aspects of neighbourhood	3	2	1.50
8 : Overall design of community of neighbourhood	10	4	2.50
9 : Proximity to childrens school	10	3	3.33
10 : Proximity to family and friends	5	5	1.00
11 : Proximity to place of worship	1	0	0.00
12 : Proximity to workplace	25	18	1.39
13 : Safety and security	11	2	5.50
<b>14 : Design &amp; Layout of Neighborhood</b>	153	73	2.10
15 : Availability of Children Play Areas	42	20	2.10
16 : Inadequate Children Play Areas	35	14	2.50
17 : Sufficient Children Play Areas	8	6	1.33
18 : Inadequate common indoor spaces to meet and interact	18	11	1.64
19 : Availability of Common Outdoor Spaces	42	19	2.21
20 : Inadequate common open spaces to meet and interact	26	10	2.60
21 : Sufficient Common spaces to meet and interact	16	9	1.78
22 : Overall experience of planning, light & ventilation	53	27	1.96
23 : Not satisfied with planning of the unit	18	5	3.60
24 : Satisfied with planning of the unit	66	31	2.13
25 : Suggestions for Parking Areas	19	8	2.38
26 : Inadequate parks in neighborhood	22	7	3.14
27 : Sufficient parks in the neighborhood	12	6	2.00
<b>28 : Social cohesiveness</b>	172	102	1.69
29 : Social cohesiveness is essential	55	31	1.77
30 : Social cohesiveness: concept of secured community living	22	12	1.83
31 : Social cohesiveness: socio-cultural exchanges between expats	44	18	2.44
32 : Social cohesiveness: good mental and physical health	15	10	1.50
33 : Social cohesiveness is not essential	0	0	0.00
<b>34 : Importance of Design and Layout of neighborhood</b>	67	44	1.52
35 : Suggestions for Children play areas	23	5	4.60
36 : Suggestions for spaces for people to meet and interact	56	29	1.93
37 : Suggestions for Indoor common spaces	18	11	1.64
38 : Suggestions for Outdoor common spaces	44	23	1.91
39 : Suggestions for Parks	27	13	2.08
40 : Suggestions for Planning adequate parking spaces	7	4	1.75
41 : Roads infrastructure to solve traffic issues	5	2	2.50
42 : Suggestions for Safe and secured community design	0	0	0.00
43 : Suggestions for Street furniture	3	1	3.00
44 : Suggestions for Walkways,cycling paths for pedestrians	12	7	1.71
45 : Suggestions for Participatory approach	0	0	0.00
<b>46 : Socio-cultural factors amongst residents</b>	65	38	1.71
47 : Attitudes of residents towards social cohesiveness	9	2	4.50
48 : Sense of community belonging	4	2	2.00
49 : Frequency of socio-cultural activities	17	12	1.42
50 : Involvement and engagement in community	6	3	2.00
51 : Opportunities for social interactions	22	18	1.22
52 : Social ties in the community	5	3	1.67
53 : Willingness to meet and interact	14	8	1.75



#### 4.5.4 Qualitative Analysis

The qualitative analysis includes the lived experiences of the respondents in order to understand the reasons they chose their neighbourhood to reside in, the extent of social interactions with neighbours in their community, socio-cultural factors, the relevance of social cohesiveness in their neighbourhood, non-physical factors for social inclusion in their neighbourhood, their suggestions for physical factors for community living, and a sense of inclusion in their community.

The tables displayed in the analysis below include icons to show the relative popularity ranking of the coded content. These icons are not statistically significant and are meant as a general guide to the popularity of responses coded to a given named code relative to other codes within the same group. A green arrow pointing directly up signifies the frequency of coding is in the top 75% within the group of codes in the table, yellow arrows pointing right at 45 degrees up or down indicate 50% to 75% and 25% to 50%, respectively, and a red arrow pointing directly down indicates lower than 25%, as shown now in Figure 4.36.



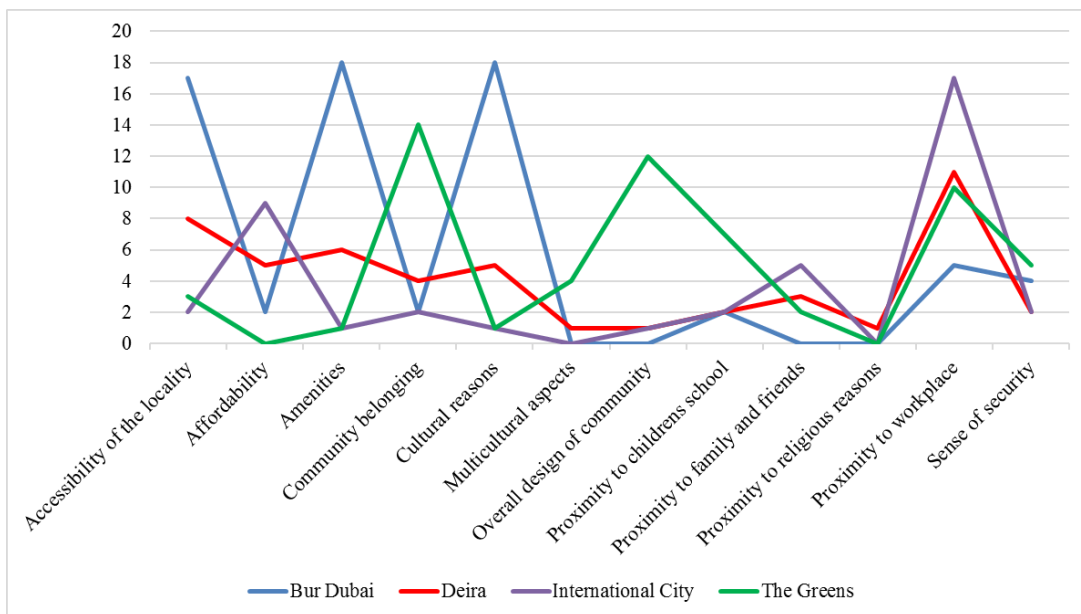
**Figure 4.36: Icon reference labels**

#### 4.5.5 Choice of Neighbourhood

Table 4.27 and Figure 4.37 illustrate that Bur Dubai respondents chose the accessibility of the locality as a factor in their choice of neighbourhood, while for respondents from Deira and International City proximity to their workplace was the main factor. International City is an affordable neighbourhood, and hence affordability was the second most important reason for the respondents, while respondents from The Greens chose community belonging aspects in their decision on choice of neighbourhood. Through the observation study it can be seen that The Greens has various aspects of community living in its planning of the neighbourhood. The respondents shared their views on The Greens, noting that they wanted a gated community so that their children could share and exchange thoughts and ideas with their neighbours and a family oriented community in which to socialise.

**Table 4.27: Choice of neighbourhood selection by respondents**

Choice of Neighbourhood	Bur Dubai	Deira	International City	The Greens
Accessibility of the locality	17	8	2	3
Affordability	2	5	9	0
Amenities	18	6	1	1
Community belonging	2	4	2	14
Cultural reasons	18	5	1	1
Multicultural aspects	0	1	0	4
Overall design of community	0	1	1	12
Proximity to childrens school	2	2	2	7
Proximity to family and friends	0	3	5	2
Proximity to religious reasons	0	1	0	0
Proximity to workplace	5	11	17	10
Sense of security	4	2	2	5



**Figure 4.37: Choice of neighbourhood selection by respondents**

Interviewee No.9, from Bur Dubai:

*This neighbourhood makes you feel closer to home which is India. It has the best spread of culture around and ofcourse despite the fact that we have more Indians being here the quality of life is kept absolutely at par. More importantly since im a mother of a three and half year old it gives me a sense of security with having a fantastic neighbourhood.*

Interviewee No.19, from Bur Dubai:

*The office gave me three options, but I chose this one due to its closeness to the metro facility, low rent also my son travels by metro to go to school, and I use the same for work. The availability of basic requirements like supermarkets and parks*

*and clinics are very close... also travelling period for my son to school is very less as it is accessed by the metro close to us.*

































Interviewee No.02, from The Greens:

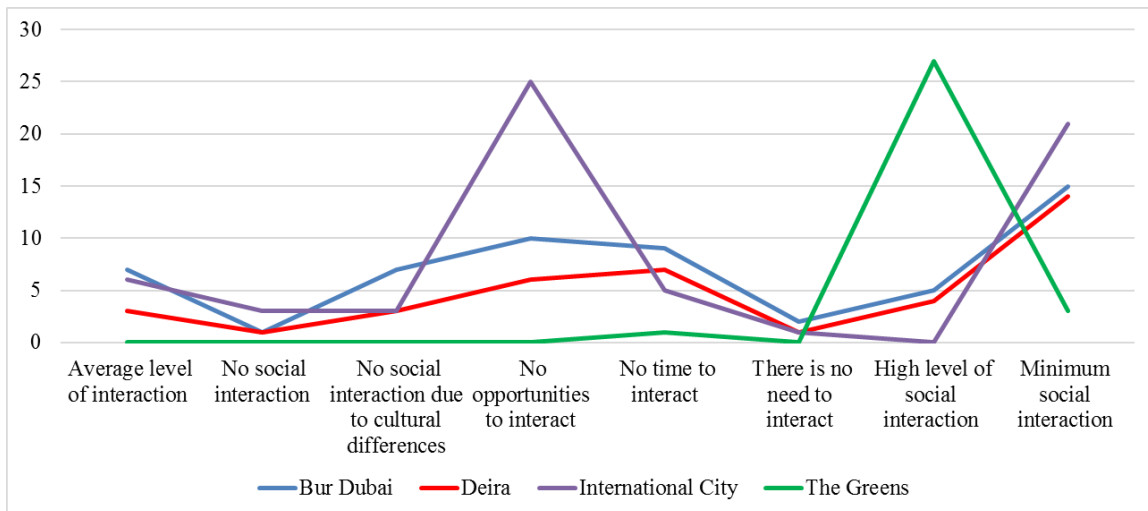
*It has very child friendly community. It has options for everyone. It has proximity to nearest schools, offices and it is catering to all the requirements we look for a family. As in people from different communities are there. Parks are there and you have places to mingle with other families. So that way it's a very good community. As I said we have nationalities and cultures here, we have Indians, Pakistanis, people from Europe and all. And we have platforms also to meet and mingle with each other. And the Emaar group organise ample activities so the people turn out and meet each other so that way it quite culturally balanced with all the nationalities and people around.*

#### 4.5.6 Level of Social Interactions

Table 4.28 and Figure 4.38 illustrate that residents from The Greens indicated a high level of interaction, while International City respondents had minimum social interactions. The respondents from International city noted that that they did not have opportunities for social interactions, with most saying that they had no time to interact due to their busy routines. The respondents discussed the extent of social interactions with their neighbours, with some stating that they had no social interactions in their neighbourhood despite residing there for a number of years. A lack of opportunities was also one of the reasons why they did not interact with each other.

**Table 4.28: Level of social interactions**

Social Interactions	Bur Dubai	Deira	International City	The Greens
Average level of interaction	 7	 3	 6	 0
No social interaction	 1	 1	 3	 0
No social interaction due to cultural differences	 7	 3	 3	 0
No opportunities to interact	 10	 6	 25	 0
No time to interact	 9	 7	 5	 1
There is no need to interact	 2	 1	 1	 0
High level of social interaction	 5	 4	 0	 27
Minimum social interaction	 15	 14	 21	 3



**Figure 4.38: Level of social interactions**

Interviewee 12, International City:

*Only people who know each other as friends earlier interact, unlike back home where people interact with neighbours. There is a lack of community living, and I miss the same. I hardly interact with neighbours.*

Interviewee No.4, The Greens:

*By Friday in the community, there is barbeque happening. The community space gives a great chance to interact...People are moving around...A lot of communication...People have pets, and they become a source of communication...And it's quite friendly here...all are family oriented. Everyone is professional people, and everyone is at peace even if they belong to a different nationality. And more than my neighbours I get a chance to interact people from different wings in the community area created for us the swimming pool is in the open to that also adds one's just been months I have been around going to take a little time for me know more people, but in this short span, it's great.*

Interviewee No.6, Bur Dubai:

*Especially in this area and particularly in Dubai interaction with neighbours are very limited. Everybody is having a scarcity of time, and again there are cultural differences, so basically mixing up is not happening so often. So that is a thing which is lacking at the moment.*

*We know our neighbours because we are staying here for than a decade almost so we know the neighbours but interaction is very rare. Usually we don't go due to cultural differences we don't go to each other's places, but whenever we meet outside yes we know each other very well. Plus, in case of need, they come to us, or we go to them, but it's not a family kind of interaction which you will normally have with relatives and friends*

Interviewee No.15, Deira:

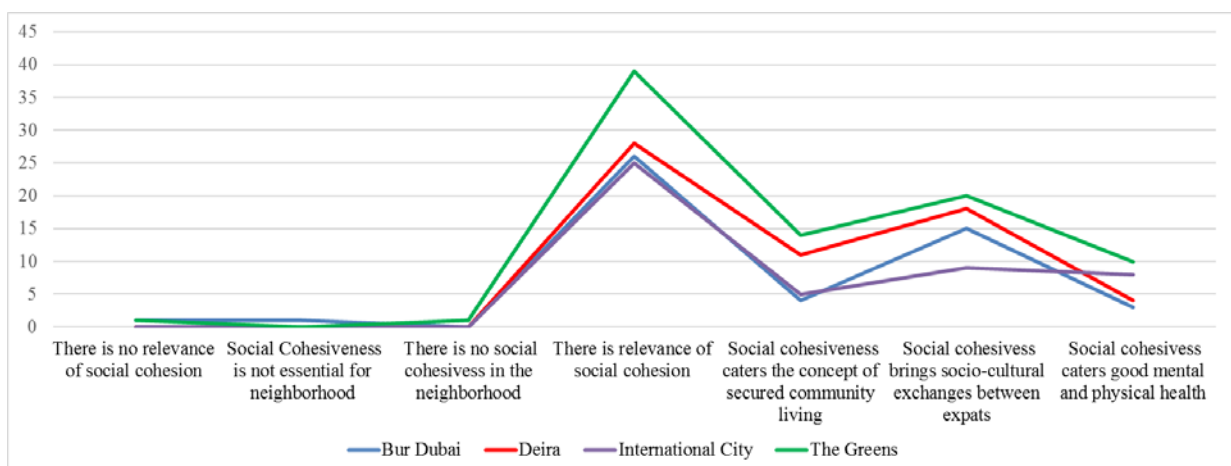
*The interaction is quite less. normal neighbourhood there's not much interaction.. only if we know someone personally we meet.. there were couple of parks nearby that time we could meet, but now it's like socialising is minimum.... it's not that people don't want to meet it's that lack of space...everyone is also busy with their schedules and are quite occupied.*

#### 4.5.7 Relevancy of Social Cohesion

Table 4.29 and Figure 4.39 illustrate that respondents from The Greens considered social cohesiveness as very important and related it to aspects of community living. While respondents from Deira, Bur Dubai and The Greens noted that social cohesiveness encourages socio-cultural exchange between expats. Most of the respondents considered social cohesiveness to be very important and essential for a neighbourhood. The respondents in The Greens attributed social cohesiveness to good mental and physical health.

**Table 4.29: Relevancy of social cohesion**

Relevancy of Social Cohesion in neighbourhood	Bur Dubai	Deira	International City	The Greens
There is no relevance of social cohesion	↓ 1	↓ 0	↓ 0	↓ 1
Social Cohesiveness is not essential for neighborhood	↓ 1	↓ 0	↓ 0	↓ 0
There is no social cohesiveness in the neighborhood	↓ 0	↓ 0	↓ 0	↓ 1
There is relevance of social cohesion	→ 26	↑ 28	→ 25	↑ 39
Social cohesiveness caters the concept of secured community living	↓ 4	↓ 11	↓ 5	→ 14
Social cohesiveness brings socio-cultural exchanges between expats	→ 15	→ 18	→ 9	→ 20
Social cohesiveness caters good mental and physical health	↓ 3	↓ 4	↓ 8	↓ 10



**Figure 4.39: Relevancy of social cohesion**

Interviewee No.13, International city:

*Yes, I do feel it is very important because even if we really don't get a lot of time to mingle, we do make an effort to plan out events with games and other activities during festivals which help develop the family members and also helps in making more friends.*

Interviewee No.15, Bur Dubai:





























*Yes, a community living is very important, and I think I have brought up my daughter in a way where she can mingle with anyone from any community ...and yes the overall well-being of the family really matters when it comes to social cohesiveness.*

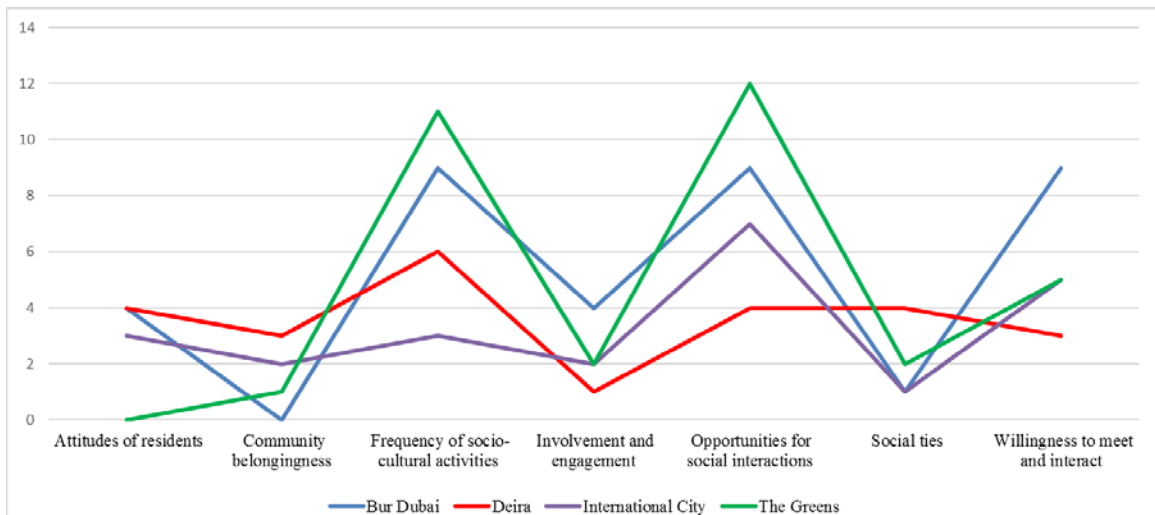
#### 4.5.8 Socio-Cultural Factors for Social Inclusion

According to Spicker (2014), social inclusion is the beginning of the process towards social cohesion, and depends on social bonds, relationships that define the pattern of social interaction, which continue and last. Social and cultural life factors contribute to the experiences of residents, attitudes towards quality of life, perceptions of safety, feelings of belonging, and interactions with neighbours (Dixon and Woodcraft, 2013).

Table 4.30 and Figure 4.40 illustrate the contributing socio-cultural factors noted by respondents and the impact on social inclusion in a neighbourhood. The respondents of Bur Dubai had more willingness to meet and interact, and considered opportunities for social interactions as important for social inclusion. The respondents of International City noted that a lack of opportunities for social interactions was one of the reasons for not feeling socially included. The frequency of socio-cultural activities was considered as one of the main socio-cultural contributing factors towards social inclusion.

**Table 4.30: Contributing socio-cultural factors for social inclusion**

Socio-cultural factors	Bur Dubai	Deira	International City	The Greens
Attitudes of residents	 4	 4	 3	 0
Community belongingness	 0	 3	 2	 1
Frequency of socio-cultural activities	 9	 6	 3	 11
Involvement and engagement	 4	 1	 2	 2
Opportunities for social interactions	 9	 4	 7	 12
Social ties	 1	 4	 1	 2
Willingness to meet and interact	 9	 3	 5	 5



**Figure 4.40: Contributing socio-cultural factors for social inclusion**

Interviewee No.8, Bur Dubai:

*Basically there are no community organised activities over here as in if you go to see its an Indian community or a Gujarati community organising Diwali festival and all ya that interaction is there if they are Maharashtrian and they have their gudi padwa so that is there according to the Indian cultures they have their group, and they have their social network so over there they might be communicating but overall communication removing the barriers of the cast creed and all that... that is not prevalent over here.*

Interviewee No.15, Bur Dubai:

*No, I don't feel connected to the community...one reason being it's just been five years since I have moved in and the people around here have been here from almost 10 -15 years so they all have their small groups and It is difficult for them to accept someone new... but everybody is very helpful here, and the kids have their own gatherings... as an adult, I find it difficult to gel...I do have my friend circle but it's outside the community.*

Interviewee No.16, International City:

*Opportunities for social interactions if the community can cater can contribute to social and cultural exchanges; people can feel more involved and engaged. There are some nationalities which are less in number like us and hence important for us to get socially included in the community.*

Some of the above quotes from the respondents suggest that expatriates residing in Dubai form social groups, and if opportunities are provided then residents from various multicultural groups can come together and interact. The frequency of socio-cultural activities could enhance social inclusion as residents would meet and interact.

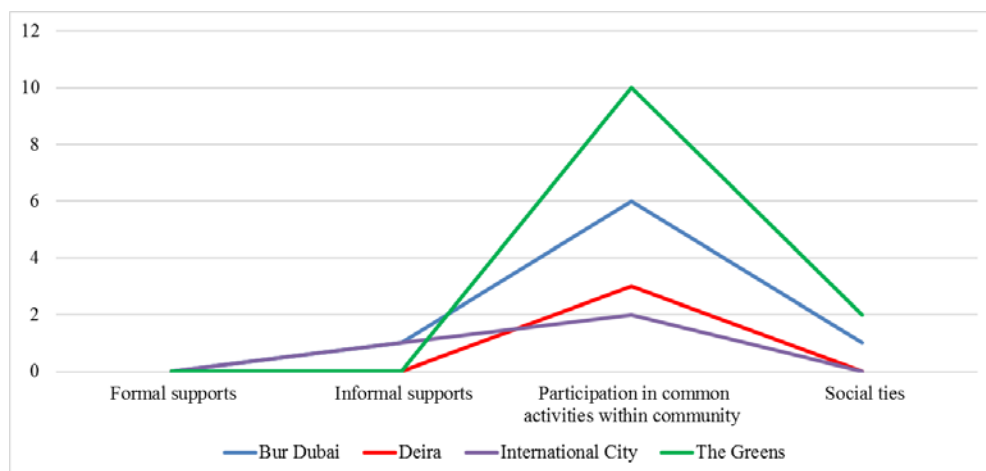
#### 4.5.9 Non-Physical Factors for Social Inclusion

Dempsey et al. (2011) consider non-physical and physical factors for urban social sustainability, as explained in Chapter 2. The concepts of social networks in a community, participation, and social interactions are the most important non-physical factors.

Table 4.31 and Figure 4.41 indicate that all the respondents considered participation in common activities within their community as a non-physical factor responsible for social inclusion in a community. While the other factors of formal support, informal support, and social ties, were not considered as important by the respondents.

**Table 4.31: Non-physical factors for social inclusion in a neighbourhood**

Non Physical Factors for social inclusion in neighbourhood	Bur Dubai	Deira	International City	The Greens
Formal supports	↓ 0	↓ 0	↓ 0	↓ 0
Informal supports	↓ 1	↓ 0	↓ 1	↓ 0
Participation in common activities within community	→ 6	↓ 3	↓ 2	↑ 10
Social ties	↓ 1	↓ 0	↓ 0	↓ 2



**Figure 4.41: Non-physical factors for social inclusion in a neighbourhood**

#### 4.5.10 Suggestions for Physical Factors for Community Living

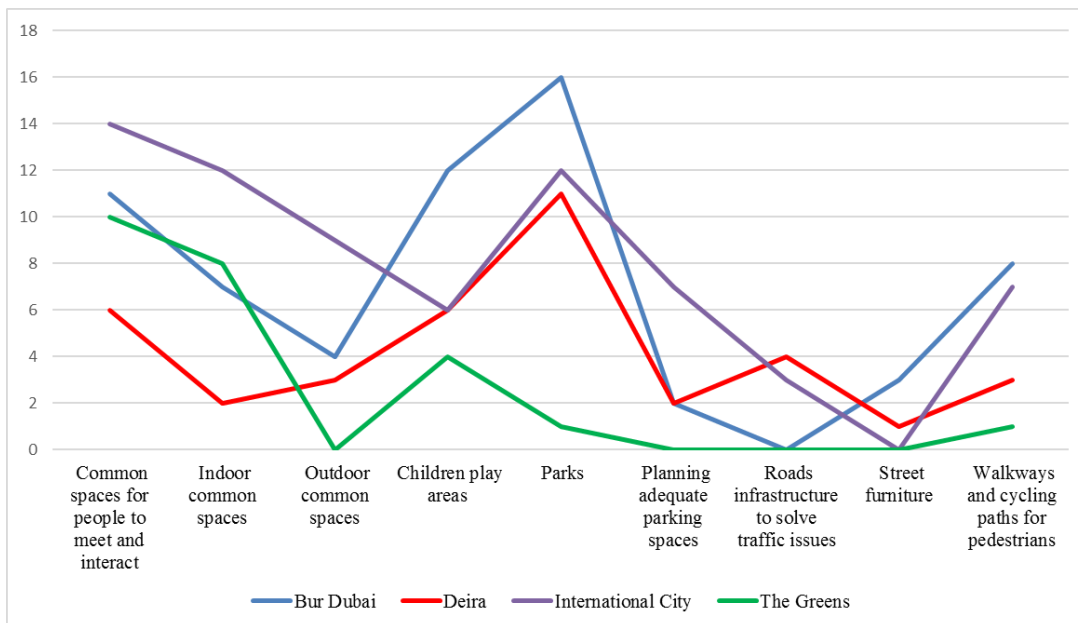
Williams (2010) concludes that the urban design approach of a neighbourhood encourages social interactions, and various other variables, such as formal social, informal social or personal factors, are enhanced by the outcome of the design. Table 4.32 and Figure 4.42 indicate that all the respondents suggested that spaces for people to meet and interact is the most important physical factor for community living within a neighbourhood. Most of the



respondents, other than those from The Greens, suggested both indoor and outdoor common spaces for sociability. Respondents from Bur Dubai and Deira suggested walkways and pedestrian pathways for better community living

**Table 4.32: Suggestions for physical factors for community living**

Suggestions for Physical factors	Bur Dubai	Deira	International City	The Greens
Common spaces for people to meet and interact	↑ 11	→ 6	↑ 14	→ 10
Indoor common spaces	→ 7	↓ 2	↑ 12	→ 8
Outdoor common spaces	↓ 4	↓ 3	→ 9	↓ 0
Children play areas	↑ 12	→ 6	→ 6	↓ 4
Parks	↑ 16	↑ 11	↑ 12	↓ 1
Planning adequate parking spaces	↓ 2	↓ 2	→ 7	↓ 0
Roads infrastructure to solve traffic issues	↓ 0	↓ 4	↓ 3	↓ 0
Street furniture	↓ 3	↓ 1	↓ 0	↓ 0
Walkways and cycling paths for pedestrians	→ 8	↓ 3	→ 7	↓ 1



**Figure 4.42: Physical factors for community living**

Interviewee No.16, The Greens:

*Yes, there is so much of greenery around here, we don't even need to drive to parks, and everything is so easily available. It's a well-developed place and all the open spaces promote social interaction.*

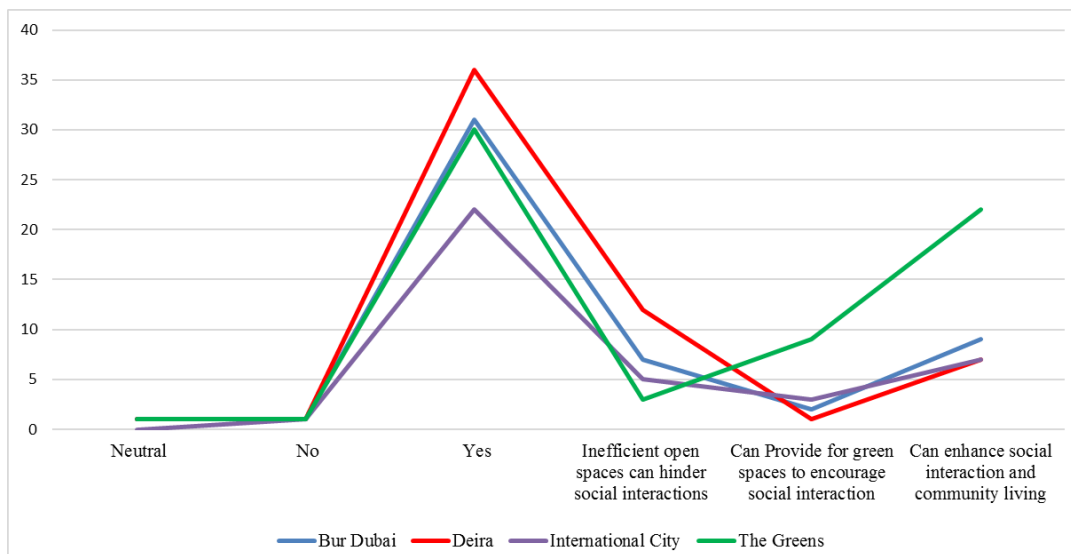
#### 4.5.11 Impact of Layout and Design of a Neighbourhood on Social Interactions

Table 4.33 and Figure 4.43 illustrate what the respondents experienced as an impact of the layout and design of their neighbourhood. The respondents considered that efficient planning

can provide spaces for social interactions, while inefficient planning can hinder social networks and interactions. Therefore the role of neighbourhood planning in motivating residents to meet and interact is important.

**Table 4.33: Impact of layout and design of a neighbourhood on social interactions**

Impact of Layout and design of neighbourhood on social interactions	Bur Dubai	Deira	International City	The Greens
Neutral	1	1	0	1
No	1	1	1	1
Yes	31	36	22	30
Inefficient open spaces can hinder social interactions	7	12	5	3
Can Provide for green spaces to encourage social interaction	2	1	3	9
Can enhance social interaction and community living	9	7	7	22

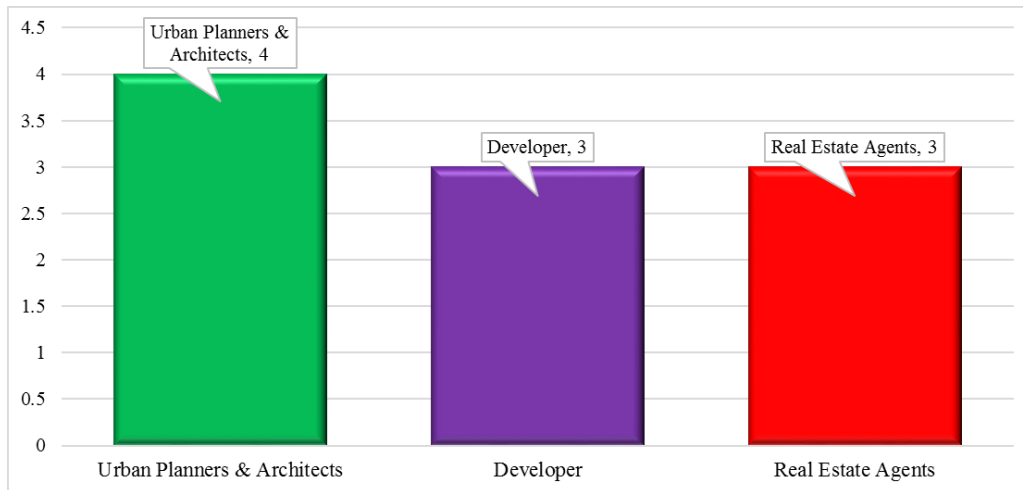


**Figure 4.43: Impact of layout and design of a neighbourhood on social interactions**

#### 4.5.12 Key Stakeholders

The key stakeholders included urban planners and architects, developers, and real estate agents who have first-hand knowledge about the neighbourhoods and were involved in the development process. Andersen and Nielsen (2009) define the stakeholder concept as an approach to understanding an organisation in its environment in order to achieve a broader perception of the roles and responsibilities beyond profit maximisation. Stakeholders are involved in decision making, planning and action, and these community experts, with their knowledge and understanding, can provide insight into the nature of problems and provide recommendations for solutions. In the context of Dubai, since most expatriate housing and residential projects are undertaken by private developers, their role as a key stakeholder in developing projects is very important, as they own the land as private land owners and are decision makers in the project development process. Since rental housing, as discussed by

Pacione (2005), is popular among expats, the role of real estate managers as one of the key stake holders is crucial. This study also considered urban planners, designers and architects as key stakeholders, as they conceptualise developments and bring projects to reality



**Figure 4.44: Profile of the key stakeholders**

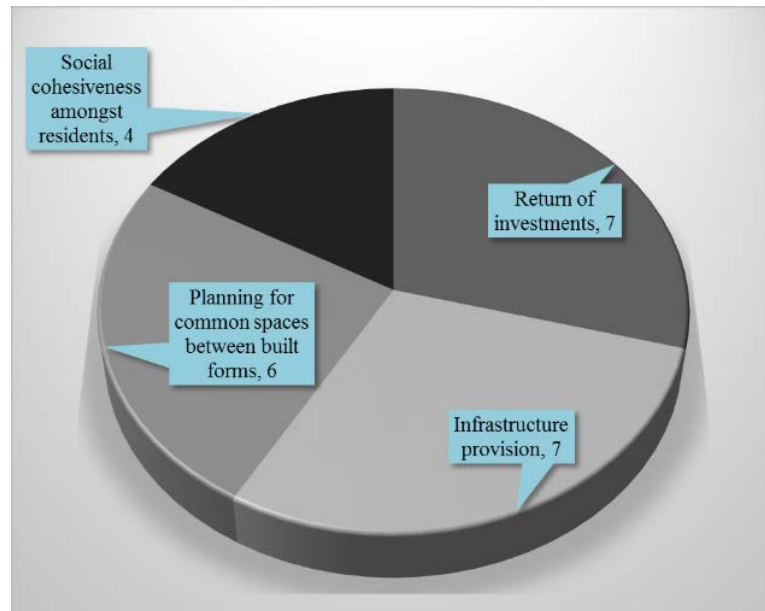
In this study semi-structured interviews were conducted with a total of ten key stakeholders who gave their insights on the concept of Dubai as a socially cohesive city and what factors they considered important for the development of a neighbourhood, as illustrated in Table 4.34.

**Table 4.34: Responses coded from the key stakeholders**

Key stakeholders	10	66
	No.	Responses
<b>Is Dubai Socially Cohesive City</b>	<b>10</b>	<b>22</b>
No	7	12
Somewhat	6	6
Yes	3	4
<b>Factors considered for development of neighborhood</b>	<b>9</b>	<b>36</b>
Return of investments	7	15
Infrastructure provision	7	9
Planning for common spaces between built forms	6	8
Social cohesiveness amongst residents	4	4

Many of the key stakeholders were not aware of the Dubai Plan 2021, and did not consider Dubai to be a socially cohesive society. The factors which they considered for the development

of a neighbourhood were primarily the return on investments, with other factors for the provision of infrastructure following later. The planning of common spaces between built forms and social cohesiveness amongst residents were not considered as being as important as the return on investments. Figure 4.45 illustrates the responses in a diagrammatic way.



**Figure 4.45:** Responses from key stakeholders on factors for developing a neighbourhood

## 4.6 Reliability and Validity of the Conceptual Model

Reliability and validity are two important characteristics of any procedure, and according to Gaur and Gaur (2009), reliability is the confidence which can be placed on a measuring instrument to provide the same numerical value when a measurement is repeated, while validity refers to a measuring instrument measuring the property it is supposed to measure. The reliability of an instrument does not guarantee its validity, and in quantitative analysis Cronbach's alpha is the most common measure of internal consistency or reliability. Since the data involves Likert rated response, reliability statistics were calculated to determine if the scale is reliable. Table 4.35 presents the results of the reliability tests performed, where the Cronbach Alpha value was greater  $\geq 0.7$ , hence the test was reliable.

**Table 4.35: Reliability statistics**

<i>Cronbach's Alpha</i>	<i>No. of Items</i>
0.936	105

*Case Processing Summary*

		N	%
Cases	Valid	189	94.5
	Excluded	11	5.5
	Total	200	100.0

a. List wise deletion based on all variables in the procedure.

In computer aided qualitative data analysis systems (CAQDAS), an ‘audit trail’ is generated by providing evidence in the form of a codebook, definition and design contexts, and deployment contexts. The three important aspects of validity are predictive validity, content validity, and construct validity. In predictive validity a measurement should be able to predict other measures of the same thin, while content validity refers to the extent to which a measurement reflects the specific intended domain of content. Construct validity is the most commonly used technique in social sciences.

#### **4.7 Research Findings**

The quantitative and qualitative method results have been synthesised to identify and examine the differences. The interpretation of the results has been summarised in order to converge, diverge, and relate the results for the conclusion. While the quantitative results discuss the extent of the level of social interactions, social cohesion indicators, socio-cultural factors, and time spent by residents in the neighbourhood, the qualitative results highlight the experiences of the residents, their attitudes, ideas relating to physical factors for social cohesion, willingness to interact, and recommendations for a socially cohesive neighbourhood.

The findings from the spatial analysis focus on characteristics of the master plan, the built environment, land use zoning, the percentage of land utilised by built forms, open spaces, recreational areas, road networks and parking areas. The spatial analysis also identified landmarks, roads, streets and the accessibility of a neighbourhood. The results from the observation analysis focus on human activities which take place during the working week and also at weekends, the role of common open spaces between built forms, and social and cultural

activities within a neighbourhood. The research findings detailed below compare the neighbourhoods in order to analyse social cohesiveness and its relevance to physical planning.

#### *Demographic profile of the respondents*

The respondents for the study are from the expatriate population residing in four selected neighbourhoods in Dubai. The family income of the residents in all four neighbourhoods was approximately the same, with most employed as working professionals.

#### *Selection of a neighbourhood by the expatriate residents*

Studies indicate that city residents select their housing and neighbourhoods based on attributes such as economics, environmental quality, proximity to family and friends, amenities, accessibility, and quality of life. These attributes vary based on what a city offers regarding amenities, urban and spatial segregation based on income levels, aspirations of the residents for community living, and green infrastructure.

Allen (2015) in her study of Auckland identified amenities as a significant factor in the choice of neighbourhood and vital for contemporary urban living. Quality of life was perceived by residents with an urban lifestyle as another important factor in housing choices. Allen argues that there is a gap between the planning policy and urban amenities, which were considered in 'silos' as 'natural amenities' or 'entertainment amenities' without an understanding of how residents used amenities seamlessly across a neighbourhood. Allen emphasised the need for further research on the integration of urban amenities into suburban fabric in order to understand the use of public and private sector amenities.

Thomas, Serwicka, & Swinney (2015) in their study in England discussed how people decide to live in particular neighbourhoods in a city based on several factors, such as priorities, families, employment, and amenities. Their study deliberated on how different parts of cities are home to different types of people at different stages of their lives. While large city centres are home to students and young professionals, as they provide access to leisure, culture, and workplaces, the suburbs are home to over 30s with children as there is space and houses for families. The rural hinterlands are home to residents aged over 55 and have access to the countryside and green spaces. Recognising how these patterns work across a city region requires local authorities to cooperate at a strategic, city-regional level to deliver services in the places where people need them. Furthermore, they imply policy making, including policies on planning strategically across city regions, economic development for regeneration strategies,

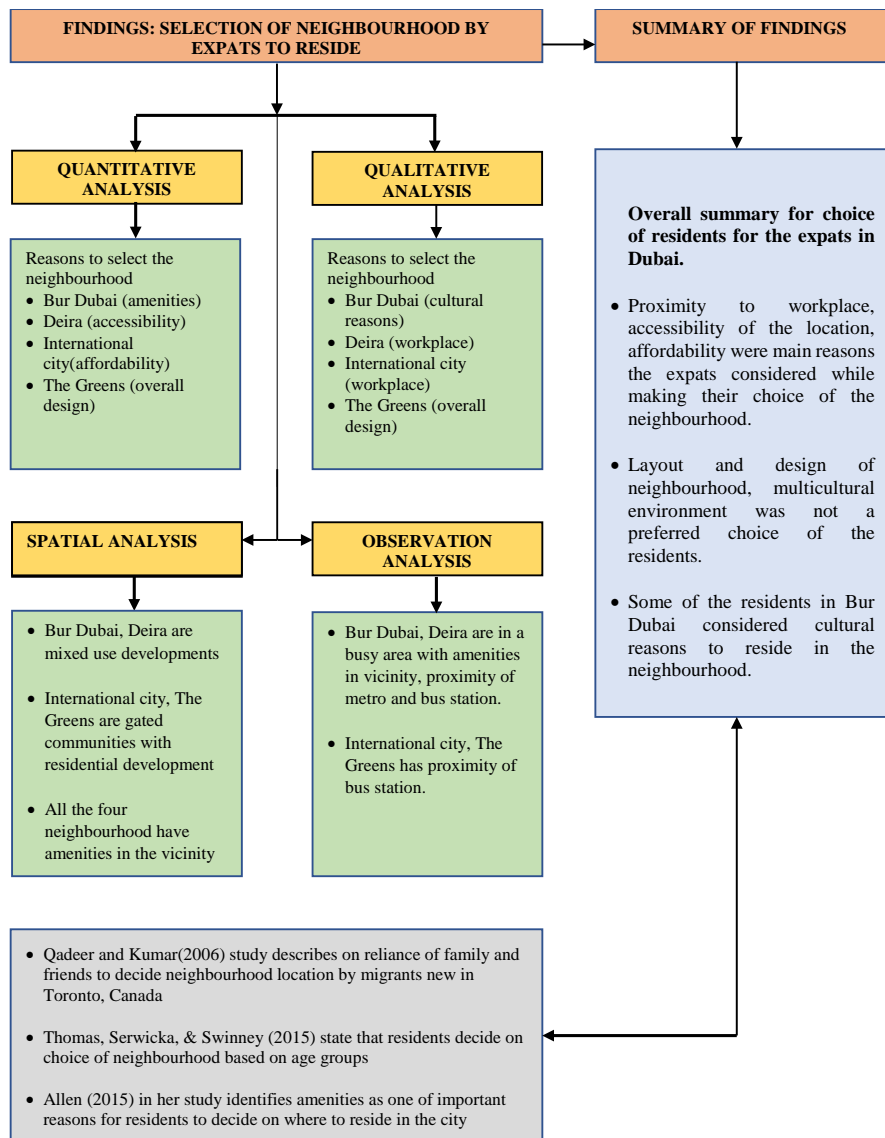
extending exclusion zones, maximising student presence in the city centre, mitigating drawbacks of city life, managing pollution, and open spaces.

Qadeer and Kumar (2006) in their study of ethnic enclaves in Toronto, Canada concluded that migrants consider family and friends as one of the primary reasons to choose a neighbourhood when arrived in the city. The migrants felt more secure and comfortable in residing near others with the same ethnic background.

Figure 4.46 illustrate findings from quantitative analysis that accessibility to the workplace is the main reason for the residents to select a neighbourhood, followed by the available amenities, which are the services required on a day-to-day basis for families, such as supermarkets and department stores. The responses of the residents in the quantitative analysis suggests that residents new to Dubai prefer residential apartments nearer to their workplaces, together with good public transport which provides access to the city at least for all basic purposes. The respondents from Bur Dubai and Deira preferred amenities and accessibility when choosing these neighbourhoods, while International City was considered an affordable neighbourhood. The findings from both the quantitative and qualitative analysis concluded that the layout and design of a neighbourhood or multicultural aspects are not the primary reasons for most residents to select a neighbourhood. The only respondents that considered the overall design of a neighbourhood and its planning aspects were from The Greens.

The findings from the qualitative analysis indicate that respondents from Bur Dubai considered cultural reasons, such as identifying themselves with residents from a similar culture, in choosing a neighbourhood as they felt more secure in this environment. Some of the respondents from The Greens considered multicultural aspects and availability of amenities when deciding to reside in the neighbourhood. The spatial and observation analyses identified the proximity of public transport, amenities, landmarks, and adjoining districts. Amenities were also an important reason for respondents to consider their choice to reside in a neighbourhood.

Dubai, a multi-cultural city, has yet to develop neighbourhoods that encourage multi-cultural communities, and as argued by Thomas, Serwicka, & Swinney (2015), planning strategies through policy making can encourage vibrant communities. In the context of Dubai as an emerging global city, encouraging a multi-cultural society will be an important aspect of future urban planning policies.



**Figure 4.46: Selection of neighbourhood by expats in Dubai**

*Land use of selected neighbourhoods*

Two of the selected neighbourhoods were old neighbourhoods, Bur Dubai and Deira, which evolved during the phase of urban development in Dubai, as discussed by Pacione (2005). During this urban development phase plots assigned to these districts were fully utilised by land owners to achieve maximum returns in rent from the tenants. These neighbourhoods are one of the earlier neighbourhoods in Dubai and most of the expatriates who arrived during the 1990s have preferred to stay in this neighbourhood, as discussed in Chapter 2.

The spatial analysis of Bur Dubai indicated that building plots are adjacent to each other with minimum open spaces between them. Parking occupies most of the vacant plots, and the main roads had parking bays on each side. The findings from the spatial analysis illustrated that just



5% of land use in Bur Dubai was for green areas, while roads, parking and open spaces occupied 40% of the land. The findings in Deira, one of the highly populated old neighbourhoods, show a similar configuration of plots and freestanding buildings to Bur Dubai, with 12% of land devoted to green areas and 47% to open spaces, roads and parking.

As Dubai experienced rapid urbanisation and an increase in the expatriate population, freehold properties were launched, as discussed in Chapter 1. These planned neighbourhoods were created during a phase of new development, and International City and The Greens were planned, gated communities developed by private developers. The spatial analysis of the selected area of International City indicated a high percentage of open space, parking and roads, which account for 75% of land use, while green areas account for 5.14%. Open spaces are utilised for parking or are unmaintained vacant land, while the building forms includes clusters, which are groups of buildings adjoining the roads. The Greens has a high percentage of green areas at 27%, while 48% of land is open space, roads, and parking.

The findings for land use in the selected areas indicate that Bur Dubai and Deira have 40 to 55% coverage due to built-up space, while the gated communities of International City and The Greens have 20 to 24% coverage due to built-up space. Landscaped green areas are highest in The Greens, followed by Deira, International City and finally Bur Dubai. The building forms and layout in Bur Dubai and Deira occupy high ground coverage with minimum open spaces between them. International City shows high land use for roads and parking, while The Greens has a high green area, with most of the parking below ground, thereby enhancing the availability of the usable open spaces.

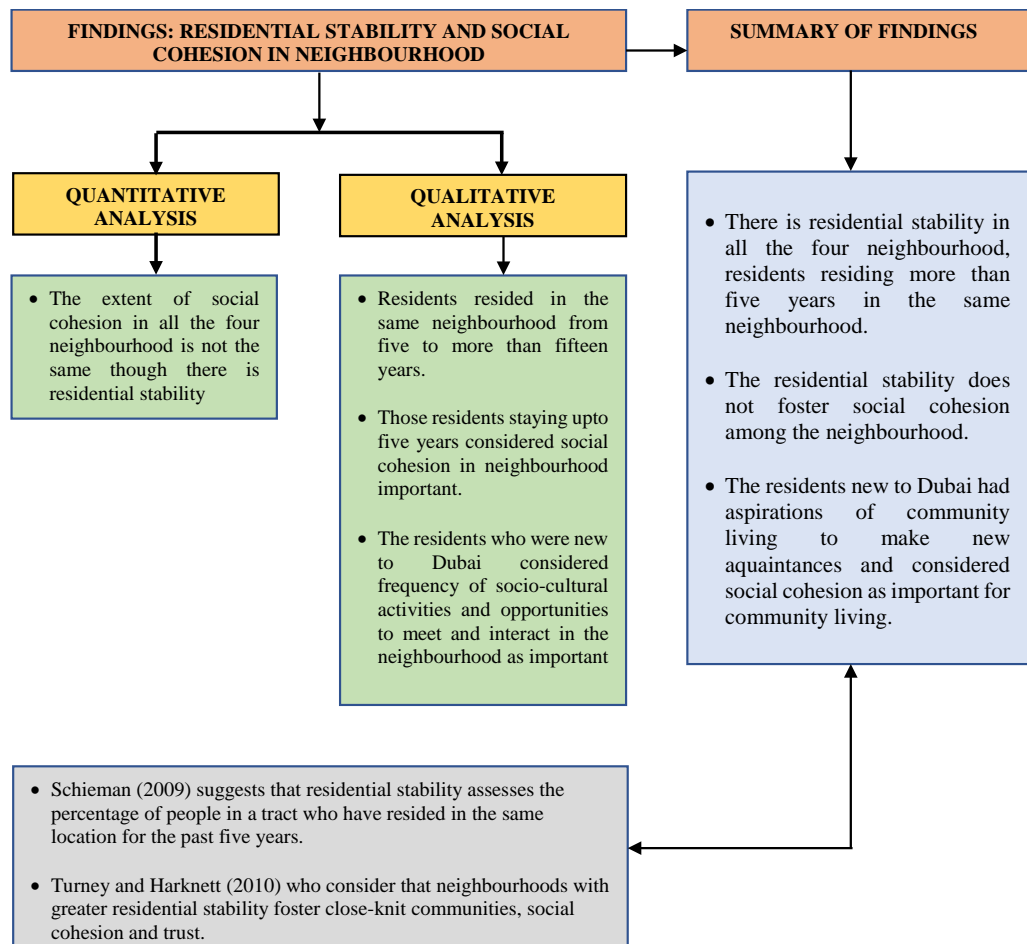
#### *Residential stability and social cohesiveness*

Figure 4.47 illustrates residential stability and social cohesiveness. Schieman (2009) suggests that residential stability assesses the percentage of people who have resided in the same location for the past five years. The findings of the quantitative analysis indicated that there is residential stability where residents have resided for more than five years within the same neighbourhood.

Despite all the selected neighbourhoods showing residential stability, social cohesiveness among the residents was not the same for all the neighbourhood, as discussed in the findings of social cohesiveness. This contradicts a study by Turney and Harknett (2010), who proposed that neighbourhoods with greater residential stability foster close-knit communities, social cohesion and trust. The qualitative analysis findings suggest that residents who had resided up to five years within a neighbourhood were more interested in making new acquaintances, and

meeting and interacting, than those who are lived there longer. There were no significant findings that stated that residential stability in Dubai can contribute towards social cohesiveness, and there may be an absence of a strong sense of community belonging and strong social ties.

This can be further related to other findings based on the role of common spaces, available opportunities and socio-cultural factors. New residents to Dubai have strong attitudes towards developing social ties with their community, look for socio-cultural activities within their neighbourhood, and consider social cohesiveness as an important and integral part of urban living. While Dubai residents of more than fifteen years considered multicultural aspects of a neighbourhood as being important.



**Figure 4.47: Residential stability and social cohesion within a neighbourhood**

*Time spent by residents during weekends in outdoor spaces in the neighbourhood*

The quantitative findings showed a significant correlation for the availability of physical spaces with the time spent by residents outside for The Greens. This demonstrates that physical spaces

provide opportunities to meet and socially interact with other residents.

In the qualitative analysis, the residents of Bur Dubai, Deira and International City stated that due to their work schedules they have limited time to interact with their neighbours, while some did not find it relevant to spend time in their neighbourhood due to a lack of opportunities.

*Layout and design of neighbourhood, common spaces and socio-cultural effects*

The extent of the impact of the layout and design and common spaces outdoors on socio-cultural aspects were studied using statistical tests. The socio-cultural aspects considered for the study were regular social interactions, availability of opportunities for social interaction, positive attitudes, open heartedness and willingness, number of socio-cultural activities, community participation, involvement in community activities, and a sense of community.

The findings from the quantitative analysis suggest that layout and design and common spaces outdoors do impact upon socio-cultural aspects of the residents. This impact encourages positive attitudes of residents, participation in community activities and an increased number of socio-cultural activities. Regular social interactions were highly rated in The Greens, while positive attitudes in International City were comparatively lower. There were strong social ties indicated in International City, which were the result of residents with similar ethnic backgrounds.

The findings of the qualitative study indicated that residents of Bur Dubai considered the attitudes of residents and frequency of socio-cultural activities, as important socio-cultural aspects, while those from The Greens considered opportunities for social interactions among the residents to be important. Overall, social ties were considered by residents in Deira, while Bur Dubai residents had strong willingness to meet and interact. The residents of Bur Dubai believed in interactions within their community for strengthening cultural aspects in the family, while in The Greens the reasons to socially interact were based on sharing and exchanging culture through multiculturalism.

The spatial and observation analyses assessed the building forms and the layout of the neighbourhood planning. Bur Dubai and Deira are unplanned neighbourhoods, with buildings standing on plots that are close to each other with minimum open spaces; most of the common outdoor open spaces are occupied by parking lots. International City and The Greens are gated communities and planned neighbourhoods. The layout of International City shows that buildings are accessible from the main streets and some of the common outdoor spaces, such

as children's play areas, are next to parking lots. The Greens demonstrates master planning of a neighbourhood, where building forms are in clusters enclosing open space between the buildings which are conducive to social interactions, safe for children to play, and for families to meet and interact. These common spaces between the buildings are used by all age groups in the community, and serve as sit out spaces for adults and for children's recreational activities.

A study conducted by Fatani et al., (2017) in Saudi Arabia on a neighbourhood in Jeddah highlighted that considerations of socio-cultural factors are important in the planning and designing of neighbourhoods. The study concluded that the western model for the design of a neighbourhood does not work in Jeddah as the socio-cultural factors are vastly different. In the context of Dubai, the concept of multiculturalism is important, as the lifestyle, attitudes, culture and social behaviour of residents from varying socio-cultural background differs. Raman (2010) asserts that there is an impact of layout and building form on various aspects of community living, such as cohesion in the community, social behaviours, and social interactions, and is the cause of community well-being. Raman undertook comparative analysis for six neighbourhoods with varied density and layouts, and suggested that an integrated approach to planning and design can create socially sustainable neighbourhoods.

This study therefore concludes that urban planners and architects have a responsibility to create neighbourhoods that encourage social cohesiveness and impact socio-cultural factors for the residents of Dubai. Creating a user-friendly environment through building forms and layout, with an overall integrated process in approaches towards the urban planning of a neighbourhood is discussed in Chapter 5, in the paradigm for socially cohesive neighbourhoods.

#### *Social cohesiveness in neighbourhoods in Dubai*

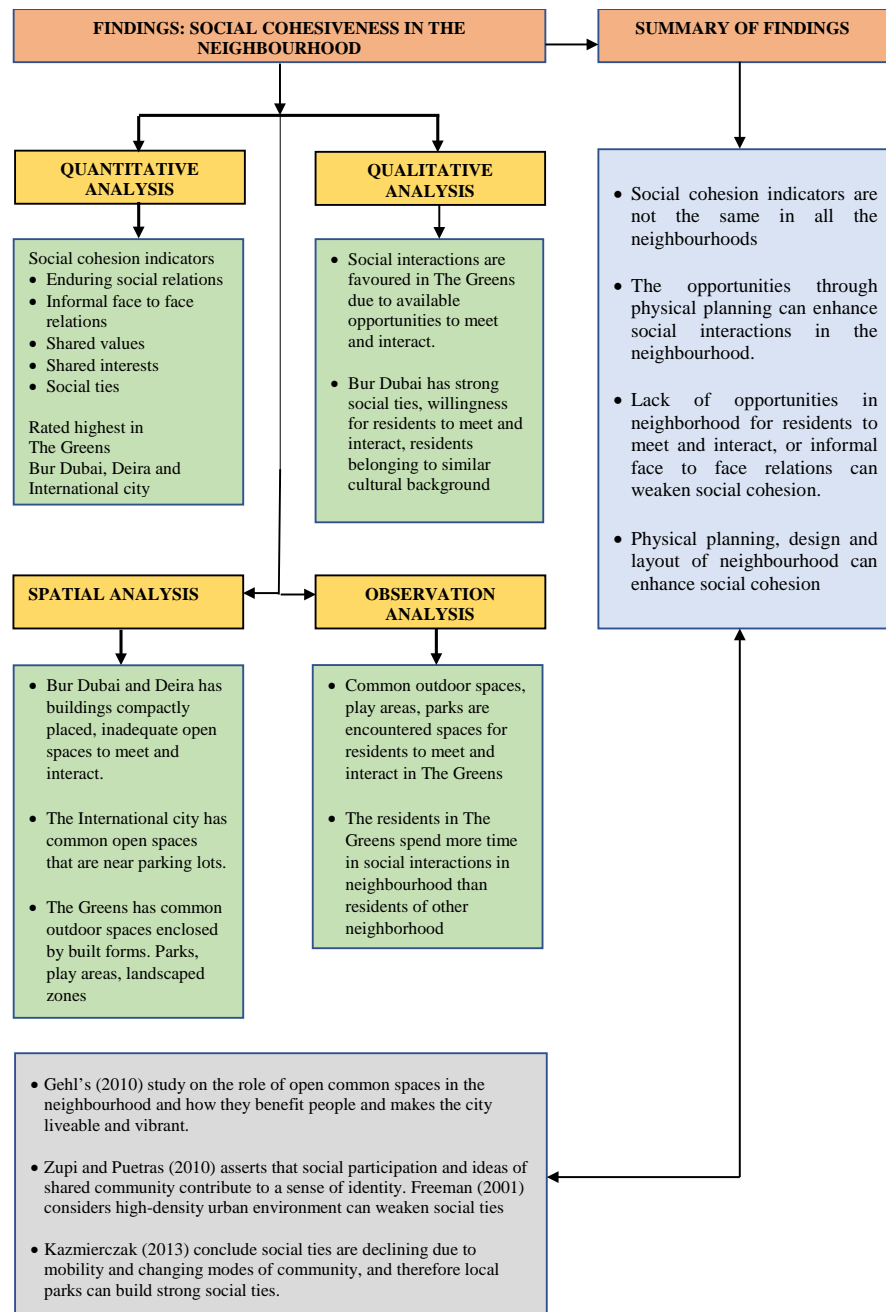
The indicators of social cohesiveness that are discussed in this study are social interactions (enduring social relations, informal face-to-face), a sense of community and belonging (shared values, shared interests), and strong social ties. These indicators were statistically tested in all the neighbourhoods in order to examine the extent of social cohesiveness.

Figure 4.48 illustrate findings from the quantitative analysis reflected that the social cohesion indicators are rated highest in The Greens, followed by Bur Dubai, Deira and International City. The rating of the social cohesion indicators was highest for enduring social relations, followed by strong social ties, informal face-to-face relations, shared values, and shared interests. Forests and Kearns (2001) concluded that social interactions are an integral

component that contributes to social capital. Participation in community activities can strengthen social interactions within a community. The concept of a sense of community was identified by Zupi and Puetras (2010) who asserted that social participation and ideas of a shared community contribute to a sense of identity. In comparison to social interactions, a sense of community within the neighbourhoods was not very strong. The findings of this study on social ties contradict those of Freeman (2001), who proposed that a high-density urban environment can weaken social ties, although they are in agreement with Kazmierczak (2013), who noted that social ties are declining due to mobility and changing modes of community and consequently local parks can build strong social ties.

The qualitative analysis showed that in The Greens the level of social interactions is high due to the availability of opportunities to meet and interact. These opportunities are provided through common outdoor spaces in the form of green spaces, parks and play areas. The respondents from International City noted that not many opportunities are available for social interactions. The availability of vibrant common spaces motivates residents to interact with their neighbours in The Greens, and the lack of these spaces in Bur Dubai and Deira results in limited social encounters. The lack of common open spaces, such as parks and play areas, where residents can meet face-to-face is one of the significant findings of the qualitative analysis. Residents from The Greens considered social cohesion in their neighbourhood to result in socio-cultural exchanges between expats and good for mental and physical health.

The observation analysis in Bur Dubai identified spaces between the buildings where residents meet and interact. In Deira there are open spaces that are part of the urban landscape and are utilised by the residents for recreation activities. The pavement adjoining the road has street furniture that is favourable for social interactions and is used for morning and evening walks by the residents. In International City the open spaces are not efficiently designed as recreational spaces, and most open spaces are occupied by parking lots.



**Figure 4.48: Social cohesion within a neighbourhood**

These findings coincide with the findings of a study on ethnic enclaves by Agrawal (2008), where residents from similar cultural background interacted more with each other than those from a different cultural background, as there was a sense of comfort and identity. This study reflects these findings in the qualitative analysis of Bur Dubai, where residents had social interactions with those from a similar cultural background and developed strong social ties, which were further strengthened through meeting in residences.

Gehl's (2010) study on the role of common open spaces in a neighbourhood and how they

benefit people is striking as these common spaces were found to enhance people's experience of everyday life. According to Gehl, vibrant spaces within a neighbourhood, irrespective of the city, makes a city more liveable and humane.

#### *Aspirations of community living by families with children*

The findings of the quantitative analysis illustrate that all the neighbourhoods have a higher percentage of families with children, with the greatest number seen in Bur Dubai. The findings of the qualitative analysis through the superordinate theme concluded that families with children had higher aspirations for community living. Families with children showed a greater preference for cultural reasons when selecting their neighbourhood, and their attitudes towards social cohesiveness was strong, as they believed that this was important for raising their children. Social interactions were considered very important in order for children to meet and interact, and share and exchange thoughts. In the context of community living, families with children preferred physical spaces to be available, such as children's play areas that cater for physical and mental health.

#### *Role of key stakeholders in building socially cohesive neighbourhoods*

The stakeholders in the qualitative analysis were architects, urban planners, developers and real estate agents. The role of stakeholders is important for a socially cohesive society and urban social sustainability. Dubai has a concept of freehold and rental housing, and most of the expatriate population resides in rental accommodation. The research findings through the qualitative analysis signified that developers and real estate agents prioritise returns on investments, while socially cohesiveness community neighbourhoods with common open and socially vibrant spaces are high on their agenda.

The findings of this research reflect that developing and building socially cohesive neighbourhoods is considered during urban planning. Therefore an urban planning framework must consider social cohesion in order to build socially sustainable communities. One of the objectives of this study was to identify the approaches which urban planners, designers and other stakeholders, including developers and real estate agents, should adopt in order to build social cohesion into a neighbourhood. These approaches are provided as recommendation in Chapter 5. The research findings also indicate that the concept of Dubai as a socially cohesive city is not known to many of the stakeholders, and Chapter 5 discusses the role of key stakeholders in building socially cohesive neighbourhoods in Dubai.

## Chapter 5 - Conclusions and Recommendations

### 5.1 Introduction

This study has attempted to explore the underlying dynamics of urban social sustainability in reference and relevance to contemporary urban living. Although the notion of social sustainability as a philosophy and practice is becoming increasingly important, it has received the least attention when the three pillars of sustainability, environmental, economic and social are addressed. Thus, this study bridges the gap between sociology and the discipline of urban planning, and argues that urban planning and architecture development at the mega scale fails to consider activities at the human scale.

Urban social sustainability in the Gulf countries has not been addressed within the academic literature and this research gap is a major motivation for this study. The study has explored Dubai's urban development and its changing landscape as an impact of globalisation. Through the transformation from a fishing village, to an oil-rich economy, and then as a global destination, Dubai has emerged as a dynamic and vibrant city. With the available job opportunities there is a large workforce inflow and today Dubai is a unique model city with 80% expatriates and 20% native Emiratis, making up a total population of 2.7 million (Dubai Statistics Centre, 2017).

Dubai is a noteworthy example of a global city that has been shaped through international forces, with an economic development imposed by globalisation which has had a social impact (Akhavan, 2014). According to Dubai FDI (2014), Dubai has a diverse, multicultural population, and is a unique environment due to its strategic location between the East and the West. The tax-free policies and opportunities at the personal and business level mean that this city is becoming the region's preferred hub. Globalisation will further ensure an increase in the expatriate population in Dubai. Hence this study has considered the concept of a multicultural society as people from various countries who reside in Dubai. The building of a cohesive urban society for a multicultural population necessitates a new approach in urban planning, which this study attempts to address through the paradigm illustrated in Figure 5.1.

Many cities in the Gulf region follow the Dubai model and hence the study positions Dubai as an important hub within the Gulf region, and as an emerging global city, Dubai is becoming strategically important. The approaches in urban planning for the transient population in the



early development phase of Dubai did not address the potential models of neighbourhoods and sustainable communities. The residency of expatriates is temporary in duration based on job opportunities, and hence rental housing is the only mode of housing available. As job opportunities became available over the years, the expatriate population has been residing longer in Dubai, and more expatriates have been considering Dubai as a city in which to build their job profiles.

This study examined the reasons why residents of Dubai select a particular neighbourhood in which to reside. The results of the qualitative and quantitative findings illustrate that proximity to workplace, and accessibility to location and amenities, are the main reasons that leads to a decision to select a particular neighbourhood in which to reside. Residents do not consider a multicultural community neighbourhood, the design and layout, or planning of a neighbourhood important criteria when selecting a neighbourhood. As there is no permanency, expatriates when choosing their residences do not consider that the neighbourhood they choose to reside in is for the long term and hence the approach towards community living is not a priority for most of them. Apparently, residential stability is present in most of the neighbourhoods studied, where residents are living in the same house within a neighbourhood for five to ten years.

A comparative study of four selected neighbourhood examined the socio-cultural aspects of the residents and concluded that the extent of social cohesiveness varied in each. The findings of this study signify that the physical layout and design of a neighbourhood impacts upon the sociability and sense of community. The available common spaces in a community neighbourhood functions as an enabler for the residents to interact, cultivate interpersonal relationships, develop a sense of community belonging, and to strengthen social ties.

Migrants have acquaintances with others from their home country, and thus enclaves are formed within cities (Qadeer and Agrawal, 2008). In Bur Dubai the majority of the residents belong to the same community, and though they have the willingness to meet and interact they do not have enough opportunities via common open spaces for community activities. Deira, an old settlement of Dubai, provides spaces in between buildings and this created urban landscape enhances sociability and inspires community living. The International City is a planned neighbourhood, yet aspects of community living are not seen to a great extent due to the drawbacks in the physical planning. The Greens is well planned and this motivates residents to meet and interact, and enhances social interactions making it an example of community

living. The findings from the qualitative analysis concluded that families with children sought more social interactions than families without children. Opportunities through physical planning are important and should be provided within a community in order for various activities to thrive that can bring residents together.

One of the important research conclusions is that key stakeholders, which include developers, real estate agents, property developers and others, were primarily concerned that a development would yield a return on investments for a residential or mixed-use project. The concept of socially sustainable communities is not on the agenda of these developments that are undertaken at a rapid pace. Therefore, this study recommends that urban design guidelines be adopted as part of urban planning in Dubai via a policy framework.

## **5.2 Empirical Findings**

The main empirical findings are chapter specific and are summarised within the respective empirical chapters. This section synthesises the empirical findings to answer the study's three research questions.

*To what extent is there residential stability amongst the neighbourhoods in Dubai?*

The research indicated that there is residential stability in the neighbourhoods where residents have been residing for five years, from five to ten, or more than 15 years in the same neighbourhood. However, many residents are not familiar with their neighbours and have limited social interactions, as indicated in the findings from the quantitative research. The qualitative analysis indicated that there are no opportunities provided in the physical planning of neighbourhoods, such as common encountered spaces. Residents also considered time as one of the factors for low levels of social interactions with the residents of the same neighbourhood. Multicultural aspects were also reasons given for the low levels of social networks, as residents tried to connect to those from a similar ethnic background except in The Greens, which is a multicultural community living in Dubai.

*What is the extent of social cohesiveness among residents in Dubai?*

The findings of the study from the selected neighbourhoods indicated that the level of social cohesion varies in each. The Greens is multicultural and has a high level of social cohesion, followed by Bur Dubai, Deira and International City. Although International City is a new and planned development, the layout and neighbourhood design is not conducive towards social cohesiveness, due the lack of efficient common open spaces.

In Bur Dubai and Deira residents belong to the same socio-cultural backgrounds and had social interactions that fostered social cohesion. The Greens houses residents belonging to varied cultural backgrounds, and the planning and design of the neighbourhood favours sociability. Residential stability did not favour social cohesion. Ahmed's (2012) study addresses the research gap concerning the need for socially sustainable neighbourhoods to consider regional social and cultural characteristics. This study recommends that the building of neighbourhoods should address the socio-cultural aspects of residents in order to favour social cohesion.

*To what extent do layout and design and common spaces impact upon socio-cultural aspects of residents in neighbourhoods in Dubai?*

The extent to which the layout and design of a neighbourhood influences socio-cultural factors varies, and is based on the three-dimensional quality of open spaces between built forms, i.e. the available open spaces. Socio-cultural factors, such as participation in community organised activities, and the number of socio-cultural activities within a community are dependent upon the common spaces, while attitudes can be influenced by physical features of a neighbourhood as discussed during the research.

#### *Spatial analysis*

The evidence from the spatial analysis illustrates the overall master planning, the characteristics of the built form, which include the arrangement of buildings, streets and the overall landscape, and concluded that physical elements can impact upon socio-cultural aspects of the residents. The neighbourhoods that have compact built forms, and a lack of adequate common open spaces, such as Bur Dubai and Deira, did not have very high social interactions, while The Greens, which possesses courtyards and inward looking common spaces enclosed by buildings, provides more opportunities for residents to interact. The research objective of assessing and analysing the role of physical planning, layout and design by comparing the four neighbourhoods is addressed through the empirical findings. Through these findings the study further recommends a contemporary approach for urban planning such that neighbourhoods provides opportunities for residents to be more socially cohesive, to build and strengthen strong social ties, and foster a sense of community belonging for a liveable, vibrant city.

### **5.3 Theoretical Implications**

The concept and theories of urban social sustainability have been discussed during this research and were outlined in the research objectives of the study. The dimensions of urban social

sustainability are specific to each region, and in the Gulf the concept and theory are relatively new. Urban social sustainability has been a planning tool in the urban planning framework of countries that have adopted as a key theme the building of sustainable communities. The planning of sustainable communities implies that necessary socio-cultural aspects are addressed during the development of new projects, as well as during the renewal of existing residential developments.

Barolsky and Gould (2016) describe social cohesion as a broad concept that refers to 'holding society together'. The term denotes an array of social characteristics, including common values and identity, feelings of belonging, citizen participation in common organisations and community cooperation, and social interactions. A society that lacks social cohesion has social disorder, social inequality, low levels of social interactions between and within communities, and low levels of place attachment.

URBACT (2008) describes the concept of CoNet, in which eleven European cities joined to form a social cohesion network. This integrated approach aims to strengthen social cohesion in deprived neighbourhoods and evolve innovative projects with partner cities. Some of the key elements that are included in the social cohesion policy are inclusion and an open society, the accessibility of public amenities and social life, a multidimensional understanding of poverty, inhabitants' involvement, and proactiveness.

Meares and Gilbertson's (2013) study on social cohesion developed a valuable framework for examining the factors that brought Auckland neighbourhoods and communities together. Factors that contributed to social cohesion related to ethnicity and disability were studied, followed by the role of Auckland Council to promote social cohesion between different ethnic groups and disabled people. The Auckland Council addressed these areas through its Thriving Communities Strategic Action Plan and the key initiatives of Community Development, Arts and Culture (CDAC) 2013/14. These community developed initiatives led to the empowerment of communities through capacity and leadership building. These strategies for social cohesion impacted most of the residents, who reported a sense of belonging, safety and comfort, although disabled people, and those with mental health issues, the elderly, and some migrants and refugees felt socially isolated. Migrants, who were non-English speakers from outside New Zealand, lacked the types of intimate relationships required for a sense of inclusion. The opportunities facilitated through community centres, parks, sports clubs, pools and libraries created connections that promoted a sense of belonging and inclusion. Community engagement

and partnerships facilitated meaningful engagements to create socially cohesive neighbourhoods. Social cohesion was employed via a framework emphasising a sense of belonging, and social inclusion was seen as a tool to reinforce the challenges faced by demographic, economic and social shifts due to the growth of neighbourhoods.

Socio-cultural factors and physical factors have a relationship with each other, and in contemporary urban living these theoretical concepts are being implemented to address social sustainability. The implications of research theories can be adapted to the Dubai model, which is an emerging global city. The concept of a liveable city is based on principles of sustainability, happiness and the well-being of residents. The idea of social capital is important, as it relates to sustainable communities and emerging global cities.

## **5.4 Recommendations**

As the study aims to contribute to the knowledge for building socially cohesive urban neighbourhoods, the following key recommendations are provided based on the research findings.

A socially cohesive society is sustainable and resilient. The study recommends the inclusion of ‘socially cohesive neighbourhoods’ as an integral part of urban planning and designing a framework and agenda. The study suggests building a socially cohesive and inclusive society, as outlined in the Dubai 2021 Plan.

Socially inclusive community neighbourhood’s designs demand a built form that encompasses social spaces and enhances social networks amongst the community. This study recommends that the philosophy and ethos of social cohesiveness be put into practice by developers by implementing ‘creative, inclusive designs’. The Healthy Spaces and Places (2009) guidelines for creating socially inclusive community involve developing areas for multiple users that encourage active lifestyles and social interactions, including the provision of accessible, well integrated and flexible community services and social infrastructure for meeting places. In addition, integrated activity areas that respond to diverse needs of new and existing residents, accessibility to activities through various transport modes, creating walkable neighbourhoods, should be created designed for all users. Creating open spaces for everyone ensures social connectedness through community halls and meeting places. A diverse population should be encouraged by providing a housing mix for a varied range of people so that they can readily access facilities for active living.

This study suggests adopting a ‘participatory approach’ to urban planning and designing of community neighbourhoods in Dubai in order to make inclusive urban living reality. A participatory approach in planning provides opportunities for communities to plan and manage developments and to engage with people (Brookfield, 2016).

To minimise urban social isolation caused by modern urban spatial segregation, through creative built forms and layout and design, urban spaces should possess the potential and provide opportunities to bring people together and add to vibrant urban social life.

Contemporary cities are facing major challenges of social stratification, a rising disparity in urban living. Such challenges demand a new approach to urban planning, a new urbanism which advocates and pushes reforms in design and demands a new approach to urban planning for building liveable and sustainable communities. This study recommends that planners and designers should enhance urban spaces enveloped by built forms to be favourable, such that they can motivate inclusion, interactions, and integration to create a strong sense of community with strong social ties. This research suggests that there is a high sense of community belonging in mixed-use neighbourhoods with available, and parks, open common spaces, streets with soft edges, and pedestrian friendly designs and walkability. A case worth mentioning here is a study by Rahnama et al. (2012) on rapid urbanisation in Iran which is the result of unfavourable land use zoning, a lack of efficient open spaces, and low quality of social life. They further elaborate on the concept of new urbanism which can be applied to cities in Iran to enhance the quality of life.

Sustainable urban development is a global priority, and urbanisation dynamics call for a collaborative approach to building communities through public, private partnerships. In the UAE, the concept of smart cities is being promoted through urban transformation agendas by involving various agencies connected to the developments. This study recommends that a collaborative strategic coalition between the government, developers, real estate agents, urban planners and architects should be formed in order to build together sustainable communities.

Based on the research findings, this study further recommends a paradigm for building socially cohesive neighbourhoods in Dubai, which is shown in Figure 5.1.

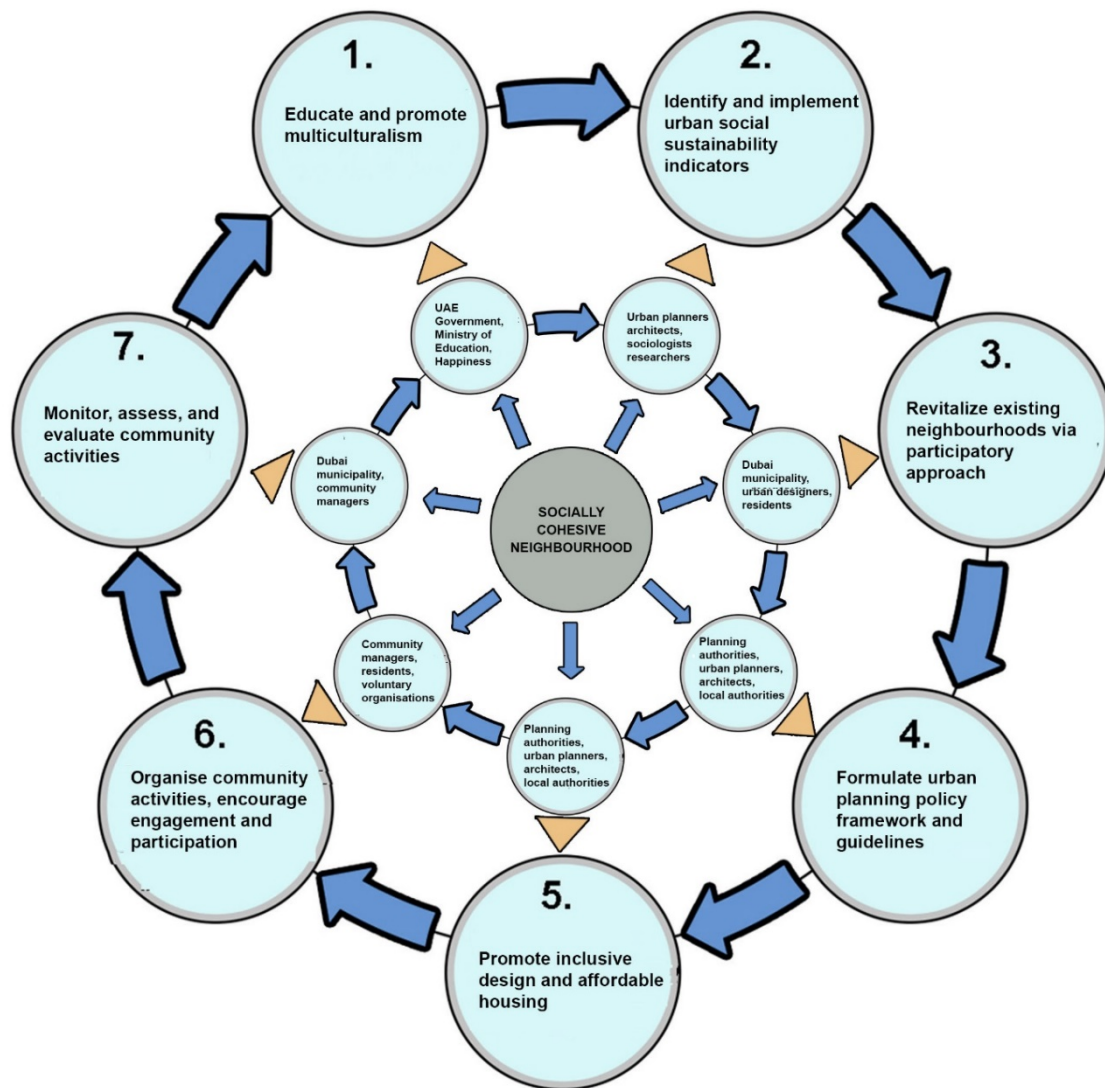


Figure 5.1: Paradigm for building socially cohesive community neighbourhoods in Dubai

No.	Key recommendations	Actors
1.	Educate and promote multiculturalism <ul style="list-style-type: none"> <li>• Multiculturalism education at school, college and university level to focus on discouraging prejudice and discrimination and encouraging diverse perspectives and ways of thinking</li> <li>• Promote multicultural urban living via social media; organising multicultural events and festivities; workshops, seminars and roundtables; incentives on rental in multicultural neighbourhoods</li> </ul>	UAE Government, Strategic collaboration in between the Ministry of Education, Happiness, Tolerance and Educational institutions
2.	Identify and implement urban social sustainability indicators <ul style="list-style-type: none"> <li>• Social indicators: social inclusion, integration, interactions, participation and social cohesion (stronger social ties, sense of community belonging, shared values, interests and responsibilities)</li> <li>• Physical factors: Building form and layout, amenities, street design, Common open spaces.</li> <li>• Urban planning guidelines to consider the layout and design for physical factors to favour social indicators</li> </ul>	Urban planners, architects, sociologists, Researchers
3.	Revitalise existing neighbourhoods via participatory approach <ul style="list-style-type: none"> <li>• Introduction of community events and activities to involve community engagement</li> <li>• Proposals to revitalise public realm of neighbourhood (e.g. provision of street furniture, landscape, enhancing meeting areas for residents, provision of common spaces)</li> <li>• Promote events in the existing multi-cultural neighbourhoods</li> </ul>	Dubai Municipality, Residents, voluntary organisations
4.	Formulate urban planning policy framework and guidelines <ul style="list-style-type: none"> <li>• The urban planning policy framework to lay guidelines for role of stakeholders for socially cohesive and inclusive neighbourhoods</li> <li>• These guidelines are for stakeholders who are developers, real estate agents, urban planners, architects</li> </ul>	Planning authorities, urban planners, architects



No.	Key recommendations	Actors
5.	Promote inclusive design and affordable housing <ul style="list-style-type: none"> <li>• The concept of affordable housing has been introduced in Dubai recently for low salaried employees. This concept can be further enhanced as affordable housing for community living and can have a self-sufficient neighbourhood</li> <li>• Inclusive designs (as per literature...) for master planning includes every resident to be included in the neighbourhood socially, emotionally and psychologically</li> </ul>	Planning authorities, urban planners, architects
6.	Organise community activities, encourage engagement and participation <ul style="list-style-type: none"> <li>• The introduction of community managers who organise and promote community engagement through cultural events is proposed. This will give an opportunity for residents to have cultural exchanges.</li> <li>• Participation in the neighbourhood through recreational activities can build social cohesiveness</li> </ul>	Community managers add
7.	Monitor, assess, and evaluate community activities <ul style="list-style-type: none"> <li>• The role of assessment of neighbourhood is important to evaluate and monitor the activities to continue the process further by understanding strengths and weaknesses</li> </ul>	Dubai municipality, community managers, voluntary organisations, residents

## 5.5 Limitations of the Study

The nationality wise data for expatriates in each neighbourhood is not available and hence this is a limitation as the research cannot address the sociocultural background, ethnic origin or nationalities of the respondents. Random sampling was utilised in the data collection for the quantitative and qualitative research and consequently respondents' nationality is not addressed in the survey methods and semi-structured interviews, which is another limitation of the study. In the suggestions for future research the inclusion of respondents based on nationality is addressed in order to explore this topic in the context of sociocultural factors. This study is limited to neighbourhoods that have apartment type housing, while for communities that have villas the concept and urban social sustainability indicators may differ. The study addresses communities living in middle-class housing typologies with an expatriate population. The urban social sustainability for local Emirati residents would distinctly alter the dynamics of the

study and would change and address social cohesiveness differently.

## **5.6 Future Research Recommendations**

Future research areas based on the findings are recommended below.

### *Evolving contemporary neighbourhood design approaches inspired by traditional neighbourhood designs in the Gulf region*

Traditionally, neighbourhoods in the Gulf region have demonstrated strong and mutual relationships between neighbours. These were fostered through common spaces, such as courtyards, which were vibrant spaces for residents to meet and interact, spend time together and develop a sense of community. Ahmad (2012) in his study discussed the 'Freej' model adopted by the Abu Dhabi Planning Council, and found that as society modernised privacy as a factor became more important than relations with neighbours. An area of future research would be to evolve a contemporary neighbourhood design approach inspired by traditional neighbourhood designs in the Gulf region to emphasise the nuances of community living.

### *Urban planning, quality of life and role of green infrastructure*

The quality of life of residents and resident satisfaction are further areas of research that would explore the impact of neighbourhood planning. Health, safety and security factors as determinants are attributes of quality of life, and the provision of green infrastructure as a health determinant for urban areas and the impact on residents could be explored in the context of Dubai. Serag El Din, Shalaby, Farouh and Elariane (2012) have studied the relationship between sustainable urban development and quality of life in order to emphasise the role of urban planning and design, which contributes to principles of urban quality of life. The concept of quality of life was discussed in Chapter 2 through Neighbourhoods for Living: A Guide for Residential Design in Leeds, UK (2003), which demonstrated the aspirations of residents regarding their quality of life.

### *Urban social sustainability in Gulf cities*

Cities in the Gulf which emerged due to the discovery of oil in the 1950s have witnessed a rapid pace of urbanisation and the planning of cities was altered towards car oriented communities. As a result, these cities became car friendly with gated communities, and the social fabric of these towns underwent a transformation following the loss of cultural identity. The concept of urban social sustainability is yet to emerge in these cities, and research in the field of urban social sustainability in other cities in the Gulf that follow the Dubai model with

a high expatriate population would be beneficial. One area of this research would be to identify issues and challenges to urban social sustainability and to conduct a comparative analysis for neighbourhoods in various cities in the Gulf that have demonstrated new urbanism. Every city has its own urban characteristics, and this can influence the approach towards urban living for the residents. Socially sustainable cities are drivers of social change, and research in this area is in its infancy, therefore there it has the potential to be explored via various multi-dimension facets.

#### *Multicultural communities and ethnic enclaves*

The phenomenon of globalisation has given rise to the movement of people across the globe, and one of its outcomes is the formation of ethnic enclaves within neighbourhoods. Ethnic enclaves are seen in cities where immigrants seek comfort by settling with people from similar socio-cultural backgrounds. This area of research has two viewpoints, one is that there is strong bonding within a community as residents share cultural values, and the other is that they restrict themselves to social networks within their community. The concept of a multicultural society which integrates residents within one community is therefore emerging as an area of research.

#### *Study of socio-cultural factors based on nationalities in the community*

Research into the context of a multicultural society could explore the sociocultural background of residents from various nationalities in order to understand their concept of urban living, social networks and interactions, which in turn can further address aspirations in urban life for urban planners and designers to incorporate in master planning for neighbourhood design.

#### *Residential mobility in urban sprawl*

As urban landscape rapidly changes, the movement of people from one place to another is activated. Intra-urban mobility is an area of research which has yet to be explored in the context of emerging global cities in the Gulf. Urban morphology impacts upon urban mobility, and new urban spaces bring changes to social networks. Residential mobility is influenced by factors such as affordability, social connectedness, employment and family. Furthermore, research could focus on the concept of residential stability and social networks to identify if there is a correlation between the two. As residents occupy new urban spaces they may look for new acquaintances, consequently new urbanism has scope for enhancing urban spaces to be more people centric and friendly.

#### *Urban social sustainability, social interactions and cohesiveness between local and expatriate*

*populations in Gulf cities*

A further research area that could be explored is urban social sustainability for the local population in the Gulf region through a study of expatriates. Research on social cohesiveness among local and expatriate populations via public plazas, town squares and various other urban interventions could be undertaken. Gehl's (2010) approach to encountered spaces focused on the importance of urban spaces and the relevance of the cities.

## References

- Abdou, E., Fahmy, A., Greenwald, D., & Nelson, J. (2010). *Social Entrepreneurship in the Middle East Towards Sustainable Development for the Next Generation*. Doha.
- Abu-Lughod, J. (1961, July). Migrant Adjustment to City Life: The Egyptian Case. *American Journal of Sociology*, 67(1), 22-32.
- Acuto, M. (2014, September). Dubai in the 'Middle'. *International Journal of Urban and Regional Research*, 38(5), 1732-48.
- Agrawal, S. K. (2008, February). Faith-based Ethnic Residential Communities and Neighbourliness in Canada. *Planning, Practice & Research*, 23(1), 41-56.
- Ahmed, K. G. (2012). A "Fareej in the sky": Towards a Community Oriented Design for High Rise Residential Buildings in the UAE. *Open House International*, 48-70.
- Ahmed, K. G. (2012). Urban social sustainability: a study of the Emirati local communities in Al Ain. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 5(1), 41-66.
- Akhavan, M. (2014). Social Impact of the Economic Development in Emerging Global Cities of the Middle East: The Case of Dubai. *Spaces and Flows: An International Journal of Urban and ExtraUrban Studies*, 13-25.
- Al-Kodmany, K., Ali, M. M., & Zhang, T. (2013). Importing Urban Giants Re-Imaging Shanghai and Dubai with Skyscrapers . *International Journal of Architectural Research*, 7(2), 22-42.
- Al-Kodmany, K., Ali, M. M., & Zhang, T. (2013). Importing Urban Giants:Reimaging Shanghai and Dubai with skyscrapers. *International Journal of Architectural Research*, 22-42.
- Al-Rodhan, N. (2006). *Definitions of Globalization:A Comprehensive Overview and a Proposed Definition*. Geneva: Geneva Centre for Security Policy.
- Alshuwaikhat, H. M. (2014). Planning the 21st Century Urban Neighborhood:Learning from Previous Concepts. *Architecture & Planning*, 13-29.
- Altschulera, A., Somkina, C. P., & Nancy, A. E. (2004). Local services and amenities,

- neighborhood social capital, and health. *Social Science & Health*, 19, 1219-1228.
- Amartunga, D., Baldry, D., Sarshar, M., & Newton, R. (2002). Quantitative and Qualitative research in the Built environment; application of "mixed" research approach. *Work Study*, 51(1), 17-31.
- Andersen , S. E., & Nielsen , A. E. (2009). The City at Stake: “Stakeholder Mapping” The City. *Journal of Current Cultural Research* , 1, 309-329.
- Anderson, M. L., & Taylor, H. F. (2009). *Sociology The Essentials*. (6th, Ed.) California: Wadsworth.
- Arcadis. (2016). *Sustainable Cities Index 2016*. Arcadis.
- ARCGIS Desktop. (2017, March 10th). Retrieved from ARCGIS Desktop: [www.desktop.arcgis.com](http://www.desktop.arcgis.com)
- Artemiou, A. (2014). *Encyclopedia of Social Network Analysis and Mining*. (R. Alhadjj, & J. Rokne, Eds.) Spring Science+Business Media LLC.
- Baagaen, S., & Oduku, O. (Eds.). (2010). *Gated Communities Social Sustainability in Contemporary and Historical Gated Developments*. Earthscan.
- Back, L., Bennett, A., Edles, L. D., Gibson, M., Inglis, D., Jacobs, R., & Woodward, I. (2012). *Cultural Sociology* (1st ed.). UK: Wiley-Blackwell.
- Bajpai, N. (2014). *Business Statistics*. Delhi: Pearson.
- Banai, R. (2013). The metropolitan region: from concepts to indicators of urban sustainability. *Journal of Urbanism*, 6(1), 1-23.
- Bazeley, P. (2009). Analysing Qualitative Data More Than 'Identity Themes'. *Malaysian Journal of Qualitative Research*, 6-22.
- Beginning Qualitative Research: A Philosophic and Practical Guide*. (1994). London: The Falmer Press .
- Bell, S., & Lane, A. (2009). Creating Sustainable Communities-A Means to enhance social mobility. *Local Economy*, 24(8), 646-657.
- Bentahar, O., & Cameron, R. (2015). Design and Implementation of a Mixed Method Research Study in Project Management. *The Electronic Journal of Business Research Methods*,

3-15.

- Berger-Schmitt, R. (2000). *Social Cohesion as an Aspect of Qualities of societies: Concepts and Measurements*. Mannheim: Centre for Surevy Research and Methodology.
- Beumer, C. (2010). *Social Cohesion in a Sustainable Urban Neighborhood*. SUN Co-ordination Lema. Limburg: ICIS.
- Biddulph, M. (2012, February ). The Problem with Thinking About or for Urban Design . *Journal of Urban Design* , 17(1), 1-20.
- Biggerstaff, D. (2010). *Qualitative Research Methods in Pyschology*. Warwick: Intechopen.
- Braathen. (2008). *The 'Critical Urban Areas' programme in Portugal: first assessment*. Oslo: Norwegian Institute of Urban and Regional Research.
- Bramley, G., & Power, S. (2009). Urban form and social sustainability: the role of density. *Environment and Planning B: Planning and Design*, 30-48.
- Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Brodie, R., Hollebeek, L., Juric, B., & Ilic, A. (2011). Customer Engagement: Conceptual Domain, Fundamental Propostions, and Implications for Research. *Journal of Service Research*, 252-271.
- Brookfield, K. (2017). Getting involved in plan-making: Participation in neighbourhood planning in Europe. *Environment and Planning C: Politics and Space*, 35(3), 397-416. Retrieved from <https://doi.org/10.1177/0263774X16664518>
- Bruhn, J. G. (2009). *The Group Effect*. Boston: Springer Science+Business Media.
- Bryman, A. (2001). *Social Research Methods*. Oxford : Oxford University Press.
- Bryman, A., & Bell, E. (2013). *Business Research Methods*. Oxford, New York: University Press Oxford.
- Buckley, M. (2014). On the Work of Urbanization: Migration, Construction Labor, and the Commodity Moment. *Annals of the Association of American Geographers*, 104(2), 338-347.
- Buzan , T. (1993). *The Mind Map Book*. New York, USA: Penguin Books.

- Carmona, M., Heath, T., Oc, T., & Tiesdal, S. (2003). *Public Places Urban Spaces The Dimensions of Urban Design*. Oxford: Architectural Press.
- Chan, E., & Lee, G. K. (2007). Critical factors for improving social sustainability of urban renewal projects. *Springer*, 85, 243-256.
- Chiu, R. (2004). Socio-cultural sustainability of housing: a conceptual exploration. *Housing Theory and Society*, 21(4), 65-74.
- Chiu, R. L. (2012). Urban Sustainability and the Urban Forms of China's Leading Mega Cities: Beijing, Shanghai and Guangzhou. *Urban Policy and Research*, 30(4), 359-383.
- Cooper, D. R., & Schindler, P. S. (2014). *Business Research Methods*. New Delhi: Mc-Graw Hill Publishing.
- Coulton, C., Theodos, B., & Turner, M. A. (2012). Residential Mobility and Neighborhood Change: Real Neighborhoods Under the Microscope. *Cityscape: A Journal of Policy Development and Research*, 14(3), 55-90.
- Creswell, J. (2004). *Research Design*. California: Sage.
- Creswell, J., & Miller, G. (1997). Research Methodologies and the Doctoral Process. *New Directions for Higher Education*, 33-46.
- Creswell, J., & PlanoClark, V. (2011). *Designing and Conducting Mixed Methods Research*. Sage.
- Cuthill, M. (2009). Strengthening the social in sustainable development: developing a conceptual framework for social sustainability in a rapid urban growth region in Australia. *Sustainable Development*, 18(6), 363-373.
- Davidson, K., & Wilson, L. (2009). A critical assesment of urban social sustainability. *State of Australian Cities Conference*. Perth.
- Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The Social Dimension of Sustainable Development: Defining Urban Social Sustainability. *Sustainable Development*, 289-300.
- Dey, I. (1993). *Qualitative data analysis: A user-friendly guide for social scientists*. London : Routledge.
- Dixon, T., & Woodcraft, S. (2013, November). Creating strong communities-measuring social



- sustainability in new housing development. *Town and Country Planning*, 473-480.
- Dobson, J. (2015). *The Ties that Bind Analysing the relationship between social cohesion, diversity and immigration*. London: Adam Smith Institute.
- Doda, Z. M. (2005). *Introduction to Sociology*. Ethiopia: Ethiopia Public Health Training Initiative.
- Dubai FDI. (2014). *Why Dubai*. Dubai: Dubai FDI.
- Dubai Municipality Planning & Survey Department. (1995). *Structure Plan for the Dubai Urban Area 1993-2012*. Dubai: Dubai Municipality .
- Dubois, A., & Gadde, L.-E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, 553-560.
- Dustmann, C. (Ed.). (2015). *Migration Economic Change, Social Challenge*. Oxford: Oxford University Press .
- Eade, J. (Ed.). (1997). *Living the Global City Globalization as Local Process*. London : Routledge Taylor & Francis Group.
- Earley, P., & Bubb, S. (2004). *Leading and Managing Continuing Professional Development*. London : Paul Champan Publishing .
- Easterby-Smith, M., Thorpe, R., & Jackson , P. (2008). *Management Research*. Washington : Sage.
- Egan, S. (2004). *Skills for Sustainable Communities*. London: RIBA.
- Einspruch, E. (2005). *An Introductory Guide for SPSS for windows* . California: Sage Publications.
- Eissa, B., Awwad, R., Awwaad, R., & Furlan, R. (2015). Neighborhoods and Social Interactions: The Case of Al-Najada Area in Doha. *American Journal of Sociological Research*, 5(4), 119-133.
- Elements of Traditional Architecture in Dubai* (3rd ed.). (2005). Dubai: Dubai Municipality General Projects Department Historical Building Section .
- Elsheshtawy , Y. (2004). *Planning Middle Eastern Cities* (1st ed.). London: Routledge Taylor and Francis Group.

- Elsheshtawy, Y. (2008). Transitory Sites: Mapping Dubai's 'Forgotten' Urban Spaces. *International Journal of Urban and Regional Research*, 1468-2427.
- Elsheshtawy, Y. (2008). Transitory Sites: Mapping Dubai's 'Forgotten' Urban Public Spaces. *International Journal of Urban and Regional Research*, 968-988.
- Elsheshtawy, Y. (2013). Where the sidewalk ends: Informal street corner encounters in Dubai. *Cities*, 382-393.
- Errichiello, G. (2012). Foreign Workforce in the Arab Gulf (1930-1950): Migration Patterns and Nationality Clause. *International Migration Review*, 389-413.
- Errichiello, G. (2012). Foreign Workforce in the Arab Gulf States (1930–1950): Migration Patterns and Nationality Clause. *International Migration Review*, 46: 389–413. doi: 10.1111/j.1747-7379.2012.00891.x. *International Migration Review*, 46(2), 389–413.
- Esri Support*. (2017, March 12). Retrieved from Esri Support: [www.support.esri.com](http://www.support.esri.com)
- (2008). *Exploring Current Approaches to Strengthen Social Cohesion in Neighbourhoods across Europe*. Berlin: URBACT.
- Fatani, K., Mohamed, M., & Al-Khateeb, S. (2017). Sustainable Socio-cultural Guidelines for Neighbourhood Design in Jeddah. *International Conference on Green Urbanism - GU 2016* (pp. 584-593). Jeddah : Elsevier.
- Ferrante, J. (2008). *Sociology a Global Perspective*. California: Wadsworth Cenage Learning
- Field, A. P. (2016). *Discovering statistics using SPSS*. London: Sage.
- Field, J. (2008). *Social Capital* (2nd ed.). London and New York: Routledge Taylor & Francis Group.
- Fielding, N. G., & Lee, R. M. (1998). *Computer Analysis and Qualitative Research*. London: Sage Publication Ltd.
- Finco, A., & Nijkamp, P. (2010). Pathways to urban sustainability. *Journal of Environmental Policy & Planning*, 3, 289-302.
- Firoz, M., & More, B. (2016). Social Inclusion of Migrant Population In Dubai. *The International Journal of Sustainability in Economic, Social and Cultural Context*, 12(4), 19-33.

- Fischer, C. (2010). *Researching and Writing a Dissertation: An Essential Guide for Business Students*. England: Pearson Education Limited.
- (2010). *Forest Research* . Report to Defra and CLJ, Farnham.
- Forrest , R., & Kearns, A. (2001). Social Cohesion, Social Capital and the Neighborhood. *Urban Studies*, 38(12), 2125-2143.
- Fowler, F. J. (2014). *Survey Research Methods* . Boston: Sage.
- Freeman, L. (2001). The Effects of Sprawl on Neighbourhood Social Ties An Explanatory Analysis. *Journal of American Planning Association*, 67(1), 69-77.
- Fregonese, S. (2009, June). The urbicide of Beirut : Geopolitics and the built environment in the Lebanese civil war (1975-1990). *Political Geography*, 28(5), 309-318.
- Friedman, J. (1986). The world city hypothesis. *Development and Change*, 69-83.
- Fullert, R., Jong, U. d., & Mellersh-Lucas, S. (2008). The Ethics of Sustainable Housing Design: The Dilemma for Practising Architects. *Architectural Science Review*, 51(3), 231-238.
- Gadamer, H. G. (2013). London : Bloomsbury Publishing .
- Garai, S. D. (2015). Globalization and Contemporary Society: A Sociological Analysis. *International Research Journal of Interdisciplinary & Multidisciplinary Studies* , 113-118.
- Gaur, A., & Gaur, S. (2009). *Statistical Methods for Practice and Research: A Guide to Data Analysis Using SPSS*. New Delhi: Sage Publishing.
- Gehl, J. (2010). *Cities for People*. Washington D.C: Island Press.
- Gehl, J. (2011). *Life Between Buildings Using Public Space*. Washington: Island Press.
- Ghahramanpouri, A., Lamit , H., & Sedaghatnia, S. (2013). Urban Social Sustainability Trends in Research Literature. *Asian Social Science*, 185-193.
- Glaser, B. G. (1967). *The Discovery of Grounded Theory*. Chicago: Aldine.
- Goel, S., & Sivam, A. (2015). Social dimensions in the sustainability debate: the impact of social behaviour in daily life. *International Journal of Urban Sustainable Development*, 7(1), 61-71.

- Goffman, E. (1967). *Reflections*.
- Grant, J., Golawala, F. S., & Mckechnie, D. S. (2007). The United Arab Emirates: The Twenty First Century Beckons. *Wiley Interscience*, 49(4), 507-533.
- Gray, D. (2004). *Doing research in the real world*. Greenwich: Sage.
- Greene, S. (1992). Cityshape : Communicating and evaluating community design. *Journal of American Planning Association*, 58(2), 177-189.
- Grondin, J. (2003). *The philosophy of Gadamer*. (C. Plant, Trans.) Acumen Publishing.
- Guest, A. M., & Wierxbicki, S. K. (1999). Social Ties at the Neighbourhood Level Two Decades of GSS Evidence. *Urban Affairs Review*, 35(1), 92-111.
- Guest, A. M., Cover, J. K., & Matsue, R. (2006). Neighborhood Context and Neighboring Ties. *City & Community*, 5(4), 363-385.
- Guggenheim , M., & Soderstrom, O. (2010). *Re-shaping Cities. How Global Mobility Transforms Architecture and Urban Form*. Oxon: Routledge.
- HACT. (2015). *Social Sustainability ; A white paper for Your Housing Group*. Your Housing Group.
- Hair, J., Black , W., Babin, B., Anderson , R., & Tatham , R. (2010). *Multivariate data analysis* (7th ed.). New Jersey : Pearson Prentice Hall.
- Hancock, B., Ockleford, E., & Windridge, K. (2009). *An Introduction to Qualitative Research* . Nottingham, Shieffield: The NIHR Research Design Service for the East Midlands/Yorkshire and Humber .
- Harwell, M. (2011). *Sage Hanbook for Research in Education*. (C. Conrad, & S. Ronald, Eds.) Sage.
- Hashemnezhad, H., Heidari, A., & Parisa. (2013). “Sense of Place” and “Place Attachment”. *International Journal of Architecture and Urban Development*, 6-12.
- Healthy Spaces and Places . (2009). *Design Principle – Social Inclusion*. Heart Foundation, PIA, Australian Local Government Association .
- Heidegger, M. (2012). *Being and time*. (J. Stambaugh, Trans.) New York: State University of New York Press.

- Hennik, M., Hutter, I., & Bailey, A. (2011). *Qualitative research methods*. Sage Publications .
- Henning , C., & Lieberg, M. (1996). Strong ties or weak ties? Neighbourhood networks. *Scandinavian Housing and Planning Research*, 3-26.
- Hernbeck , J. (2012). *Influence of Urban Form on Co-presence in Public Space A Space Syntax Analysis of Informal Settlements in Pune India* . Stockholm: KTH, Royal Institute of Technology.
- Hewitt , L., & Pendlebury, J. (2014). *Connected Communities Local History, Place-Making and Activism in Twentieth Century Britain*. UK: Arts & Humanities Research Council.
- Hilgers, M., & Goldsmiths, C. (2013). *Urban Social Sustainability and Socially engaged Art Practice*. Nine Urban Biotopes Negotiating the future .
- Holland, C., Clark, A., Katz , J., & Peace, S. (2007). *Social interactions in urban public places*. Bristol: Joseph Rowntree Foundation .
- Holt-Jensen, A., & Pollock, E. (Eds.). (2009). *Urban Sustainability and Governance: New Challenges in Nordic-Baltic Housing Policies*.
- Hopkins, B. C. (2011). *The Philosophy of Husserl*. Continental European Publishing .
- Hsieh, H.-F., & Shannon , S. (2005). *Qualitative Health Research* (Vol. 15). Sage Publications.
- <http://gulfnews.com/news/uae/government/uae-ranked-28th-happiest-country-in-world-1.1952132>. (2016, December 2016). Retrieved from gulfnews.com: <http://gulfnews.com/news/uae/government/uae-ranked-28th-happiest-country-in-world-1.1952132>
- Hu, R. (2015). Sustainable Development Strategy for the Global City: A Case Study of Sydney. *Sustainability*, 4549-4563.
- Huia, E., Yua , K., & Hoa, V. (2015). Housing Sustainability in Hong Kong: A Market-Based Perspective. *Pacific Rim Property Research Journal*, 12(2), 146-161.
- IBM. (n.d.). IBM SPSS Statistics Base 24. New York .
- Jacobs, J. (1992). *The Death and Life of Great American Cities*. New York: Vintage Books.
- James, H. (2008). *Sociology: A Down-to Earth Approach*. (8th, Ed.) USA: Pearson.
- Jencks, M., & Jones, C. (Eds.). (2010). *Dimensions of the sustainable city* (Vol. 2). London :

- Springer.
- JLL. (2015). *Globalisation and Competition: The New World of Cities*. Cities Research Centre.
- Johnston, A. (2014). Rigour in research: theory in the research approach. *European Business Review*, 206-217.
- Joseph Rowntree Foundation. (2007). *The social value of public spaces*. York: Joseph Rowntree Foundation.
- Karuppanan, S., & Sivam, A. (2011). Social sustainability and neighbourhood design: an investigation of residents satisfaction in Delhi. *Local Environment: The International Journal of Justice and Sustainability*, 16(9), 849-870.
- Kauko, T., & Amato, M. (2012). *International Encyclopedia of Housing and Home*. Oxford: Elsevier.
- Kavanagh, L. (n.d.). Social Sustainability and High Density Development. (pp. 1-38). Brisbane: Planning Acquisition and Development.
- Kazmierczak, A. (2013). The contribution of local parks to neighbourhood social ties. *Landscape and Urban Planning*, 31-44.
- Keivani, R. (2010). A review of the main challenges to urban sustainability. *International Journal of Urban Sustainable Development*, 1(1-2), 5-16.
- Kim, J., & Kaplan, R. (2004). Physical and Psychological Factors in Sense of Community: New Urbanist Kentlands and Nearby Orchard Village. *Environment and Behavior*, 313-40.
- King, R., Black, R., Collyer, M., Fielding, A., & Skeldon, R. (2010). *The Atlas of Human Migration Global patterns of people on the move*. Earthscan.
- Kingsley, T. G., Jordan, A., & Traynor, W. (2012). Addressing Residential Instability: Options for Cities and Community Initiatives. *Cityscape: A Journal of Policy Development and Research*, 161-184.
- Kotkin, J. (2015). *Size is not the Answer The Changing Face of the Global City*. Singapore: Civil Service College and Chapman University .
- Kowal, R. (2016). Characteristics and Properties of a Simple Regression Model. *Folia Oeconomica Stetinensia*, 248-263.

- Kropf, K. (2014). Ambiguity in definition of Built form. *18*, pp. 41-57. *Urban Morphology* .
- Kulatunga, K., Amaratunga, D., & Haigh, R. (n.d.). *Researching 'Construction client and innovation' Methodological Perspective*. University of Salford .
- Landau, S., & Everitt, B. (2004). *A Handbook of Statistical Analyses using SPSS*. New York: Champan and Hall/CRC.
- Leeds City Council. (2003). *Neighbourhoods for Living: A Guide for Residential Design in Leeds*. Leeds.
- Leedy, Paul, D., & Ormord, J. E. (2013). *Practical research: planning and design*. Boston : Pearson.
- Lillis, A. M. (1999). A framework for the analysis of interview data from multiple field sites. *Accounting and Finance*, 39(1), 79-105.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Sage Publications Inc.
- Longley, P., & Batty, M. (Eds.). (1996). *Spatial Analysis Modelling in a GIS Environment*. USA.
- Ludvigsen, M. (2006). *Designing for Social Interaction*. Denmark: Department of Design, Aarhus School of Architecture .
- Lupi, T., & Musterd, S. (2004). The Suburban 'Community Question'. *Urban Studies*, 43(4), 801-817.
- Madanipour, A. (2003). Social Exclusion and Space. In R. T. Le Gates, & F. Stout, *The City Reader* (pp. 181-188). London: Routledge.
- Marcus, A. (2010). *Mapping social cohesion 2010*. Victoria: Monash Institute for the Study of Global Movement .
- Mazi, T., Lucas, K., Jones, T., & Allen, J. (Eds.). (2010). *Social Sustainability in Urban Areas Communities, Connectivity and the Urban Fabric* (1st ed.). Oxfordshire: Routledge.
- McCann, P., & Acs, Z. J. (2010). Globalization: Countries, Cities and Multinationals. *Regional Studies*, 45(1), 17-32.
- McMillian, D. W., & Chavis, D. M. (1986). Sense of Community: A Definition and Theory. *Journal of community psychology*, 14, 6-23.

- Meares, C., & Gilbertson, A. (2013). *"We All Get Along' Social Cohesion in Three Auckland Suburbs, Auckland Council technica report, TR2013/052*. Auckland: Auckland Council.
- Merleau-Ponty, M. (2012). *Phenomenology of perception*. (C. Smith, Trans.) Hongkong: Forgotten Books.
- Mertens, D. (2015). *Research and Evaluation in Education and Pyschology*. (4th, Ed.) USA: Sage Publications.
- Mohammad , R., & Sidaway, J. (2012). Spectacular Urbanization amidst Variagated Geographies of Globalization: Learning from Abu Dhabi's trajectory through the Life of South Asian Men. *International Journal of Urban and Regional Research* , 606-627.
- Montgomery, C. (2013). *Happy City - Transforming Our Lives through Urban Design*. New York: Doubleday.
- Montgomery, J. (1998). Making a city: Urbanity, vitality and urban design. *Journal of Urban Design* , 93-115.
- Murphy, K. (2012). The social pillar of sustainable development: a literature review and framework for policy analysis. *Sustainability: Science, Practice, & Policy*, 8(1), 15-26.
- National Geographic Society. (2005). *Human Migration Guide*. National Geographic Society.
- National Planning Policy Framework*. (2012, March). Retrieved from <http://planningguidance.communities.gov.uk/>.
- Newman, P., & Thornley, A. (2005). *Planning World Cities Globalization and Urban Politics*. London: Palgrave Mcmillan.
- Pacione, M. (2005, May 23rd). City Profile Dubai. *Cities*, 23(3), 255-265.
- Parsons-Harland Bartholomew & Associates, Inc. . (1995). *Structure Plan for the Dubai Urban Area 1993-2012*. . Dubai Municipality , Planning & Survey . Dubai. Dubai: Union Printing Press.
- Patrichios, N. N. (2002). Urban Design Principles of the original neighbourhood concepts. *Urban Morphology*, 21-32.
- Perkins, H. C., Thorns, D. C., Winstanley, A., & Newton, B. M. (1999). *Perkins, H and Thorns, D. C and Field, M (1999), Urban Sustainability: an annotated*. Canterbury and Lincoln



Universities .

Pinoncelly, V. (2015). *Urban form and sustainability* . Royal Institute of Town Planners .

Polese, M., & Stren, R. (Eds.). (2000). *The Social Sustainability of Cities : Diversity and the Management of Change* (1st ed.). Toronto: University of Toronto Press, Scholarly Publishing Division.

Qadeer, M., & Kumar, S. (2006). Ethnic Enclaves and Social Cohesion. *Canadian Journal of Urban Research*, 15(2), 2-17.

*Qda Training*. (2017, June 6th). Retrieved from [www.qdatraining.eu](http://www.qdatraining.eu):  
<http://www.qdatraining.eu/>

*QDATRAINING – NVivo Training, Consultancy & Support*. (2015, October 15). Retrieved from *QDATRAINING – NVivo Training, Consultancy & Support*:  
[www.qdatraining.com](http://www.qdatraining.com)

Raman, S. (2010). Designing a Liveable Compact City Physical Forms of City and Social Life in urban neighbourhood. *Built Environment*, 36(1), 63-80.

Randall, J., Kitchen, E. P., & Williams, E. A. (2007, June 5). Mobility, Perceptions of Quality of Life and Neighborhood Stability in Saskatoon. *Social Indicators Research*, 85, 23-37.

Reid , K., Flowers, P., & Larkin, M. (2005). Exploring the lived experience. *The Psychologist* , 18(1), 20-23.

Residential Stability, Neighbourhood Racial composition, and the subjective assesment of neighbourhood problems amongst older adults. (2009). *The Sociological Quarterly*, 608-632.

Richards, L. (2005). *Handling Qualitative Data-A Practical Guide*. London: Sage Publications.

Rio, V. D., Levi , D., & Duarte, C. R. (2012). Perceived Livability and Sense of community:Lessons from Designers From a Favela in Rio De Janeiro Brazil. In F. Wagner, & R. Caves, *Community Livability:Issues and Approaches to Sustaining the well-being* (pp. 99-123). Oxon: Routledge Taylor & Francis Group.

Roggema, R. (2016). The future of sustainable urbanism: a redefinition. *City Territory and Architecture* , 3-22.

- Salama, H. H. (2013). Dubai in a World of Flows. *International Journal of Architectural Research* , 7(2), 136-145.
- Sampson, R., & Graif, C. (2011). Neighborhood Social Capital as Differential Social Organization. *American Behavioural Scientist*, 52(11), 1579-1605.
- Sassen , S. (2005). The Global City: Introducing a Concept. *Brown Journal of World Affairs*, XI, 27-43.
- Sassen, S. (1996). Whose City Is It? Globalization and the Formation of New Claims. *Public Culture*, 205-223.
- Saunders, M., & Tosey, P. (2013). The Layers of Research Design. *Rapport*, 58-59.
- Saunders, M., Lewis , P., & Thornhill, A. (2007). *Research Methods for Business Students*. England: Pearson Education.
- Schiefloe, P. M. (1990). Networks in urban neighbourhoods: Lost, saved or liberated communities? *Scandinavian Housing and Planning Research*, 7(2), 93-103.
- Schieman, S. (2009). Residential Stability, Neighbourhood Racial Composition, And the Subjective Assessment of Neighbourhood Problems Amongst Older Adults. *The Sociological Quarterly*, 608-632.
- Sengupta, N. K., Luyten, N., Greaves, L. M., Osborne, D., Robertson, A., Armstrong, G., & Shibley, C. (2013). Sense of Community in New Zealand Neighbourhoods: A multilevel model predicting social capital. *New Zealand Journal of Psychology*, 42(1), 36-45.
- Serag El Din , H., Shalaby , A., Farouh , H. E., & Elariane, S. A. (2012). Principles of urban quality of life for a neighborhood. *Housing and Building National Research Centre*, 9(1), 86-92.
- Sheffield, J., Korotayev, A., & Grinin, L. (Eds.). (2013). *Globalization Yesterday, Today and Tomorrow*. Arizona: Emergent Publications.
- Smith, J. A. (2011). Evaluating the contribution of interpretative phenomenological analysis. *Health Psychology Review* , 9-27.
- Smith, J. A., & Osborn, M. (2008). Interpretative Phenomenological Analysis. *Qualitative psychology: A practical guide to research methods*, 53-80.

- Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis*. London: Sage Publications.
- Social Impact of the Economic Development in Emerging Global Cities of the Middle East: The Case of Dubai . (2014). *Spaces and Flows: An International Journal of Urban and ExtraUrban Studies*, 4, Common Ground Publishing.
- Soholt, S., Ruud , M., & Braathe, E. (2012). A question of social sustainability: Urban interventions in critical neighborhoods in Portugal and Norway. *Urban Research and Prattice*, 256-272.
- Soini, K., & Birkeland, I. (2012). Exploring the scientific discourse on cultural sustainability. *Geoforum*, 213-223.
- Spicker, P. (2014). Cohesion, Exclusion and Social Quality . *International Journal of Social Quality*, 4(1), 95-107.
- Subeh, M., & Al-Rawashdeh, T. (2012). Urban Sustainability, Globalization and Expansion Organization. *Journal of Economics and Sustainable Development*, 3(14), 49-53.
- The Berkley Group. (2011). *Creating Strong Communities*.
- The Berkley Group. (2013). *Living at Kidbrooke Village*.
- The Executive Council, Government of Dubai. (2014). *2021 Dubai Plan*. Dubai.
- The Newzealand Productivity Commission. (2015). *Better Urban Planning*. Auckland.
- Tom, K. (2010). Urban Sustainability and Governance : New Challenges in Nordic-Baltic Housing Policies. *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography*, 64(3), 174.
- Turcu, C. (2013). Re-thinking sustainability indicators: local perspectives of urban sustainability. *Journal of Environmental Planning and Management*, 56(5), 695-719.
- Turney, K., & Harknett, K. (2010). Neighborhood Disadvantage, Residential stability and Perceptions of Instrumental support amongst new mothers. *Journal of Family Issues*, 31(4), 499-524.
- UN Habitat. (2014). *Urban Planning and Design for Social Cohesion*. Columbia: UN Habitat.
- UN Habitat. (2016). *World Cities Report 2016: Urbanization and Development: Key Findings*

- and Messages*. Kenya: UN Habitat.
- University of Chicago Press. (1964). Louis Wirth on Cities and Social Life: Selected Papers. 341-350.
- Urban Network Analysis Toolbox for ArcGIS*. (2017, March 10). Retrieved from Urban Network Analysis Toolbox for ArcGIS: [www.cityform.mit.edu](http://www.cityform.mit.edu)
- Using Templates in the Thematic Analysis of Text. (2004). In N. King, C. Cassell, & G. Symon (Eds.), *Essential Guide to Qualitative Methods in Organizational Research* (pp. 267-270). London: Sage Publication.
- Vallance, S., Perkins, H., & Dixon, J. (2011). What is social sustainability? A clarification of concepts. *Geoforum*, 42, 342-348.
- Vavik, T., & Keitsch, M. (2010). Exploring relationships between universal design and social sustainable development: some methodological aspects to the debate on the sciences of sustainability. *Sustainable Development* 18(5):295–305. *Sustainable Development*, 18(5), 295-305.
- What is NVivo? | QSR International*. (2017, March 26th). Retrieved from What is NVivo? | QSR International: <http://www.qsrinternational.com/what-is-nvivo>
- Wiedmanna, F., Salama, A., & Mirin, V. (2014). Sustainable urban qualities in the emerging city of Doha. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 7(1), 62-84.
- Williams, J. (2005). Designing Neighbourhoods for Social Interaction: The Case of Cohousing. *Journal of Urban Design*, 10(2), 195-227.
- Wirth, L. (1938). Urbanism as a Way of Life. *The American Journal of Sociology*, 1-24.
- Wood, L., Giles-Corti, B., & Bulsara, M. (2012). Streets Apart: Does Social Capital Vary with Neighbourhood Design. *Urban Studies Research*, 1-11.
- Woodcraft, S., Hackett, T., & Caistor-Arender, L. (2011). *Design for Social Sustainability A Framework for creating thriving communities*. London: The Young Foundation .
- Woodcraft, S. (2012). Social Sustainability and New Communities: Moving from concept to practice in the UK. *Procedia - Social and Behavioral Sciences*, 29 – 42.
- Wyatt, F. F. (1975). *Residential Stability in an Inner Urban Housing Block : A Re-study after*

- 18 years*. Culhum College, Abindan.
- Xerez, R., & Fonseca, J. (2011). *Mixing Methods in Urban Research: Exploring City and Community Social Capital*. (pp. 1-26). Amsterdam : ISARC.
- Yamamura, E. (2011). How are social ties formed? Interaction of neighborhood and individual immobility. *The Journal of Socio-Economics*, 472-474.
- Yiftachel , O., & Hedgcock, D. (1993). Urban social sustainability : The planning of an Australian city . *Cities*, 139-157.
- Zikmund, W. G. (2012). *Business Research Methods* (7th ed.). Ohio: Thomson Learning.
- Zupi, M., & Puetras, E. (Eds.). (2010). *Challenges of Social Cohesion in time of crisis: Euro Latin American Dialogue*. Madrid: CesPI.

# Appendix I - Ethical Approval

Academic Audit and Governance Committee

College of Science and Technology Research Ethics Panel  
(CST)

University of  
**Salford**  
MANCHESTER

To Bhakti More (and David Baldry)  
cc: Professor Hisham Elkadi, Head of School of SOBE  
From Nathalie Audren Howarth, College Research Support Officer  
Date 27/10/2014

MEMORANDUM

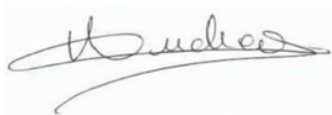
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**Subject:** Approval of your Project by CST  
**Project Title:** Expatriate Housing and the Social Fabric in Dubai  
**REP Reference:** CST 14/38

Following your responses to the Panel's queries, based on the information you provided, I can confirm that they have no objections on ethical grounds to your project.

If there are any changes to the project and/or its methodology, please inform the Panel as soon as possible.

Regards,



Nathalie Audren Howarth  
College Research Support Officer

For enquiries please contact:  
College of Science and Technology  
College Research Support Officer  
The University of Salford  
Maxwell building, (7th floor, room 721)  
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## Appendix II - Survey Questionnaire

Ref No :

### QUESTIONNAIRE

Research Title :

**URBAN PLANNING, NEIGHBOURHOODS AND SOCIAL COHESIVENESS: A  
SOCIO-CULTURAL STUDY OF EXPATRIATE RESIDENTS IN DUBAI**

-----  
**SCHOOL OF THE BUILT ENVIRONMENT**

**UNIVERSITY OF SALFORD, SALFORD**

**M5 4WT**  
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This questionnaire survey is based on an ongoing PhD research which focuses on Social cohesiveness in the neighbourhood.

**The questionnaire will take 10mins of your time )**

**Confidentiality:** All information provided will be treated with complete confidentiality; findings will be used for the sole purpose of this study and for academic publications. The findings will not be attributed to any specific personnel or establishment.

**THANKYOU FOR YOUR ANTICIPATED INVALUBLE CONTRIBUTION**

Survey Questionnaire for Dubai Residents (Self-administered)

1. **Nationality:** \_\_\_\_\_

2. **Gender:**

a. Male

b. Female

3. **Age :**

a. 20 - 25

b. 25 - 30

c. 30 - 35

d. 35 - 40

e. 40 - 45

f. 45 - 50

g. 50 - 55

h. 55 - 60

i. 60 - 65

j. >65

4. **Marital Status :**                      a. Married     b. Single

5. **Size of your family in numbers (including yourself):** \_\_\_\_\_

6. **Number of school going children:** \_\_\_\_\_

7. **Monthly family income (in AED):**

a. 5,000 - 10,000

b. 10,000 - 20,000

c. 20,000 - 30,000

d. 30,000 - 40,000

e. 40,000 - 50,000

f. More than 50,000



**8. Present Job/Occupation**

- a. Employed (Service/Government/Semi-government)
- b. Entrepreneur/Business person
- c. Employed (Private sector/professional)
- d. Household/ Home-makers

**9. Educational Qualification**

- a. High School
- b. Intermediate
- c. Certificate and Diploma
- d. Bachelor's Degree
- e. Master's Degree
- f. Doctoral Degree
- g. Any other specify

**10. What is the type of your neighbourhood community you reside in?**

- a. Gated community
- b. Standalone Residential
- c. Mixed Use (commercial cum residential)
- d. Service/Hotel Apartment

**11. Years of residence in Dubai :**

- a. 0-1 Years
- b. 1-5 Years
- c. 5-10 Years
- d. 10-15 Years
- e. 15-20 Years
- f. 20-25 Years
- g. 25-30 Years
- h. >30 Years

**12. Years of residence in ‘current neighbourhood’**

- a. 0-1 Years
- b. 1-5 Years
- c. 5-10 Years
- d. 10-15 Years
- e. 15-20 Years
- f. 20-25 Years
- g. 25-30 Years
- h. >30 Years

**13. On working days, how much of time (in hours) do you spend in socially interacting with your fellow residents in your community neighbourhood?**

- a. 0-1 hr.
- b. 1-2 hrs
- c. 2-3 hrs
- d. 3-4 hrs
- e. More than 4 hrs

**14. On week-ends how much of time (in hours) do you spend in socially interacting with your fellow residents in your community neighbourhood?**

- a. 0-1 hr.
- b. 1-2 hrs
- c. 2-3 hrs
- d. 3-4 hrs
- e. More than 4 hrs

**15. ‘Amenities’ are available within 5-10minutes walkable distance within your neighbourhood (You can tick more than one)**

<b>Amenities</b>	
<b>a. Activities - Indoors</b> (Activity centres for children or adults to develop hobbies or any other skills, recreation areas, meeting halls, recreational or club)	<input type="checkbox"/>
<b>b. Children play-area</b> (Active areas for children to play and interact)	<input type="checkbox"/>
<b>c. Day-care centre</b> (Child-care centre)	<input type="checkbox"/>
<b>d. Grocery store</b> (Grocery for day to day basis)	<input type="checkbox"/>
<b>e. Laundry</b> ( Grocery for day to day basis)	<input type="checkbox"/>
<b>f. Medical centre</b> (Availability of health facilities )	<input type="checkbox"/>
<b>g. Parks/Outdoors</b> (Green areas )	<input type="checkbox"/>
<b>h. Pharmacy</b> (Medical store)	<input type="checkbox"/>
<b>i. Supermarket</b> ( Retail for day to day basis)	<input type="checkbox"/>
<b>j. Public/ common spaces</b>	<input type="checkbox"/>

**16. Rate the overall availability of the ‘amenities’ in your community neighbourhood.**  
(You can tick more than one)

<b>Amenities</b>	<b>Poor</b>	<b>Satisfactor y</b>	<b>Good</b>	<b>Very Good</b>	<b>Excellen t</b>
a. Activities					
b. Children play-area					
c. Day care centre					
d. Grocery store					
e. Laundry					
f. Medical centre					
g. Parks					
h. Pharmacy					
i. Supermarket					
j. Public/common spaces					

**17. Overall ‘availability’ of transport facilities in your community neighbourhood.**

(You can tick more than one)

Modes of Transport	Poor	Satisfactory	Good	Very Good	Excellent
a. Metro					
b. Private Taxi					
c. RTA Bus					
d. Tram					
e. Own Vehicle					

**18. Which amongst the following led you to ‘decide’ on your existing ‘neighbourhood’?**

*(You can tick more than one)*

- a. Affordability
- b. Layout and design of neighbourhood
- c. Accessibility to amenities like supermarkets
- d. Accessibility to children’s school
- e. Accessibility to parks
- f. Accessibility to relatives and friends
- g. Accessibility to modes of public transport
- h. Accessibility to work place
- i. Proximity to religious place
- j. Proximity to existing community culture

**19. How would you rate the following ‘aspects’ of your ‘neighbourhood’?** (You can tick the most relevant)

Neighbourhood	Poor	Satisfactory	Good	Very Good	Excellent
a. Affordability					
b. Layout and design of neighbourhood					
c. Accessibility to amenities like supermarkets					

d. Accessibility to children's school					
e. Proximity to parks					
f. Accessibility to relatives and friends					
g. Accessibility to modes of public transport					
h. Accessibility to work place					
i. Proximity to religious place					
j. Proximity to community culture					

**20. Which amongst the following did you consider while selecting your existing 'residential unit'? (You can tick more than one)**

- a. Natural Light and ventilation of unit
- b. Residential unit (Space planning/design)
- c. Size of the unit

**21. How would you rate the following 'elements' of your 'residential unit'? (You can tick more than one)**

Residential Unit	Poor	Satisfactory	Good	Very Good	Excellent
a. Natural light and ventilation of unit					
b. Residential unit (Space planning and design)					
c. Size of the Unit					

**22. How favourable are the 'common spaces (outdoor)' in your community neighbourhood for 'social interactions'?**

- a. Exceptionally unfavourable
- b. Unfavourable
- c. Somewhat favourable

- d. Favourable
- e. Exceptionally favourable

**23. How favourable are the 'common spaces (indoor)' in your community neighbourhood for 'social interactions'?**

- f. Exceptionally unfavourable
- g. Unfavourable
- h. Somewhat favourable
- i. Favourable
- j. Exceptionally favourable

**24. How 'frequently' do you and your family 'meet and interact' with your neighbour(s)?**

- a. Never
- b. Rarely
- c. Occasionally
- d. Frequently
- e. Very Frequently

**25. What is the level of 'social interaction' in your community neighbourhood?**

- a. Poor
- b. Satisfactory
- c. Good
- d. Very Good
- e. Excellent

**26. Are you 'satisfied' with the overall 'sense of community belonging' within your community neighbourhood?**

- a. Very dissatisfied
- b. Dissatisfied
- c. Neutral
- d. Satisfied

- e. Very satisfied

**27. 'How 'secure' you feel within your community neighbourhood?**

- a. Not secured at all
- b. Secured
- c. Very Secured

**28. The issues you face in your community neighbourhood on daily basis ( physical factors ) (Tick any one)**

- a. Accessibility within the city
- b. Lack of amenities
- c. Accessibilities to amenities

**29. The issues you face in your community neighbourhood on daily basis ( Non-physical factors )**

*(Tick any one)*

- a. Lack of common spaces for social interaction
- b. Lack of 'self-initiatives' by the residents to interact
- c. Lack of 'sense of community belonging'

**30. Tick 'socio-cultural' factors for in your community neighbourhood?**

<u>Socio-cultural factors</u>	<u>Tick the one which is most relevant</u>
a. Regular Social interactions	
b. Available 'opportunities' for Social interactions	
c. Positive attitudes and perceptions on social inclusion	
d. Open heartedness/ Willingness amongst residents to interact	
e. Numbers of socio-cultural activities within the community	
f. Participations' in the community organized activities	
g. 'Involvement' in the community organized activities	

h. Sense of community and belongingness	
i. Social ties of respect and recognition	

**How would you rate the following in your community neighbourhood?**

<b><u>Socio-cultural factors</u></b>	<b><u>Very Low</u></b>	<b><u>Low</u></b>	<b><u>Medium</u></b>	<b><u>High</u></b>	<b><u>Very High</u></b>
a. Level of ‘participations’ in the community organized activities					
b. Level of ‘involvement’ in the community organized activities					
c. Level of informal supports support within the community					
d. Level of formal supports to improve their inclusion					
e. Level of social ties of respect and recognition					

**31. How would you rate the following in your community neighbourhood?**

<b><u>Socio-cultural factors</u></b>	<b><u>Poor</u></b>	<b><u>Satisfactory</u></b>	<b><u>Good</u></b>	<b><u>Very Good</u></b>	<b><u>Excellent</u></b>
a. Available ‘opportunities’ in the community to meet and interact					
b. Available ‘physical’ spaces to meet and interact					
c. ‘Open heartedness’/willingness to meet and interact					
d. Frequency of leisure or productive activities					
e. Recognitions by the residents on the importance of participation in the community activities					



f. Feelings of being part of the community and a sense of belonging					
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**32. How would you rate the following in your community neighbourhood?**

<u>Social Cohesion Indicators</u>	Poor	Satisfactory	Good	Very Good	Excellent
a. Enduring social relationships					
b. Informal face-to-face interaction					
c. Shared values					
d. Shared interests					
e. Strong social ties and bonds					

**33. Do you feel that the design and layout of the neighbourhood can impact social interaction amongst the residents“?**

Yes

No

**34. If above is yes, To what extent can it impact**

<u>Factor</u>	<u>Very Low</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Very High</u>
a. Design and Layout of Neighbourhood					

**35. Any comments/suggestions on the following**

<b>To enhance/promote social inclusion</b>
<b>To enhance/promote social cohesion</b>

<b>To improve community living</b>

## Appendix III - Semi-Structured Interview

Ref No: \_\_\_\_\_

### Semi-structured Interview

1. Can you share your ‘experience’ with regards to ‘residential unit in’ terms of its planning, light and ventilation?

#### Probes: Design and space planning; light and ventilation

*How long they plan to reside and why?*

*If changing of residential unit is in the mind, probe why?*

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2. What are the main reasons that you are residing in this neighbourhood?

*Probes: Affordability factor, proximity to place of work; Socio-cultural aspects*

*Cultural proximity and familiarity within the neighbourhood;*

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**Can you share your ‘overall experience’ with the available amenities in your neighbourhood?**

*Probes: Available amenities, Accessibility to the amenities, Quality of products and services provided; Common open and indoor public spaces*

*Do indoor and outdoor public spaces contribute to social mixing and interactions?*

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3. To what extent residents interact with other residents within the community neighbourhood?

*Probes: Available opportunities, community activities, frequency of interactions within the community, Willingness of the residents to interact with others*

*Do you know your neighbours well?*

*How often do you interact with your neighbours?*

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**4. Do you feel the sense of being included in the community?**

*Probes: Participation and involvement in community organised activities and social ties of respect and recognition within community*

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**5. What are your ‘problems’ and ‘issues’ that you encounter on daily basis in the neighbourhood?**

*Probes: Problems are individuals whereas issues are related to the community neighbourhood and persistent.*

*What are the specific problems faced by the respondent and what are the issues within the community? questions related to amenities, accessibility to the neighbourhood, questions related to social inclusion, social interaction, social ties, and willingness of residents to meet and interact with fellow residents*

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**6. What are your suggestions that you think are the physical factors that will improve the neighbourhood for a better community living.**

*Probes: What can be done by the planners and developers to improve the ‘neighbourhood design’ in terms of amenities, urban design, overall environment towards better community and sustainable living?*

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**7. What are your suggestions that you think are the Non-physical factors that will cater for socially inclusive neighbourhood?**

*Probes: Will the participation and involvement in community organized activities, informal supports, formal supports, social ties within community help for better community living and a socially inclusive community*

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**8. What are the contributing socio-cultural factors for ‘social inclusion’ in your community neighbourhood?**

*Probes: Social interactions, Opportunities’ for Social interactions, attitudes of the residents on social inclusion, willingness, frequency of socio-cultural activities, participations, involvement and engagement, community belongingness, social ties, respect, and recognition*

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**9. Do you feel that it is important to have community living with social cohesiveness within your neighbourhood? How does it help in the overall well-being of the family?**

*Probes: Is it important to have opportunities for residents in the community to meet and interact Physical spaces for residents to meet and interact, Community driven ‘social and cultural activities’ in neighbourhood, to have sense of community and sense of belonging*

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**10. Do you feel that the layout and design of neighbourhood and open spaces within your neighbourhood can influence social interaction**

*Probes: Does the layout and design of neighbourhood and open spaces within the neighbourhood motivate residents to come together and interact*

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## **Demographic Profile**

### **1. Give a Brief Outline about yourself.**

*Probes: Years of residence in UAE/Dubai, why Dubai? Work/profession/ education, socio-cultural and educational background and family structure*

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## **INTERVIEW GUIDE**

### **Housing:**

- Type of accommodation
- Light and Ventilation
- Space Planning and design

### **Neighbourhood Experience:**

- Proximity to workplace
- Affordability
- Amenities
- Accessibility
- Available public spaces
- Family, friends and relatives
- Social interaction
- Community belonging
- Image of the neighbourhood (Excellent/Good/bad)

### **Neighbourhood Issues:**

- Overall accessibility
- Traffic problems
- Parking
- Privacy
- Safety and security
- Infrastructural facilities

### **Socio-cultural factors**

- Opportunities to meet and interact
- Physical spaces to meet and interact
- Willingness to meet and interact
- Social and cultural activities in neighbourhood
- Participation
- Involvement and engagement
- Informal supports
- Formal support
- Community belongingness
- Social ties, respect and recognition

### **Social Cohesion**

- Enduring social relationships
- Informal face-to-face interaction
- Reciprocal relationships
- Shared values
- Shared interests
- Shared challenges
- Strong social ties and bonds

### **Demographic Profile**

- Age
- Years of residence in Dubai
- Occupation
- Family structure
- Number of family members
- Number of children
- Age group of children

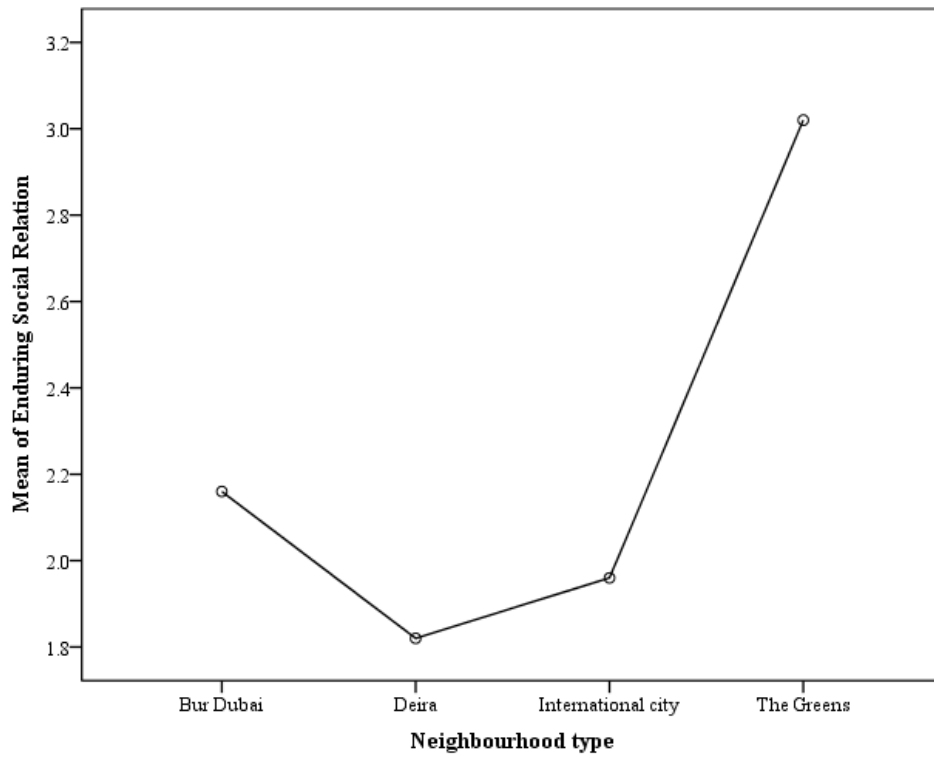
# Appendix IV - Quantitative Analysis Data

## ANOVA Post Hoc Results

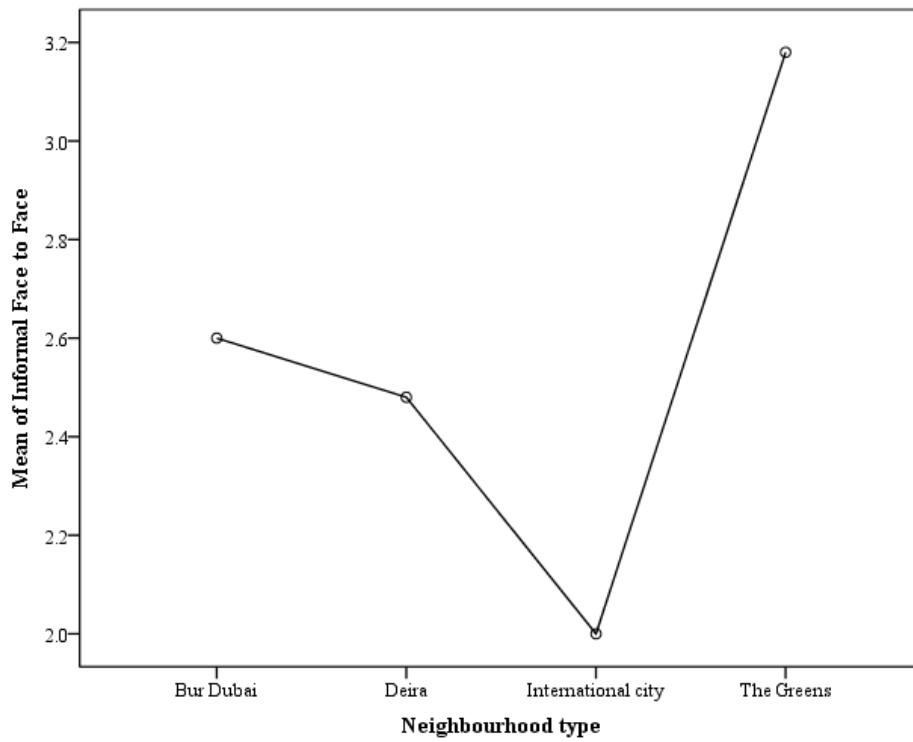
Multiple Comparisons							
TukeyHSD							
Dependent Variable	(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower bound	Upper bound
Enduring social relation	Bur Dubai	Deira	.340	.148	.101	-.04	.72
		International city	.200	.148	.530	-.18	.58
		The Greens	-.860*	.148	.000	-1.24	-.48
	Deira	Bur Dubai	-.340	.148	.101	-.72	.04
		International city	-.140	.148	.779	-.52	.24
		The Greens	-1.200*	.148	.000	-1.58	-.82
	International city	Bur Dubai	-.200	.148	.530	-.58	.18
		Deira	.140	.148	.779	-.24	.52
		The Greens	-1.060*	.148	.000	-1.44	-.68
	The Greens	Bur Dubai	.860*	.148	.000	.48	1.24
		Deira	1.200*	.148	.000	.82	1.58
		International city	1.060*	.148	.000	.68	1.44
Informal face to face relations	Bur Dubai	Deira	.120	.178	.907	-.34	.58
		International city	.600*	.178	.005	.14	1.06
		The Greens	-.580*	.178	.007	-1.04	-.12
	Deira	Bur Dubai	-.120	.178	.907	-.58	.34
		International city	.480*	.178	.038	.02	.94
		The Greens	-.700*	.178	.001	-1.16	-.24
	International city	Bur Dubai	-.600*	.178	.005	-1.06	-.14
		Deira	-.480*	.178	.038	-.94	-.02
		The Greens	-1.180*	.178	.000	-1.64	-.72
	The Greens	Bur Dubai	.580*	.178	.007	.12	1.04
		Deira	.700*	.178	.001	.24	1.16
		International city	1.180*	.178	.000	.72	1.64
Shared values	Bur Dubai	Deira	.500*	.169	.019	.06	.94
		International city	.620*	.169	.002	.18	1.06
		The Greens	-.280	.169	.352	-.72	.16
	Deira	Bur Dubai	-.500*	.169	.019	-.94	-.06
		International city	.120	.169	.894	-.32	.56
		The Greens	-.780*	.169	.000	-1.22	-.34
	International city	Bur Dubai	-.620*	.169	.002	-1.06	-.18
		Deira	-.120	.169	.894	-.56	.32
		The Greens	-.900*	.169	.000	-1.34	-.46
	The Greens	Bur Dubai	.280	.169	.352	-.16	.72
		Deira	.780*	.169	.000	.34	1.22
		International city	.900*	.169	.000	.46	1.34
Shared interests	Bur Dubai	Deira	.120	.167	.890	-.31	.55
		International city	.400	.167	.081	-.03	.83
		The Greens	-.480*	.167	.023	-.91	-.05
	Deira	Bur Dubai	-.120	.167	.890	-.55	.31
		International city	.280	.167	.338	-.15	.71
		The Greens	-.600*	.167	.002	-1.03	-.17
	International city	Bur Dubai	-.400	.167	.081	-.83	.03
		Deira	-.280	.167	.338	-.71	.15
		The Greens	-.880*	.167	.000	-1.31	-.45
	The Greens	Bur Dubai	.480*	.167	.023	.05	.91
		Deira	.600*	.167	.002	.17	1.03
		International city	.880*	.167	.000	.45	1.31
Strong social ties	Bur Dubai	Deira	.560*	.202	.031	.04	1.08
		International city	.940*	.202	.000	.42	1.46
		The Greens	-.540*	.202	.040	-1.06	-.02
	Deira	Bur Dubai	-.560*	.202	.031	-1.08	-.04
		International city	.380	.202	.239	-.14	.90
		The Greens	-1.100*	.202	.000	-1.62	-.58
	International city	Bur Dubai	-.940*	.202	.000	-1.46	-.42
		Deira	-.380	.202	.239	-.90	.14
		The Greens	-1.480*	.202	.000	-2.00	-.96
	The Greens	Bur Dubai	.540*	.202	.040	.02	1.06
		Deira	1.100*	.202	.000	.58	1.62
		International city	1.480*	.202	.000	.96	2.00

\*. The mean difference is significant at the 0.05 level.

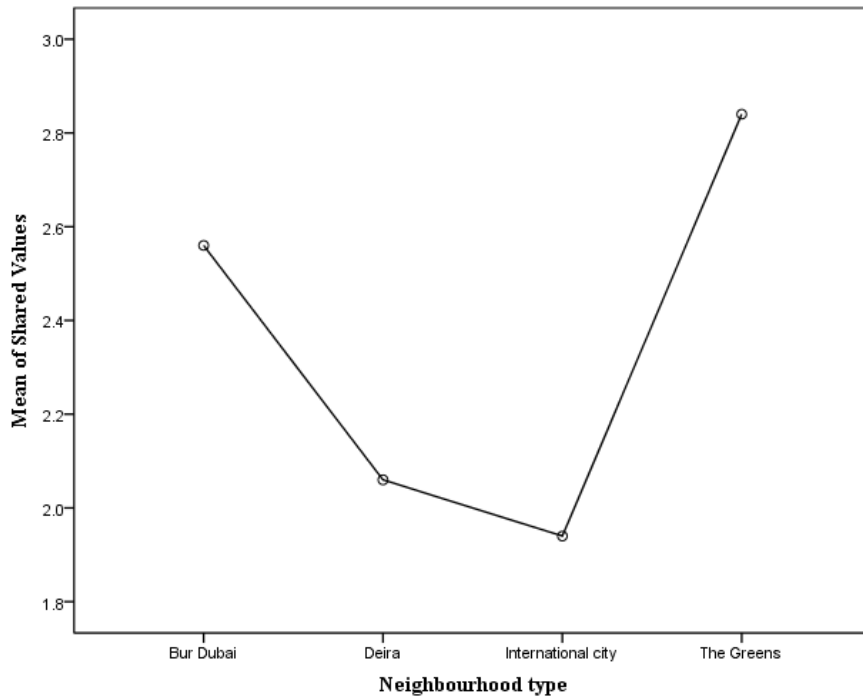




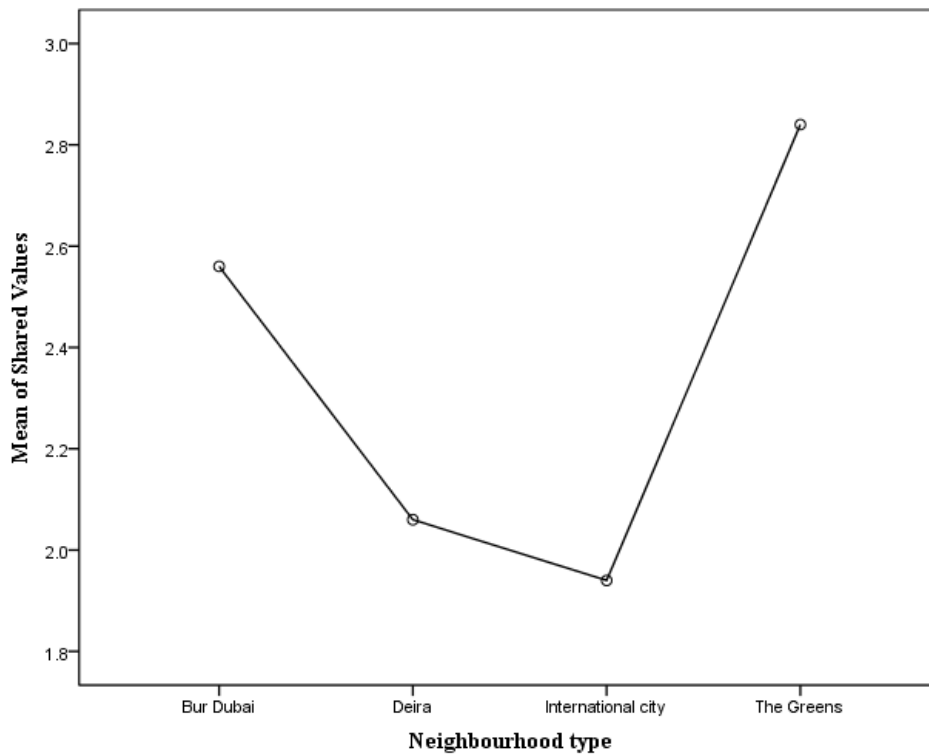
**Mean plot of enduring social relation versus the neighbourhood type**



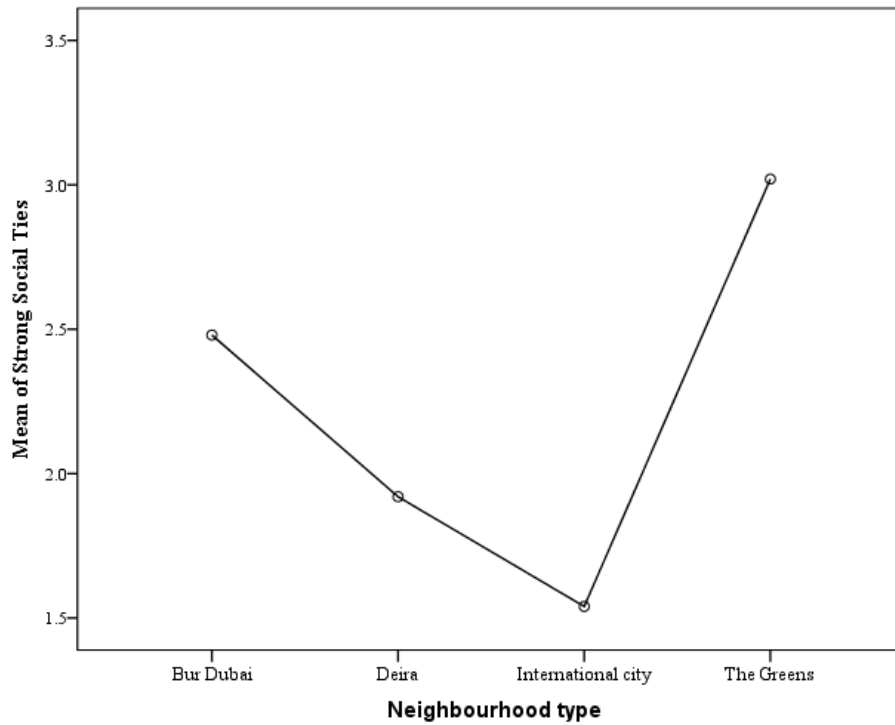
**Mean plot of informal face to face versus the neighbourhood type**



**Mean plot of shared values versus the neighbourhood type**



**Mean plot of shared interests versus the neighbourhood type**



**Mean plot of social ties versus the neighbourhood type**

**ANOVA Model Summary,**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.526 <sup>a</sup>	.277	.273	.741	2.115

a. Predictors: (Constant), Common Space Outdoor  
b. Dependent Variable: Enduring Social Relation

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.623	1	41.623	75.708	.000 <sup>b</sup>
	Residual	108.857	198	.550		
	Total	150.480	199			

a. Dependent Variable: Enduring Social Relation  
b. Predictors: (Constant), Common Space Outdoor

Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.969	.155		6.242	.000	.663	1.275		
	Common Space Outdoor	.429	.049	.526	8.701	.000	.332	.527	1.000	1.000

a. Dependent Variable: Enduring Social Relation

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.195 <sup>a</sup>	.038	.033	.964	1.641

a. Predictors: (Constant), Common Space Outdoor  
b. Dependent Variable: Informal Face to Face

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.275	1	7.275	7.834	.006 <sup>b</sup>
	Residual	183.880	198	.929		
	Total	191.155	199			

a. Dependent Variable: Informal Face to Face  
b. Predictors: (Constant), Common Space Outdoor

Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.034	.202		10.080	.000	1.636	2.431		
	Common Space Outdoor	.180	.064	.195	2.799	.006	.053	.306	1.000	1.000

a. Dependent Variable: Informal Face to Face

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.266 <sup>a</sup>	.071	.066	.887	1.595

a. Predictors: (Constant), Common Space Outdoor  
b. Dependent Variable: Shared Values

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.890	1	11.890	15.128	.000 <sup>b</sup>
	Residual	155.610	198	.786		
	Total	167.500	199			
a. Dependent Variable: Shared Values						
b. Predictors: (Constant), Common Space Outdoor						

Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.671	.186		9.002	.000	1.305	2.037		
	Common Space Outdoor	.230	.059	.266	3.890	.000	.113	.346	1.000	1.000
a. Dependent Variable: Shared Values										

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.252 <sup>a</sup>	.064	.059	.861	1.725
a. Predictors: (Constant), Common Space Outdoor					
b. Dependent Variable: Shared Interests					

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.989	1	9.989	13.474	.000 <sup>b</sup>
	Residual	146.791	198	.741		
	Total	156.780	199			
a. Dependent Variable: Shared Interests						
b. Predictors: (Constant), Common Space Outdoor						

Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.687	.180		9.361	.000	1.332	2.043		
	Common Space Outdoor	.210	.057	.252	3.671	.000	.097	.323	1.000	1.000
a. Dependent Variable: Shared Interests										

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.353 <sup>a</sup>	.125	.120	1.077	1.456
a. Predictors: (Constant), Common Space Outdoor					
b. Dependent Variable: Strong Social Ties					

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.711	1	32.711	28.188	.000 <sup>b</sup>
	Residual	229.769	198	1.160		
	Total	262.480	199			

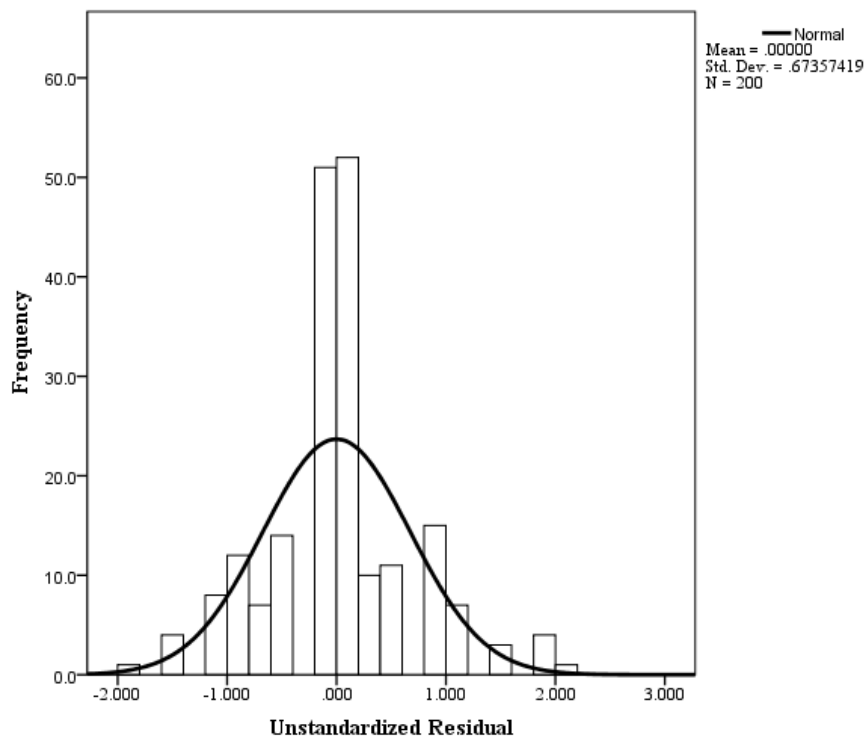
a. Dependent Variable: Strong Social Ties

b. Predictors: (Constant), Common Space Outdoor

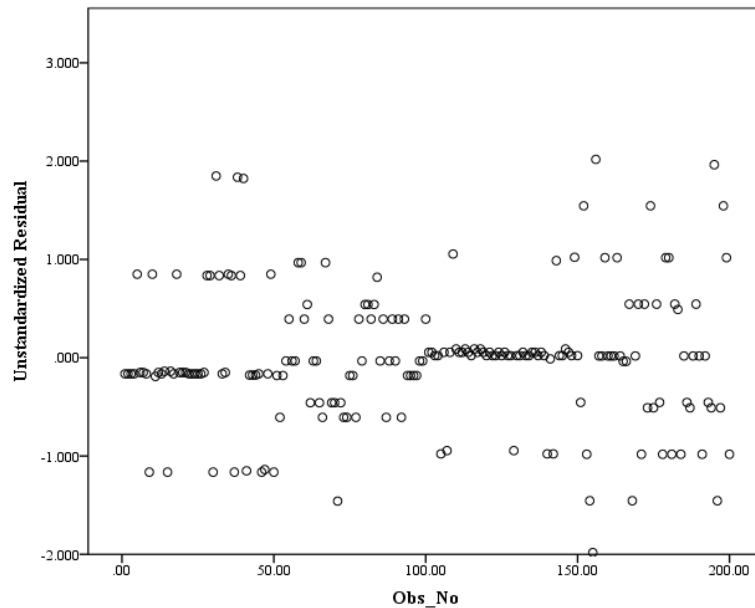
Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.113	.226		4.936	.000	.668	1.558		
	Common Space Outdoor	.381	.072	.353	5.309	.000	.239	.522	1.000	1.000

a. Dependent Variable: Strong Social Ties

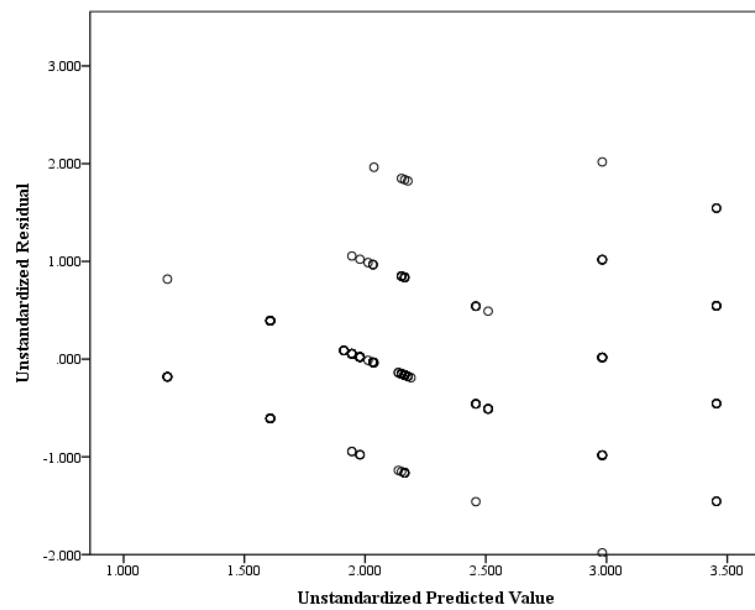
## APPENDIX:



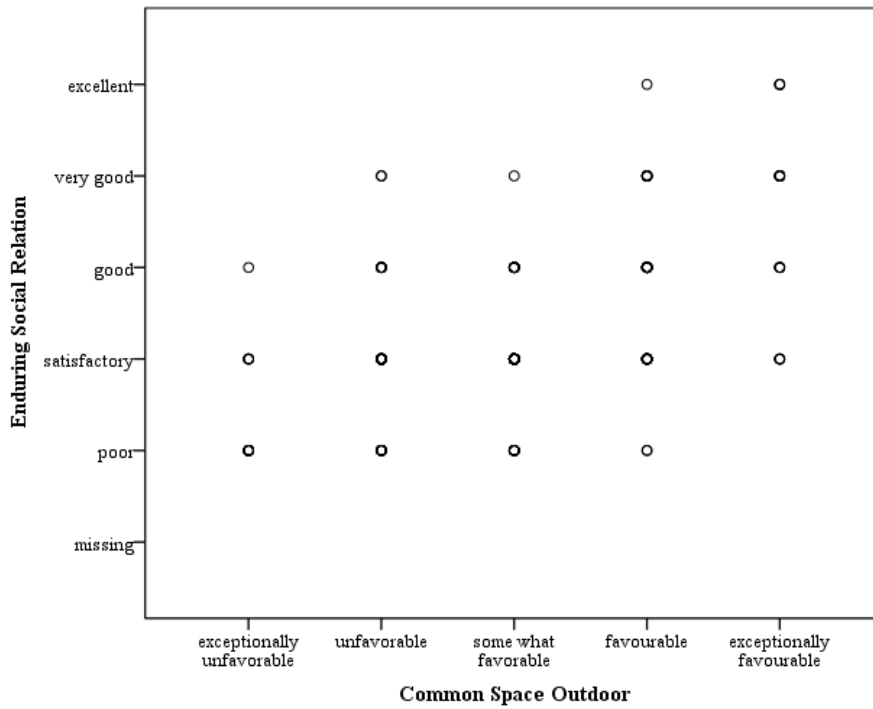
**Histogram for normality, enduring social relations (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



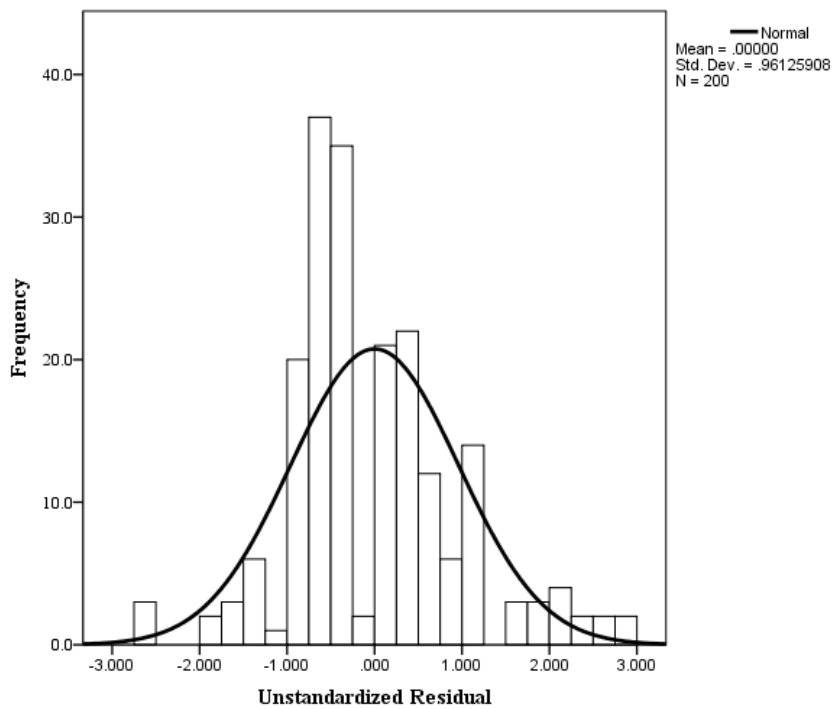
**Scatterplot for independence of error for enduring social relations (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



**Scatterplot for homogeneity of variance for enduring social relations (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**

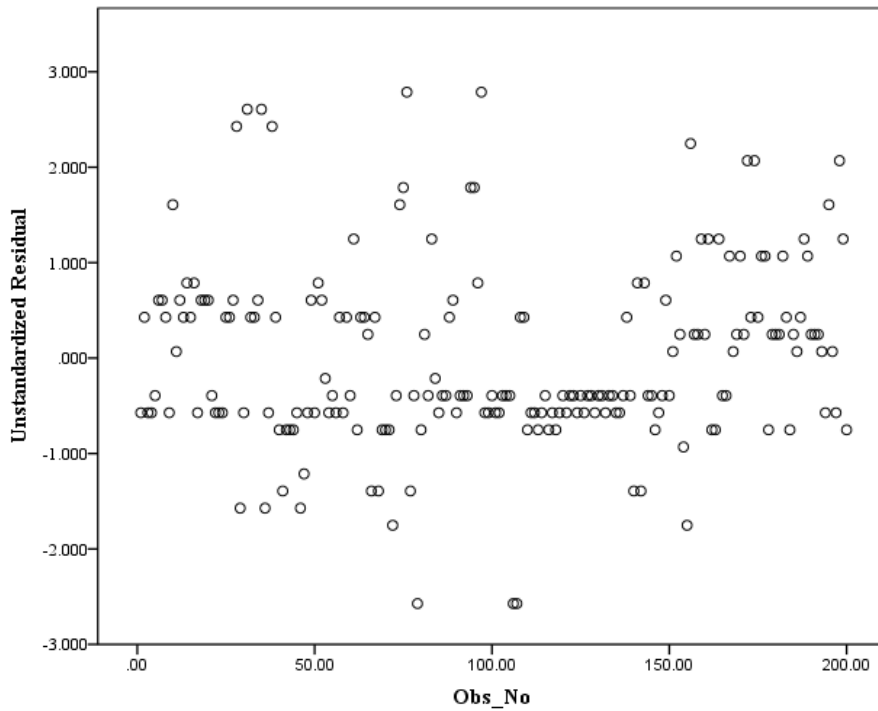


**Scatterplot for 'linearity' for enduring social relations (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**

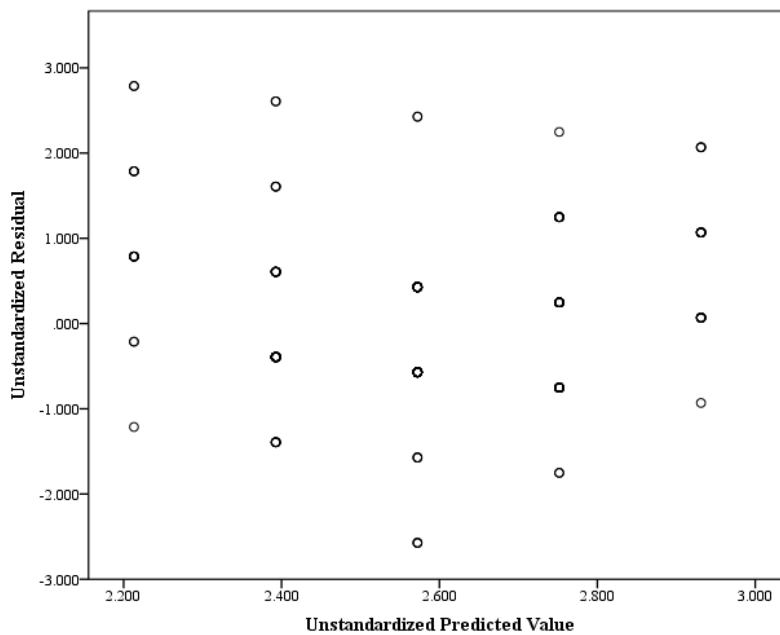


**Histogram for normality, informal face to face relations (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**

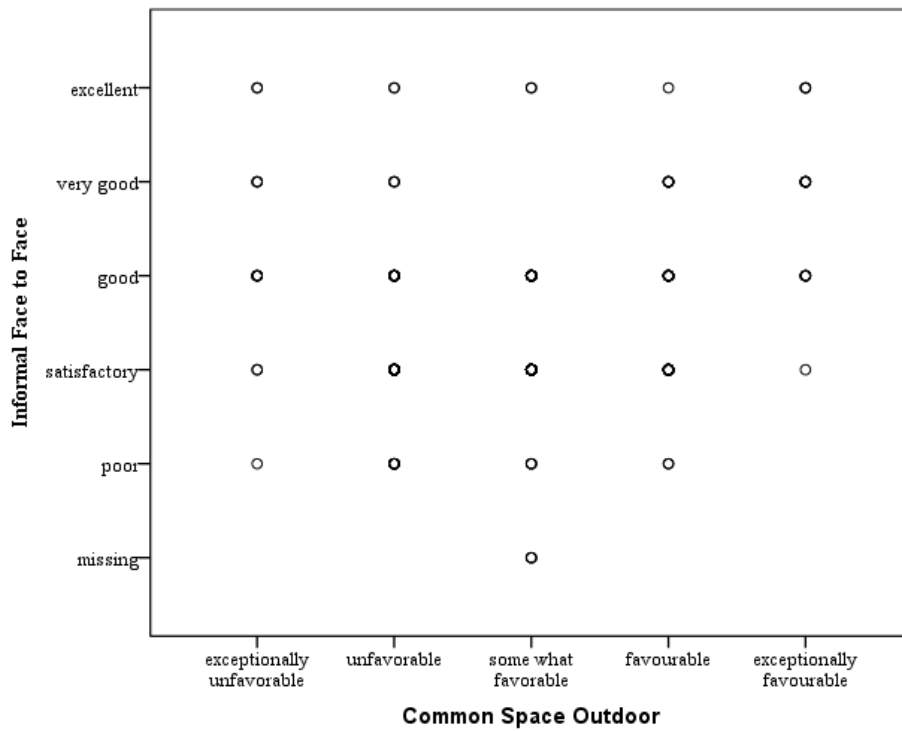




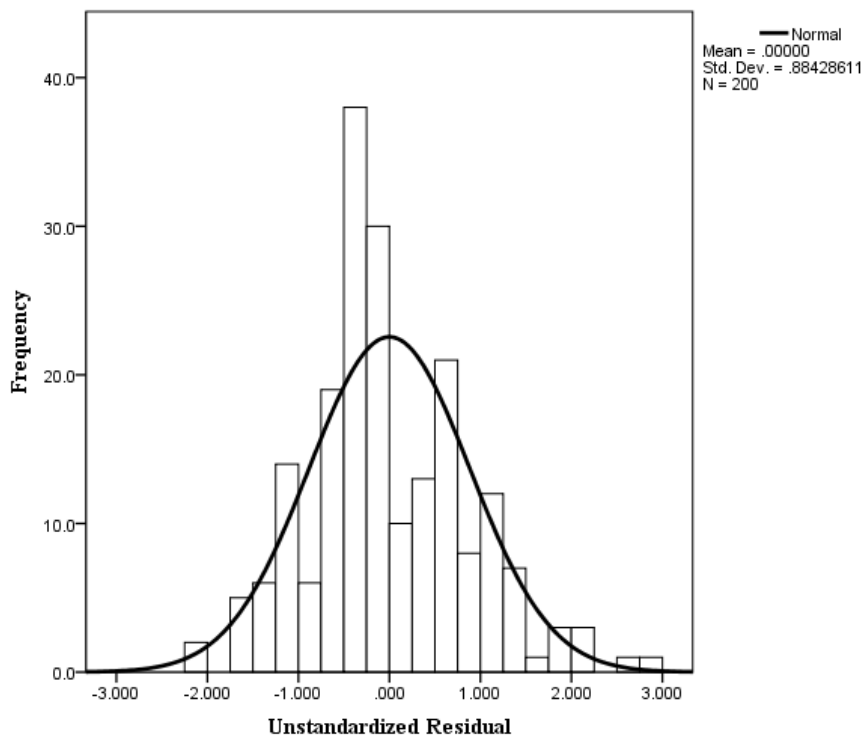
**Scatterplot for independence of error for informal face to face relations (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



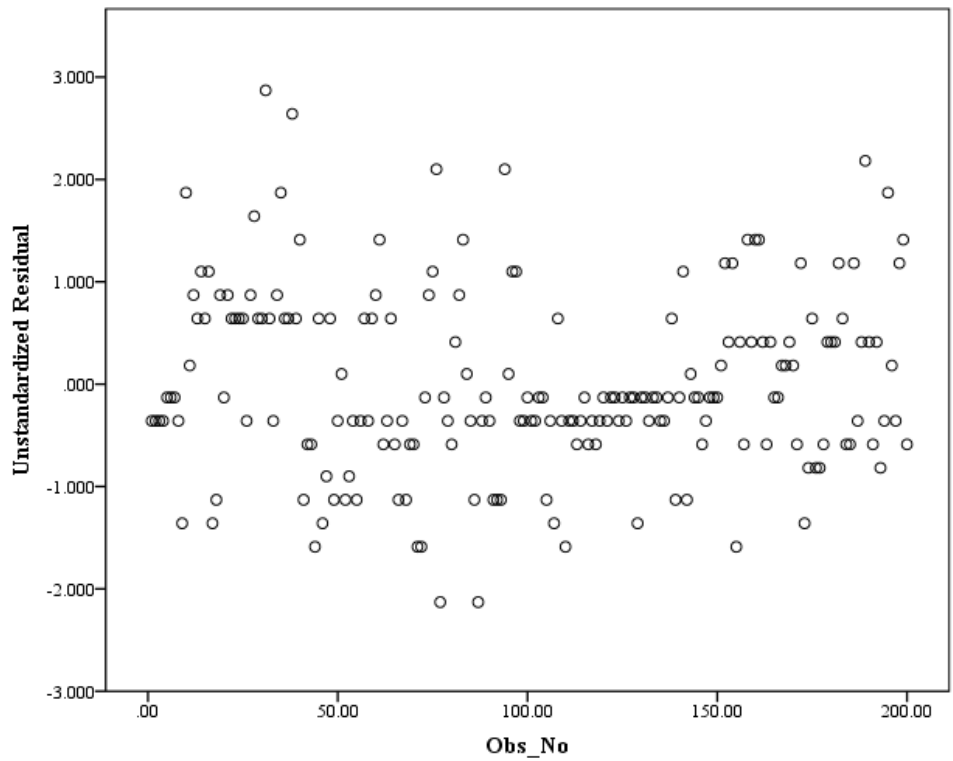
**Scatterplot for homogeneity of variance for informal face to face relations (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



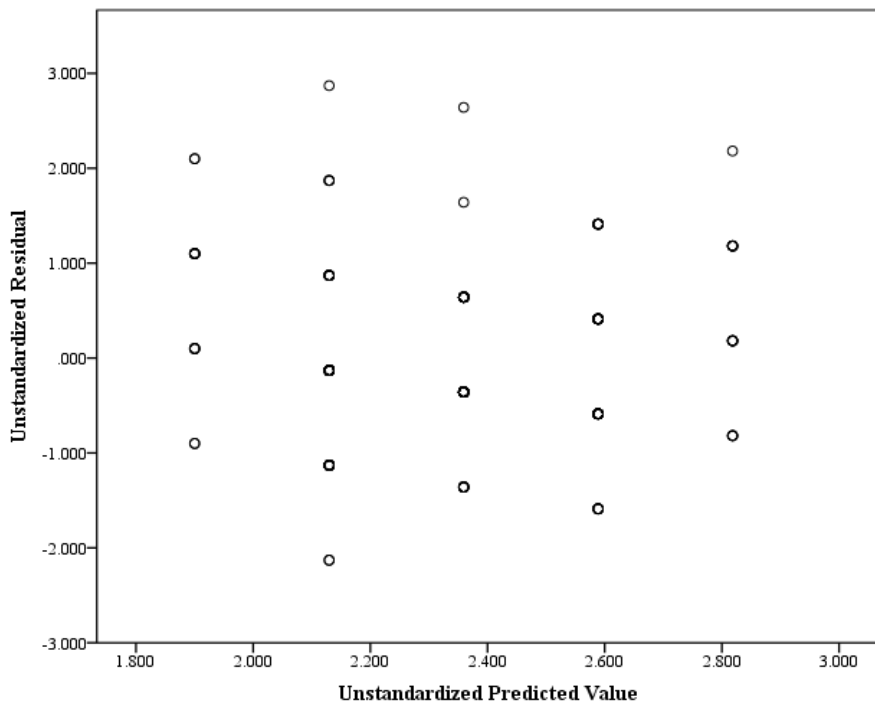
**Scatter plot for 'linearity' for informal face to face relations (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



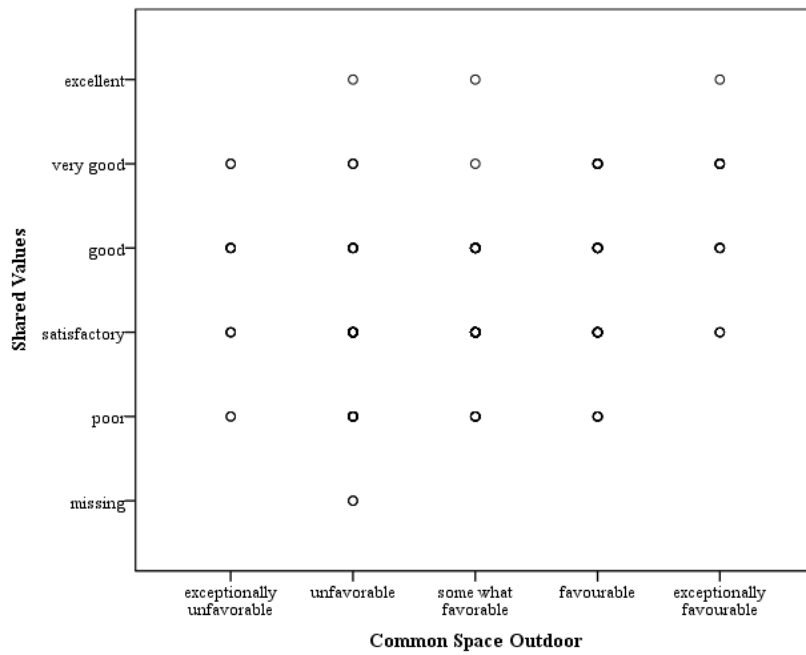
**Histogram for normality, shared values (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



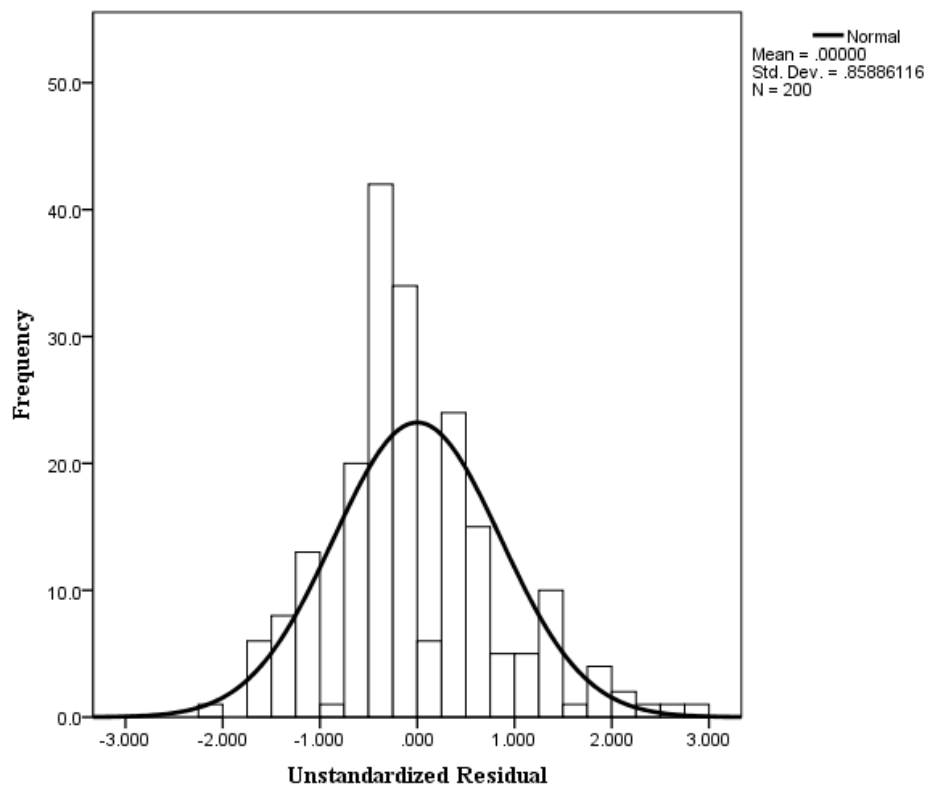
**Scatterplot for independence of error for shared values (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



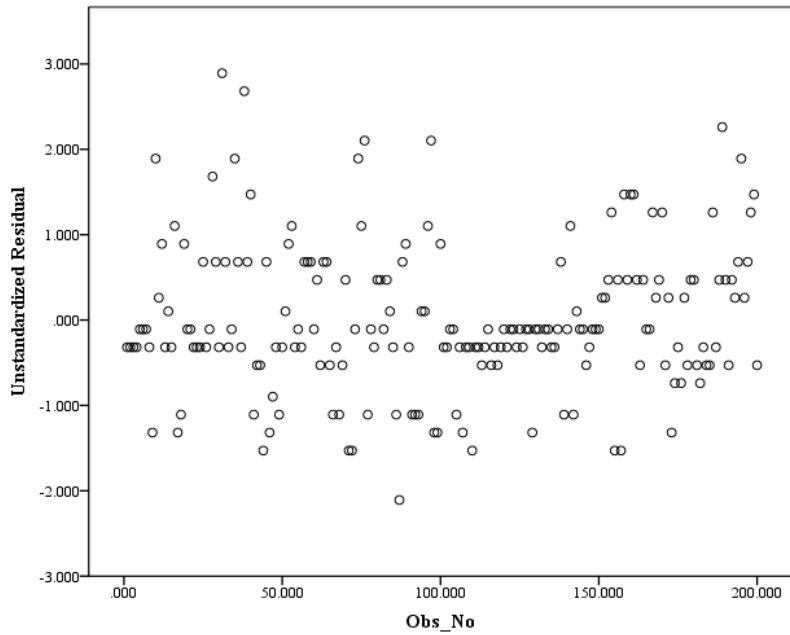
**Scatterplot for homogeneity of variance for shared values (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



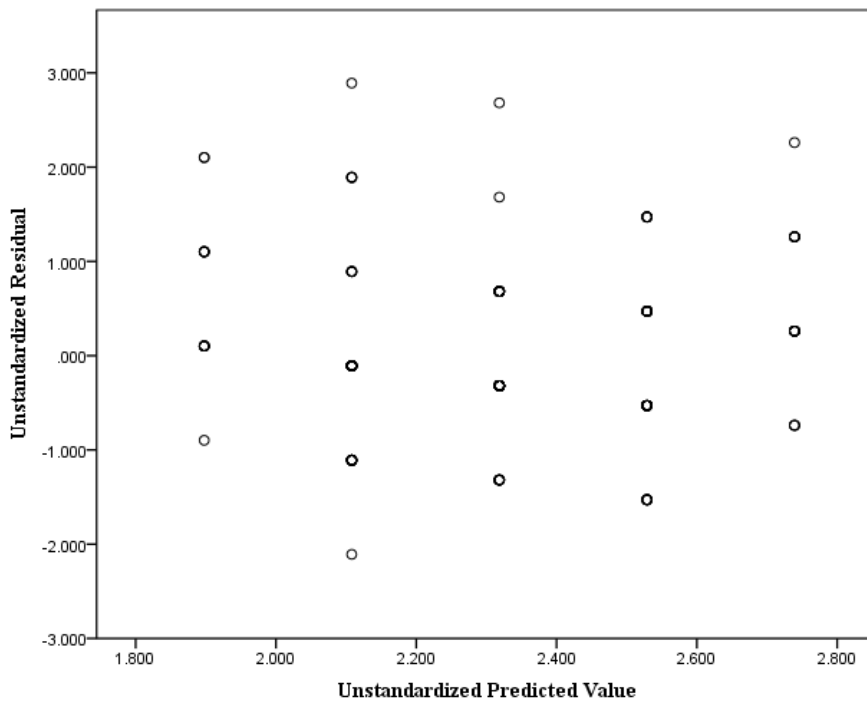
**Scatter plot for ‘linearity’ for share values (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



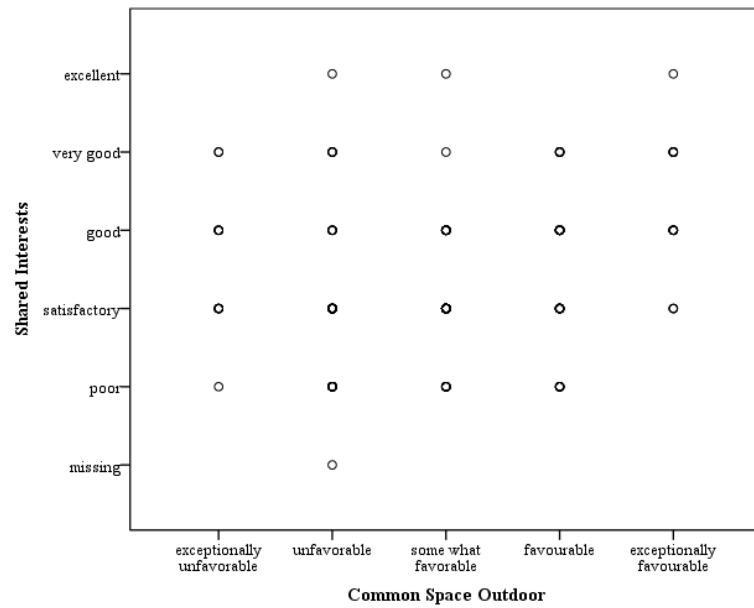
**Histogram for normality, shared interests (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



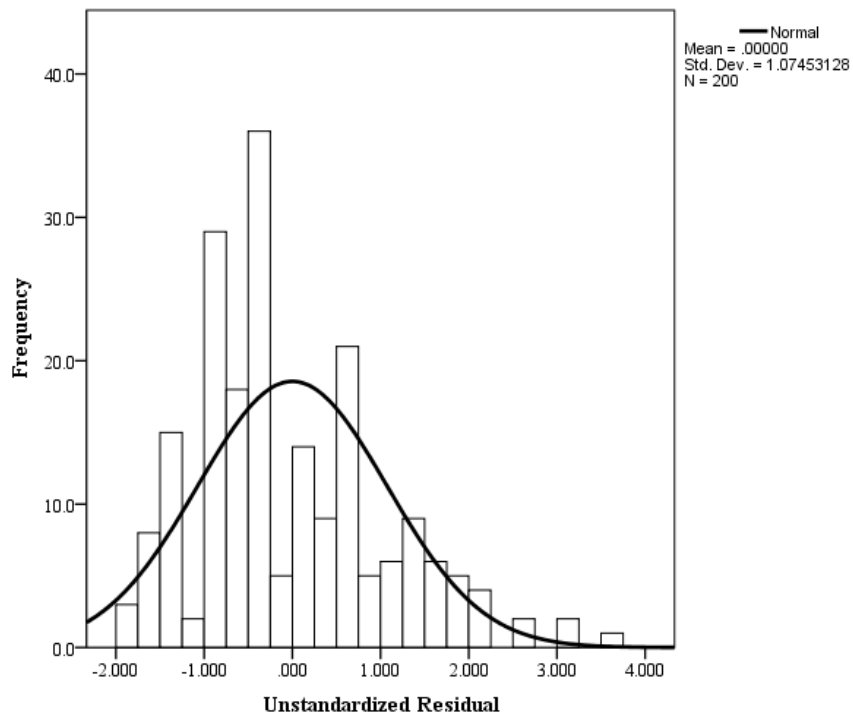
**Scatterplot for independence of error for shared interest (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



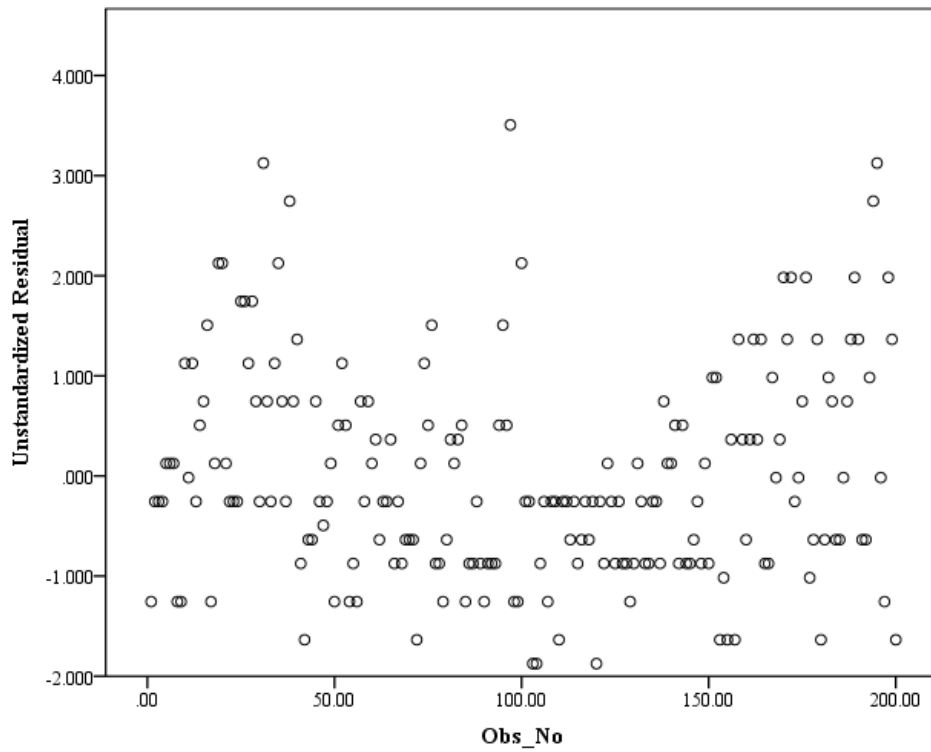
**Scatterplot for homogeneity of variance for shared interests (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



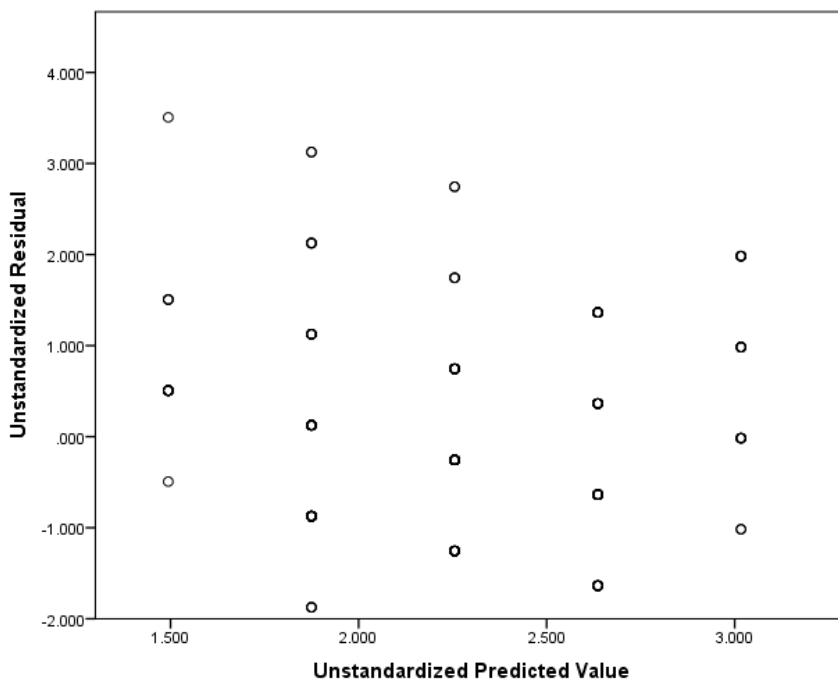
**Scatter plot for ‘linearity’ for shared interests (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



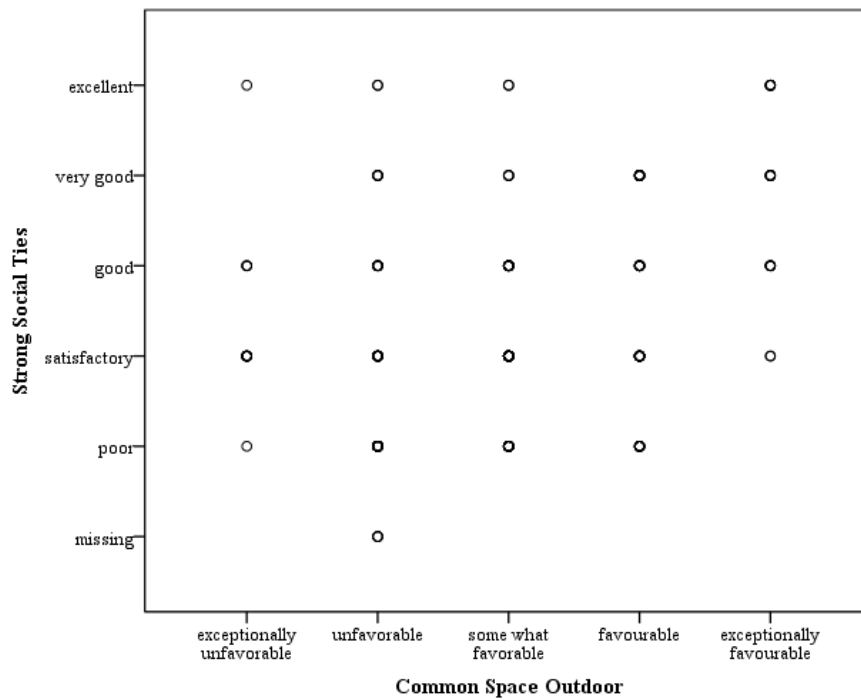
**Histogram for normality, strong social ties (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



**Scatterplot for independence of error for strong social ties (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



**Scatterplot for homogeneity of variance for strong social ties (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**



**Scatter plot for ‘linearity’ for strong social ties (dependent variable) and common spaces outdoor (independent variable) for all neighbourhood**

Bur Dubai									
S.No.	Depenent variables	Independent variable	Number of observations	R2	Regression Coefficient	t statistics of regression	p value t-statistics	F statistics	P value F statistics
1	Enduring social relations	Common outdoor spaces	50	0.00	0.01	0.09	0.93	0.01	0.93
2	Informal face to face relations		50	0.03	-0.23	-1.29	0.20	1.66	0.20
3	Shared values		50	0.00	0.01	0.07	0.94	0.01	0.94
4	Shared interests		50	0.00	0.06	0.33	0.74	0.11	0.74
5	Social ties		50	0.02	-0.06	-0.31	0.76	0.09	0.76

**Table 4.15: Simple Linear regression for social cohesion indicators (dependent variables) and common space outdoors (independent variable) for Bur Dubai**



Deira									
S.No.	Depeent variables	Independent variable	Number of observations	R2	Regression Coefficient	t statistics of regression	p value t-statistics	F statistics	P value F statistics
1	Enduring social relations	Common outdoor spaces	50	0.04	0.43	6.00	0.00	35.93	0.00
2	Informal face to face relations		50	0.06	-0.24	-1.70	0.10	2.87	0.10
3	Shared values		50	0.00	0.03	0.22	0.83	0.05	0.83
4	Shared interests		50	0.00	-0.40	-0.30	0.77	0.09	0.77
5	Social ties		50	0.02	-0.04	-0.31	0.76	0.09	0.76

**Table 4.15: Simple Linear regression for social cohesion indicators (dependent variables) and common space outdoors (independent variable) for Deira**

International city									
S.No.	Depeent variables	Independent variable	Number of observations	R2	Regression Coefficient	t statistics of regression	p value t-statistics	F statistics	P value F statistics
1	Enduring social relations	Common outdoor spaces	50	0.15	-0.03	-0.42	0.67	0.18	0.67
2	Informal face to face relations		50	0.02	0.01	-1.02	0.31	1.05	0.31
3	Shared values		50	0.01	-0.05	-0.60	0.55	0.36	0.55
4	Shared interests		50	0.02	-0.07	-0.86	0.39	0.75	0.39
5	Social ties		50	0.18	0.38	3.26	0.00	10.65	0.00

**Table 4.15: Simple Linear regression for social cohesion indicators (dependent variables) and common space outdoors (independent variable) for International city**

The Greens									
S.No.	Depeent variables	Independent variable	Number of observations	R2	Regression Coefficient	t statistics of regression	p value t-statistics	F statistics	P value F statistics
1	Enduring social relations	Common outdoor spaces	50	0.15	0.47	2.95	0.05	8.17	0.05
2	Informal face to face relations		50	0.17	0.45	3.11	0.00	9.66	0.00
3	Shared values		50	0.10	0.35	2.32	0.02	5.57	0.02
4	Shared interests		50	0.10	0.35	2.35	0.02	5.53	0.02
5	Social ties		50	0.12	0.53	2.50	0.02	6.23	0.02

**Table 4.15: Simple Linear regression for social cohesion indicators (dependent variables) and common space outdoors (independent variable) for The Greens**

Model Summary <sup>b</sup>						
Type		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
BurDubai	1	.014 <sup>a</sup>	.000	-.021	.773	2.130
Deira	1	.654 <sup>a</sup>	.428	.416	.505	1.337
International city	1	.061 <sup>a</sup>	.004	-.017	.405	2.227
Greens	1	.392 <sup>a</sup>	.154	.136	.929	2.467

a. Predictors: (Constant), Common Space Outdoor  
b. Dependent Variable: Enduring Social Relation

ANOVA <sup>a</sup>							
Type			Sum of Squares	df	Mean Square	F	Sig.
BurDubai	1	Regression	.005	1	.005	.009	.926 <sup>b</sup>
		Residual	28.715	48	.598		
		Total	28.720	49			
Deira	1	Regression	9.153	1	9.153	35.935	.000 <sup>b</sup>
		Residual	12.227	48	.255		
		Total	21.380	49			
International city	1	Regression	.029	1	.029	.179	.674 <sup>b</sup>
		Residual	7.891	48	.164		
		Total	7.920	49			
Greens	1	Regression	7.525	1	7.525	8.713	.005 <sup>b</sup>
		Residual	41.455	48	.864		
		Total	48.980	49			

a. Dependent Variable: Enduring Social Relation  
b. Predictors: (Constant), Common Space Outdoor

Coefficients <sup>a</sup>											
Type			Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
			B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
BurDubai	1	(Constant)	2.125	.394		5.397	.000	1.333	2.916		
		Common Space Outdoor	.013	.140	.014	.094	.926	-.268	.295	1.000	1.000
Deira	1	(Constant)	.756	.191		3.949	.000	.371	1.140		
		Common Space Outdoor	.426	.071	.654	5.995	.000	.283	.569	1.000	1.000
International city	1	(Constant)	2.046	.210		9.728	.000	1.623	2.468		
		Common Space Outdoor	-.033	.079	-.061	-.423	.674	-.192	.125	1.000	1.000
Greens	1	(Constant)	1.091	.666		1.638	.108	-.248	2.431		
		Common Space Outdoor	.473	.160	.392	2.952	.005	.151	.795	1.000	1.000

a. Dependent Variable: Enduring Social Relation

Model Summary <sup>b</sup>						
Type		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
BurDubai	1	.183 <sup>a</sup>	.033	.013	.983	1.853
Deira	1	.238 <sup>a</sup>	.056	.037	.996	2.075
International city	1	.146 <sup>a</sup>	.021	.001	.571	1.960
Greens	1	.409 <sup>a</sup>	.168	.150	.847	2.126

a. Predictors: (Constant), Common Space Outdoor

b. Dependent Variable: Informal Face to Face

ANOVA <sup>a</sup>							
Type			Sum of Squares	df	Mean Square	F	Sig.
BurDubai	1	Regression	1.607	1	1.607	1.662	.203 <sup>b</sup>
		Residual	46.393	48	.967		
		Total	48.000	49			
Deira	1	Regression	2.851	1	2.851	2.874	.097 <sup>b</sup>
		Residual	47.629	48	.992		
		Total	50.480	49			
International city	1	Regression	.342	1	.342	1.048	.311 <sup>b</sup>
		Residual	15.658	48	.326		
		Total	16.000	49			
Greens	1	Regression	6.932	1	6.932	9.660	.003 <sup>b</sup>
		Residual	34.448	48	.718		
		Total	41.380	49			

a. Dependent Variable: Informal Face to Face

b. Predictors: (Constant), Common Space Outdoor

Coefficients <sup>a</sup>											
Type			Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
			B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
BurDubai	1	(Constant)	3.220	.500		6.435	.000	2.214	4.226		
		Common Space Outdoor	-.230	.178	-.183	-1.289	.203	-.587	.128	1.000	1.000
Deira	1	(Constant)	3.074	.378		8.139	.000	2.315	3.833		
		Common Space Outdoor	-.238	.140	-.238	-1.695	.097	-.519	.044	1.000	1.000
International city	1	(Constant)	2.292	.296		7.737	.000	1.696	2.887		
		Common Space Outdoor	-.114	.111	-.146	-1.024	.311	-.338	.110	1.000	1.000
Greens	1	(Constant)	1.329	.608		2.188	.034	.108	2.550		
		Common Space Outdoor	.454	.146	.409	3.108	.003	.160	.747	1.000	1.000

a. Dependent Variable: Informal Face to Face

Model Summary <sup>b</sup>						
Type		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
BurDubai	1	.183 <sup>a</sup>	.033	.013	.983	1.853
Deira	1	.238 <sup>a</sup>	.056	.037	.996	2.075
International city	1	.146 <sup>a</sup>	.021	.001	.571	1.960
Greens	1	.409 <sup>a</sup>	.168	.150	.847	2.126

a. Predictors: (Constant), Common Space Outdoor

b. Dependent Variable: Informal Face to Face

ANOVA <sup>a</sup>							
Type			Sum of Squares	df	Mean Square	F	Sig.
BurDubai	1	Regression	1.607	1	1.607	1.662	.203 <sup>b</sup>
		Residual	46.393	48	.967		
		Total	48.000	49			
Deira	1	Regression	2.851	1	2.851	2.874	.097 <sup>b</sup>
		Residual	47.629	48	.992		
		Total	50.480	49			
International city	1	Regression	.342	1	.342	1.048	.311 <sup>b</sup>
		Residual	15.658	48	.326		
		Total	16.000	49			
Greens	1	Regression	6.932	1	6.932	9.660	.003 <sup>b</sup>
		Residual	34.448	48	.718		
		Total	41.380	49			

a. Dependent Variable: Informal Face to Face

b. Predictors: (Constant), Common Space Outdoor

Coefficients <sup>a</sup>											
Type			Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
			B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
		Common Space Outdoor	-.230	.178	-.183	-1.289	.203	-.587	.128	1.000	1.000
Deira	1	(Constant)	3.074	.378		8.139	.000	2.315	3.833		
		Common Space Outdoor	-.238	.140	-.238	-1.695	.097	-.519	.044	1.000	1.000
International city	1	(Constant)	2.292	.296		7.737	.000	1.696	2.887		
		Common Space Outdoor	-.114	.111	-.146	-1.024	.311	-.338	.110	1.000	1.000
Greens	1	(Constant)	1.329	.608		2.188	.034	.108	2.550		
		Common Space Outdoor	.454	.146	.409	3.108	.003	.160	.747	1.000	1.000

a. Dependent Variable: Informal Face to Face

Model Summary <sup>b</sup>						
Type		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
BurDubai	1	.010 <sup>a</sup>	.000	-.021	1.003	1.533
Deira	1	.032 <sup>a</sup>	.001	-.020	.966	1.550
International city	1	.087 <sup>a</sup>	.008	-.013	.427	2.707
Greens	1	.322 <sup>a</sup>	.104	.085	.850	2.053

a. Predictors: (Constant), Common Space Outdoor

b. Dependent Variable: Shared Values

ANOVA <sup>a</sup>							
Type			Sum of Squares	df	Mean Square	F	Sig.
BurDubai	1	Regression	.005	1	.005	.005	.943 <sup>b</sup>
		Residual	48.315	48	1.007		
		Total	48.320	49			
Deira	1	Regression	.045	1	.045	.048	.828 <sup>b</sup>
		Residual	44.775	48	.933		
		Total	44.820	49			
International city	1	Regression	.066	1	.066	.363	.550 <sup>b</sup>
		Residual	8.754	48	.182		
		Total	8.820	49			
Greens	1	Regression	4.023	1	4.023	5.565	.022 <sup>b</sup>
		Residual	34.697	48	.723		
		Total	38.720	49			

a. Dependent Variable: Shared Values

b. Predictors: (Constant), Common Space Outdoor

Coefficients <sup>a</sup>											
Type			Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
			B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
BurDubai	1	(Constant)	2.525	.511		4.944	.000	1.498	3.551		
		Common Space Outdoor	.013	.182	.010	.072	.943	-.352	.378	1.000	1.000
Deira	1	(Constant)	1.986	.366		5.423	.000	1.249	2.722		
		Common Space Outdoor	.030	.136	.032	.219	.828	-.244	.303	1.000	1.000
International city	1	(Constant)	2.068	.221		9.339	.000	1.623	2.514		
		Common Space Outdoor	-.050	.083	-.087	-.602	.550	-.218	.117	1.000	1.000
Greens	1	(Constant)	1.430	.610		2.345	.023	.204	2.656		
		Common Space Outdoor	.346	.147	.322	2.359	.022	.051	.640	1.000	1.000

a. Dependent Variable: Shared Values

Model Summary <sup>b</sup>						
Type		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
BurDubai	1	.048 <sup>a</sup>	.002	-.019	.987	1.859
Deira	1	.043 <sup>a</sup>	.002	-.019	.935	1.610
International city	1	.124 <sup>a</sup>	.015	-.005	.397	2.597
Greens	1	.321 <sup>a</sup>	.103	.085	.864	1.834
a. Predictors: (Constant), Common Space Outdoor						
b. Dependent Variable: Shared Interests						

ANOVA <sup>a</sup>							
Type			Sum of Squares	df	Mean Square	F	Sig.
BurDubai	1	Regression	.106	1	.106	.109	.743 <sup>b</sup>
		Residual	46.774	48	.974		
		Total	46.880	49			
Deira	1	Regression	.079	1	.079	.091	.765 <sup>b</sup>
		Residual	41.921	48	.873		
		Total	42.000	49			
International city	1	Regression	.118	1	.118	.747	.392 <sup>b</sup>
		Residual	7.562	48	.158		
		Total	7.680	49			
Greens	1	Regression	4.134	1	4.134	5.533	.023 <sup>b</sup>
		Residual	35.866	48	.747		
		Total	40.000	49			
a. Dependent Variable: Shared Interests							
b. Predictors: (Constant), Common Space Outdoor							

Coefficients <sup>a</sup>											
Type			Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
			B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
BurDubai	1	(Constant)	2.161	.502		4.301	.000	1.151	3.171		
		Common Space Outdoor	.059	.179	.048	.330	.743	-.300	.418	1.000	1.000
Deira	1	(Constant)	2.299	.354		6.488	.000	1.587	3.011		
		Common Space Outdoor	-.040	.132	-.043	-.301	.765	-.304	.225	1.000	1.000
International city	1	(Constant)	2.091	.206		10.158	.000	1.677	2.505		
		Common Space Outdoor	-.067	.077	-.124	-.864	.392	-.222	.089	1.000	1.000
Greens	1	(Constant)	1.371	.620		2.211	.032	.124	2.617		
		Common Space Outdoor	.350	.149	.321	2.352	.023	.051	.650	1.000	1.000
a. Dependent Variable: Shared Interests											

Model Summary <sup>b</sup>						
Type		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
BurDubai	1	.044 <sup>a</sup>	.002	-.019	1.064	1.395
Deira	1	.044 <sup>a</sup>	.002	-.019	.931	1.791
International city	1	.426 <sup>a</sup>	.182	.165	.590	1.974
Greens	1	.339 <sup>a</sup>	.115	.096	1.237	1.593

a. Predictors: (Constant), Common Space Outdoor

b. Dependent Variable: Strong Social Ties

ANOVA <sup>a</sup>							
Type			Sum of Squares	df	Mean Square	F	Sig.
BurDubai	1	Regression	.106	1	.106	.094	.761 <sup>b</sup>
		Residual	54.374	48	1.133		
		Total	54.480	49			
Deira	1	Regression	.079	1	.079	.091	.764 <sup>b</sup>
		Residual	41.601	48	.867		
		Total	41.680	49			
International city	1	Regression	3.709	1	3.709	10.653	.002 <sup>b</sup>
		Residual	16.711	48	.348		
		Total	20.420	49			
Greens	1	Regression	9.535	1	9.535	6.231	.016 <sup>b</sup>
		Residual	73.445	48	1.530		
		Total	82.980	49			

a. Dependent Variable: Strong Social Ties

b. Predictors: (Constant), Common Space Outdoor

Coefficients <sup>a</sup>											
Type			Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
			B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
BurDubai	1	(Constant)	2.639	.542		4.873	.000	1.550	3.728		
		Common Space Outdoor	-.059	.193	-.044	-.306	.761	-.447	.328	1.000	1.000
Deira	1	(Constant)	2.019	.353		5.720	.000	1.309	2.729		
		Common Space Outdoor	-.040	.131	-.044	-.302	.764	-.303	.224	1.000	1.000
International city	1	(Constant)	.579	.306		1.892	.065	-.036	1.194		
		Common Space Outdoor	.375	.115	.426	3.264	.002	.144	.607	1.000	1.000
Greens	1	(Constant)	.849	.887		.957	.343	-.934	2.633		
		Common Space Outdoor	.532	.213	.339	2.496	.016	.104	.961	1.000	1.000

a. Dependent Variable: Strong Social Ties

**APPENDIX:**

**MANOVA: Descriptive Statistics**

Descriptive Statistics					
Common Space Outdoor			Mean	Std. Deviation	N
Regular social interaction	exceptionally unfavorable	1	0.00	0.000	2
		No	.50	.522	12
		Total	.43	.514	14
	unfavorable	1	.38	.495	24
		No	.56	.504	34
		Total	.48	.504	58
	somewhat favorable	1	.58	.507	19
		No	.58	.498	48
		Total	.58	.497	67
	favourable	1	.57	.535	7
		No	.62	.492	37
		Total	.61	.493	44
	exceptionally favourable	1	1.00		1
		No	.81	.403	16
		Total	.82	.393	17
	Total	1	.47	.504	53
		No	.61	.490	147
		Total	.57	.496	200
Availability of opportunities for social interaction	exceptionally unfavorable	1	0.00	0.000	2
		No	.58	.515	12
		Total	.50	.519	14
	unfavorable	1	.08	.282	24
		No	.59	1.559	34
		Total	.38	1.226	58
	somewhat favorable	1	.74	.452	19
		No	.46	.504	48
		Total	.54	.502	67
	favourable	1	.57	.535	7
		No	.59	.498	37
		Total	.59	.497	44
	exceptionally favourable	1	1.00		1
		No	.63	.500	16
		Total	.65	.493	17
	Total	1	.40	.494	53
		No	.55	.862	147
		Total	.51	.783	200



Descriptive Statistics					
Common Space Outdoor			Mean	Std. Deviation	N
Positive attitude	exceptionally unfavorable	1	.50	.707	2
		No	.83	.389	12
		Total	.79	.426	14
	unfavorable	1	.33	.482	24
		No	.59	.500	34
		Total	.48	.504	58
	somewhat favorable	1	.21	.419	19
		No	.44	.501	48
		Total	.37	.487	67
	favourable	1	.57	.535	7
		No	.51	.507	37
		Total	.52	.505	44
	exceptionally favourable	1	0.00		1
		No	.75	.447	16
		Total	.71	.470	17
	Total	1	.32	.471	53
		No	.56	.498	147
		Total	.50	.501	200
Open heartedness and willingness	exceptionally unfavorable	1	.50	.707	2
		No	.83	.389	12
		Total	.79	.426	14
	unfavorable	1	.42	.504	24
		No	.74	.448	34
		Total	.60	.493	58
	somewhat favorable	1	.74	.452	19
		No	.75	.438	48
		Total	.75	.438	67
	favourable	1	.57	.535	7
		No	.76	.435	37
		Total	.73	.451	44
	exceptionally favourable	1	0.00		1
		No	.81	.403	16
		Total	.76	.437	17
	Total	1	.55	.503	53
		No	.76	.427	147
		Total	.71	.457	200

Descriptive Statistics						
Common Space Outdoor			Mean	Std. Deviation	N	
Number of socio cultural activities	exceptionally unfavorable	1	2.00	2.828	2	
		No	.67	.492	12	
		Total	.86	1.027	14	
	unfavorable	1	.25	.442	24	
		No	.38	.493	34	
		Total	.33	.473	58	
	somewhat favorable	1	.68	.478	19	
		No	.44	.501	48	
		Total	.51	.504	67	
	favourable	1	.29	.488	7	
		No	.43	.502	37	
		Total	.41	.497	44	
	exceptionally favourable	1	1.00		1	
		No	.75	.447	16	
		Total	.76	.437	17	
	Total	1	.49	.697	53	
		No	.48	.501	147	
		Total	.48	.558	200	
	Community participation	exceptionally unfavorable	1	0.00	0.000	2
			No	1.08	.996	12
			Total	.93	.997	14
unfavorable		1	.17	.381	24	
		No	.50	.508	34	
		Total	.36	.485	58	
somewhat favorable		1	.68	.478	19	
		No	.44	.501	48	
		Total	.51	.504	67	
favourable		1	.29	.488	7	
		No	.49	.507	37	
		Total	.45	.504	44	
exceptionally favourable		1	1.00		1	
		No	.63	.500	16	
		Total	.65	.493	17	
Total		1	.38	.489	53	
		No	.54	.577	147	
		Total	.50	.558	200	

Descriptive Statistics					
Common Space Outdoor			Mean	Std. Deviation	N
Involvement in community activities	exceptionally unfavorable	1	0.00	0.000	2
		No	1.50	1.567	12
		Total	1.29	1.541	14
	unfavorable	1	.13	.338	24
		No	.41	.500	34
		Total	.29	.459	58
	somewhat favorable	1	0.00	0.000	19
		No	.31	.468	48
		Total	.22	.420	67
	favourable	1	.43	.535	7
		No	.38	.758	37
		Total	.39	.722	44
	exceptionally favourable	1	0.00		1
		No	.69	.479	16
		Total	.65	.493	17
	Total	1	.11	.320	53
		No	.49	.762	147
		Total	.39	.693	200
Sense of community	exceptionally unfavorable	1	.50	.707	2
		No	.67	.492	12
		Total	.64	.497	14
	unfavorable	1	.17	.381	24
		No	.35	.485	34
		Total	.28	.451	58
	somewhat favorable	1	.74	.452	19
		No	.40	.494	48
		Total	.49	.504	67
	favourable	1	.43	.535	7
		No	.43	.502	37
		Total	.43	.501	44
	exceptionally favourable	1	1.00		1
		No	.50	.516	16
		Total	.53	.514	17
	Total	1	.43	.500	53
		No	.43	.497	147
		Total	.43	.496	200

## APPENDIX: MANOVA: Posthoc test

Multiple Comparisons				Mean						
Dependent Variable		(I) Common Space Outdoor	(J) Common Space Outdoor	Difference	Std. Error	Sig.	95% Confidence Interval			
				(I-J)			Lower Bound	Upper Bound		
Regular social interaction	Tukey HSD	exceptionally unfavorable	unfavorable	-0.05	0.147	0.996	-0.46	0.35		
			somewhat favorable	-0.15	0.145	0.827	-0.55	0.25		
			favourable	-0.19	0.151	0.738	-0.6	0.23		
		unfavorable	exceptionally favourable	-0.39	0.178	0.177	-0.88	0.09		
			exceptionally unfavorable	0.05	0.147	0.996	-0.35	0.46		
			somewhat favorable	-0.1	0.088	0.794	-0.34	0.14		
		somewhat favorable	favourable	-0.13	0.099	0.674	-0.4	0.14		
			exceptionally favourable	-0.34	0.136	0.093	-0.72	0.03		
			exceptionally unfavorable	0.15	0.145	0.827	-0.25	0.55		
		favourable	unfavorable	0.1	0.088	0.794	-0.14	0.34		
			favourable	-0.03	0.096	0.997	-0.29	0.23		
			exceptionally favourable	-0.24	0.134	0.374	-0.61	0.13		
		exceptionally favourable	exceptionally unfavorable	0.19	0.151	0.738	-0.23	0.6		
			unfavorable	0.13	0.099	0.674	-0.14	0.4		
			somewhat favorable	0.03	0.096	0.997	-0.23	0.29		
		unfavorable	exceptionally favourable	-0.21	0.141	0.569	-0.6	0.18		
			exceptionally unfavorable	0.39	0.178	0.177	-0.09	0.88		
			unfavorable	0.34	0.136	0.093	-0.03	0.72		
		favourable	somewhat favorable	0.24	0.134	0.374	-0.13	0.61		
			favourable	0.21	0.141	0.569	-0.18	0.6		
			unfavorable	-0.05	0.147	1	-0.47	0.36		
		Availability of opportunities for social interaction	Bonferroni	exceptionally unfavorable	unfavorable	-0.15	0.145	1	-0.56	0.26
					favourable	-0.19	0.151	1	-0.61	0.24
					exceptionally favourable	-0.39	0.178	0.276	-0.9	0.11
unfavorable	exceptionally unfavorable			0.05	0.147	1	-0.36	0.47		
	somewhat favorable			-0.1	0.088	1	-0.35	0.15		
	favourable			-0.13	0.099	1	-0.41	0.15		
somewhat favorable	exceptionally favourable			-0.34	0.136	0.13	-0.73	0.05		
	exceptionally unfavorable			0.15	0.145	1	-0.26	0.56		
	unfavorable			0.1	0.088	1	-0.15	0.35		
favourable	favourable			-0.03	0.096	1	-0.3	0.24		
	exceptionally favourable			-0.24	0.134	0.729	-0.62	0.14		
	exceptionally unfavorable			0.19	0.151	1	-0.24	0.61		
exceptionally favourable	unfavorable			0.13	0.099	1	-0.15	0.41		
	somewhat favorable			0.03	0.096	1	-0.24	0.3		
	exceptionally favourable			-0.21	0.141	1	-0.61	0.19		
unfavorable	exceptionally unfavorable			0.39	0.178	0.276	-0.11	0.9		
	unfavorable			0.34	0.136	0.13	-0.05	0.73		
	somewhat favorable			0.24	0.134	0.729	-0.14	0.62		
favourable	favourable			0.21	0.141	1	-0.19	0.61		
	unfavorable			0.12	0.232	0.985	-0.52	0.76		
	somewhat favorable			-0.04	0.229	1	-0.67	0.59		
unfavorable	favourable			-0.09	0.239	0.996	-0.75	0.57		
	exceptionally favourable			-0.15	0.281	0.985	-0.92	0.63		
	exceptionally unfavorable			-0.12	0.232	0.985	-0.76	0.52		
somewhat favorable	somewhat favorable	-0.16	0.14	0.789	-0.54	0.23				
	favourable	-0.21	0.156	0.654	-0.64	0.22				
	exceptionally favourable	-0.27	0.215	0.723	-0.86	0.32				
favourable	exceptionally unfavorable	0.04	0.229	1	-0.59	0.67				
	unfavorable	0.16	0.14	0.789	-0.23	0.54				
	favourable	-0.05	0.151	0.997	-0.47	0.36				
exceptionally favourable	exceptionally favourable	-0.11	0.211	0.985	-0.69	0.47				
	exceptionally unfavorable	0.09	0.239	0.996	-0.57	0.75				
	unfavorable	0.21	0.156	0.654	-0.22	0.64				
unfavorable	somewhat favorable	0.05	0.151	0.997	-0.36	0.47				
	exceptionally favourable	-0.06	0.222	0.999	-0.67	0.56				
	exceptionally unfavorable	0.15	0.281	0.985	-0.63	0.92				
favourable	unfavorable	0.27	0.215	0.723	-0.32	0.86				
	somewhat favorable	0.11	0.211	0.985	-0.47	0.69				
	favourable	0.06	0.222	0.999	-0.56	0.67				
Availability of opportunities for social interaction	Bonferroni	exceptionally unfavorable	unfavorable	0.12	0.232	1	-0.54	0.78		
			somewhat favorable	-0.04	0.229	1	-0.69	0.61		
			favourable	-0.09	0.239	1	-0.77	0.59		
		unfavorable	exceptionally favourable	-0.15	0.281	1	-0.94	0.65		
			exceptionally unfavorable	-0.12	0.232	1	-0.78	0.54		
			somewhat favorable	-0.16	0.14	1	-0.55	0.24		
		somewhat favorable	favourable	-0.21	0.156	1	-0.65	0.23		
			exceptionally favourable	-0.27	0.215	1	-0.88	0.34		
			exceptionally unfavorable	0.04	0.229	1	-0.61	0.69		
		favourable	unfavorable	0.16	0.14	1	-0.24	0.55		
			favourable	-0.05	0.151	1	-0.48	0.38		
			exceptionally favourable	-0.11	0.211	1	-0.71	0.49		
		exceptionally favourable	exceptionally unfavorable	0.09	0.239	1	-0.59	0.77		
			unfavorable	0.21	0.156	1	-0.23	0.65		
			somewhat favorable	0.05	0.151	1	-0.38	0.48		
		unfavorable	exceptionally favourable	-0.06	0.222	1	-0.69	0.57		
			exceptionally unfavorable	0.15	0.281	1	-0.65	0.94		
			unfavorable	0.27	0.215	1	-0.34	0.88		
		favourable	somewhat favorable	0.11	0.211	1	-0.49	0.71		
			somewhat favorable	0.06	0.222	1	-0.57	0.69		
			favourable	0.06	0.222	1	-0.57	0.69		

Multiple Comparisons									
Dependent Variable		(I) Common Space Outdoor	(J) Common Space Outdoor	Mean	Std. Error	Sig.	95% Confidence Interval		
				Difference (I-J)			Lower Bound	Upper Bound	
Positive attitude	Tukey HSD	exceptionally unfavorable	unfavorable	0.3	0.144	0.225	-0.09	0.7	
			somewhat favorable	.41*	0.142	0.034	0.02	0.8	
			favourable	0.26	0.149	0.396	-0.15	0.67	
		unfavorable	exceptionally favourable	0.08	0.175	0.991	-0.4	0.56	
			exceptionally unfavorable	-0.3	0.144	0.225	-0.7	0.09	
			somewhat favorable	0.11	0.087	0.716	-0.13	0.35	
		somewhat favorable	favourable	-0.04	0.097	0.994	-0.31	0.23	
			exceptionally favourable	-0.22	0.134	0.456	-0.59	0.15	
			exceptionally unfavorable	-.41*	0.142	0.034	-0.8	-0.02	
		favourable	unfavorable	-0.11	0.087	0.716	-0.35	0.13	
			favourable	-0.15	0.094	0.506	-0.41	0.11	
			exceptionally favourable	-0.33	0.132	0.089	-0.7	0.03	
		exceptionally favourable	exceptionally unfavorable	-0.26	0.149	0.396	-0.67	0.15	
			unfavorable	0.04	0.097	0.994	-0.23	0.31	
			somewhat favorable	0.15	0.094	0.506	-0.11	0.41	
		unfavorable	exceptionally favourable	-0.18	0.138	0.677	-0.56	0.2	
	exceptionally unfavorable		-0.08	0.175	0.991	-0.56	0.4		
	unfavorable		0.22	0.134	0.456	-0.15	0.59		
	favourable	somewhat favorable	0.33	0.132	0.089	-0.03	0.7		
		favourable	0.18	0.138	0.677	-0.2	0.56		
		exceptionally unfavorable	0.3	0.144	0.372	-0.11	0.71		
	Bonferroni	Bonferroni	exceptionally unfavorable	unfavorable	0.3	0.144	0.372	-0.11	0.71
				somewhat favorable	.41*	0.142	0.042	0.01	0.82
				favourable	0.26	0.149	0.787	-0.16	0.69
			unfavorable	exceptionally favourable	0.08	0.175	1	-0.42	0.58
				exceptionally unfavorable	-0.3	0.144	0.372	-0.71	0.11
				somewhat favorable	0.11	0.087	1	-0.14	0.36
			somewhat favorable	favourable	-0.04	0.097	1	-0.32	0.24
				exceptionally favourable	-0.22	0.134	0.968	-0.6	0.16
				exceptionally unfavorable	-.41*	0.142	0.042	-0.82	-0.01
			favourable	unfavorable	-0.11	0.087	1	-0.36	0.14
				favourable	-0.15	0.094	1	-0.42	0.12
exceptionally favourable				-0.33	0.132	0.123	-0.71	0.04	
exceptionally favourable			exceptionally unfavorable	-0.26	0.149	0.787	-0.69	0.16	
			unfavorable	0.04	0.097	1	-0.24	0.32	
			somewhat favorable	0.15	0.094	1	-0.12	0.42	
unfavorable			exceptionally favourable	-0.18	0.138	1	-0.58	0.21	
	exceptionally unfavorable	-0.08	0.175	1	-0.58	0.42			
	unfavorable	0.22	0.134	0.968	-0.16	0.6			
favourable	somewhat favorable	0.33	0.132	0.123	-0.04	0.71			
	favourable	0.18	0.138	1	-0.21	0.58			
	exceptionally unfavorable	0.18	0.134	0.651	-0.19	0.55			
Open heartedness and willingness	Tukey HSD	exceptionally unfavorable	unfavorable	0.18	0.134	0.651	-0.19	0.55	
			somewhat favorable	0.04	0.132	0.998	-0.32	0.4	
			favourable	0.06	0.138	0.993	-0.32	0.44	
		unfavorable	exceptionally favourable	0.02	0.162	1	-0.43	0.47	
			exceptionally unfavorable	-0.18	0.134	0.651	-0.55	0.19	
			somewhat favorable	-0.14	0.08	0.392	-0.36	0.08	
		somewhat favorable	favourable	-0.12	0.09	0.641	-0.37	0.12	
			exceptionally favourable	-0.16	0.124	0.69	-0.5	0.18	
			exceptionally unfavorable	-0.04	0.132	0.998	-0.4	0.32	
		favourable	unfavorable	0.14	0.08	0.392	-0.08	0.36	
			favourable	0.02	0.087	0.999	-0.22	0.26	
			exceptionally favourable	-0.02	0.122	1	-0.35	0.32	
		exceptionally favourable	exceptionally unfavorable	-0.06	0.138	0.993	-0.44	0.32	
			unfavorable	0.12	0.09	0.641	-0.12	0.37	
			somewhat favorable	-0.02	0.087	0.999	-0.26	0.22	
		unfavorable	exceptionally favourable	-0.04	0.128	0.998	-0.39	0.32	
	exceptionally unfavorable		-0.02	0.162	1	-0.47	0.43		
	unfavorable		0.16	0.124	0.69	-0.18	0.5		
	somewhat favorable	somewhat favorable	0.02	0.122	1	-0.32	0.35		
		favourable	0.04	0.128	0.998	-0.32	0.39		
		exceptionally unfavorable	0.18	0.134	1	-0.2	0.56		
	Bonferroni	Bonferroni	exceptionally unfavorable	unfavorable	0.18	0.134	1	-0.2	0.56
				somewhat favorable	0.04	0.132	1	-0.34	0.41
				favourable	0.06	0.138	1	-0.33	0.45
			unfavorable	exceptionally favourable	0.02	0.162	1	-0.44	0.48
				exceptionally unfavorable	-0.18	0.134	1	-0.56	0.2
				somewhat favorable	-0.14	0.08	0.776	-0.37	0.09
			somewhat favorable	favourable	-0.12	0.09	1	-0.38	0.13
				exceptionally favourable	-0.16	0.124	1	-0.51	0.19
				exceptionally unfavorable	-0.04	0.132	1	-0.41	0.34
			favourable	unfavorable	0.14	0.08	0.776	-0.09	0.37
				favourable	0.02	0.087	1	-0.23	0.27
exceptionally favourable				-0.02	0.122	1	-0.36	0.33	
exceptionally favourable			exceptionally unfavorable	-0.06	0.138	1	-0.45	0.33	
			unfavorable	0.12	0.09	1	-0.13	0.38	
			somewhat favorable	-0.02	0.087	1	-0.27	0.23	
unfavorable			exceptionally favourable	-0.04	0.128	1	-0.4	0.33	
	exceptionally unfavorable	-0.02	0.162	1	-0.48	0.44			
	unfavorable	0.16	0.124	1	-0.19	0.51			
somewhat favorable	somewhat favorable	0.02	0.122	1	-0.33	0.36			
	favourable	0.04	0.128	1	-0.33	0.4			
	exceptionally unfavorable	0.18	0.134	1	-0.2	0.56			

Multiple Comparisons										
Dependent Variable		(I) Common Space Outdoor	(J) Common Space Outdoor	Mean	Std. Error	Sig.	95% Confidence Interval			
				Difference (I-J)			Lower Bound	Upper Bound		
Number of socio-cultural activities	Tukey HSD	exceptionally unfavorable	unfavorable	.53*	0.157	0.008	0.1	0.96		
			somewhat favorable	0.35	0.155	0.162	-0.08	0.78		
			unfavorable	favourable	.45*	0.161	0.047	0	0.89	
				exceptionally favourable	0.09	0.19	0.989	-0.43	0.62	
			unfavorable	exceptionally unfavorable	-.53*	0.157	0.008	-0.96	-0.1	
				somewhat favorable	-0.18	0.094	0.318	-0.44	0.08	
				unfavorable	favourable	-0.08	0.105	0.938	-0.37	0.21
					exceptionally favourable	-.44*	0.145	0.024	-0.84	-0.04
			somewhat favorable	exceptionally unfavorable	-0.35	0.155	0.162	-0.78	0.08	
				unfavorable	0.18	0.094	0.318	-0.08	0.44	
				unfavorable	favourable	0.1	0.102	0.871	-0.18	0.38
					exceptionally favourable	-0.26	0.143	0.377	-0.65	0.14
			favourable	exceptionally unfavorable	-.45*	0.161	0.047	-0.89	0	
				unfavorable	0.08	0.105	0.938	-0.21	0.37	
				unfavorable	somewhat favorable	-0.1	0.102	0.871	-0.38	0.18
					exceptionally favourable	-0.36	0.15	0.129	-0.77	0.06
		exceptionally favourable	exceptionally unfavorable	-0.09	0.19	0.989	-0.62	0.43		
			unfavorable	.44*	0.145	0.024	0.04	0.84		
			unfavorable	somewhat favorable	0.26	0.143	0.377	-0.14	0.65	
				favourable	0.36	0.15	0.129	-0.06	0.77	
	Bonferroni	exceptionally unfavorable	unfavorable	.53*	0.157	0.009	0.08	0.97		
			somewhat favorable	0.35	0.155	0.249	-0.09	0.79		
			unfavorable	favourable	.45*	0.161	0.061	-0.01	0.91	
				exceptionally favourable	0.09	0.19	1	-0.45	0.63	
			unfavorable	exceptionally unfavorable	-.53*	0.157	0.009	-0.97	-0.08	
				somewhat favorable	-0.18	0.094	0.582	-0.45	0.09	
				unfavorable	favourable	-0.08	0.105	1	-0.38	0.22
					exceptionally favourable	-.44*	0.145	0.03	-0.85	-0.02
			somewhat favorable	exceptionally unfavorable	-0.35	0.155	0.249	-0.79	0.09	
				unfavorable	0.18	0.094	0.582	-0.09	0.45	
				unfavorable	favourable	0.1	0.102	1	-0.19	0.39
					exceptionally favourable	-0.26	0.143	0.735	-0.66	0.15
		favourable	exceptionally unfavorable	-0.45	0.161	0.061	-0.91	0.01		
			unfavorable	0.08	0.105	1	-0.22	0.38		
			unfavorable	somewhat favorable	-0.1	0.102	1	-0.39	0.19	
				exceptionally favourable	-0.36	0.15	0.19	-0.78	0.07	
	exceptionally favourable	exceptionally unfavorable	-0.09	0.19	1	-0.63	0.45			
		unfavorable	.44*	0.145	0.03	0.02	0.85			
		unfavorable	somewhat favorable	0.26	0.143	0.735	-0.15	0.66		
			favourable	0.36	0.15	0.19	-0.07	0.78		
Community participation	Tukey HSD	exceptionally unfavorable	unfavorable	.57*	0.157	0.004	0.13	1		
			somewhat favorable	0.42	0.155	0.056	-0.01	0.85		
			unfavorable	favourable	.47*	0.162	0.031	0.03	0.92	
				exceptionally favourable	0.28	0.191	0.58	-0.24	0.81	
			unfavorable	exceptionally unfavorable	-.57*	0.157	0.004	-1	-0.13	
				somewhat favorable	-0.15	0.095	0.542	-0.41	0.12	
				unfavorable	favourable	-0.09	0.106	0.906	-0.38	0.2
					exceptionally favourable	-0.28	0.146	0.292	-0.69	0.12
			somewhat favorable	exceptionally unfavorable	-0.42	0.155	0.056	-0.85	0.01	
				unfavorable	0.15	0.095	0.542	-0.12	0.41	
				unfavorable	favourable	0.05	0.103	0.986	-0.23	0.34
					exceptionally favourable	-0.14	0.144	0.867	-0.53	0.26
			favourable	exceptionally unfavorable	-.47*	0.162	0.031	-0.92	-0.03	
				unfavorable	0.09	0.106	0.906	-0.2	0.38	
				unfavorable	somewhat favorable	-0.05	0.103	0.986	-0.34	0.23
					exceptionally favourable	-0.19	0.151	0.707	-0.61	0.22
		exceptionally favourable	exceptionally unfavorable	-0.28	0.191	0.58	-0.81	0.24		
			unfavorable	0.28	0.146	0.292	-0.12	0.69		
			unfavorable	somewhat favorable	0.14	0.144	0.867	-0.26	0.53	
				favourable	0.19	0.151	0.707	-0.22	0.61	
	Bonferroni	exceptionally unfavorable	unfavorable	.57*	0.157	0.004	0.12	1.01		
			somewhat favorable	0.42	0.155	0.073	-0.02	0.86		
			unfavorable	favourable	.47*	0.162	0.039	0.01	0.93	
				exceptionally favourable	0.28	0.191	1	-0.26	0.82	
			unfavorable	exceptionally unfavorable	-.57*	0.157	0.004	-1.01	-0.12	
				somewhat favorable	-0.15	0.095	1	-0.41	0.12	
				unfavorable	favourable	-0.09	0.106	1	-0.39	0.21
					exceptionally favourable	-0.28	0.146	0.521	-0.7	0.13
			somewhat favorable	exceptionally unfavorable	-0.42	0.155	0.073	-0.86	0.02	
				unfavorable	0.15	0.095	1	-0.12	0.41	
				unfavorable	favourable	0.05	0.103	1	-0.24	0.34
					exceptionally favourable	-0.14	0.144	1	-0.55	0.27
		favourable	exceptionally unfavorable	-.47*	0.162	0.039	-0.93	-0.01		
			unfavorable	0.09	0.106	1	-0.21	0.39		
			unfavorable	somewhat favorable	-0.05	0.103	1	-0.34	0.24	
				exceptionally favourable	-0.19	0.151	1	-0.62	0.24	
	exceptionally favourable	exceptionally unfavorable	-0.28	0.191	1	-0.82	0.26			
		unfavorable	0.28	0.146	0.521	-0.13	0.7			
		unfavorable	somewhat favorable	0.14	0.144	1	-0.27	0.55		
			favourable	0.19	0.151	1	-0.24	0.62		

## Appendix V - Qualitative Analysis: Nvivo Code Book

[Codebook 1 – Phase 1 Coding](#)

[Codebook 2 – Phase 2 Coding](#)

[Codebook 3 – Phase 3 Coding](#)

Codebook\\Phase I-Reading and Initial Coding

*Codebook 1 – Phase 1 Coding*

Phase 1 – Initial Noting & Coding	Interviews Coded	Units of Meaning Coded
01-Can you share your ‘experience’ with regards to ‘residential unit in’ terms of its planning, light and ventilation~	81	203
Not satisfied	19	23
Satisfied	73	99
02-What are the main reasons that you are residing in this neighbourhood~	81	300
Accessibility of the locality	21	30
Affordability	16	16
Amenities	21	27
Community belonging	19	22
Cultural reasons	16	25
Multicultural aspects	3	5
Overall design of community	12	14
Proximity to children’s school	13	13
Proximity to family and friends	10	10
Proximity to place of worship	1	1
Proximity to workplace	41	43

<b>Phase 1 – Initial Noting &amp; Coding</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Safety and security	12	13
03-Can you share your ‘overall experience’ with the available amenities in your neighbourhood~	81	85
Amenities	77	292
Children Play Areas	0	0
No	20	22
Yes	14	14
Day care facilities	15	17
No	6	6
Yes	10	11
Grocery	36	36
No	0	0
Yes	36	36
Health care	38	40
No	5	5
Yes	33	35
Hospitals	12	13
No	4	4
Yes	9	9
Laundry	18	19
No	1	1
Yes	18	18
Open spaces	46	63



<b>Phase 1 – Initial Noting &amp; Coding</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
No	28	37
Yes	24	26
Parks	39	47
No	25	29
Yes	17	18
Supermarkets	57	57
No	1	1
Yes	56	56
04-To what extent residents interact with other residents within the community neighbourhood~	81	278
Average level of interaction	13	16
No interaction	5	5
No interaction due to cultural differences	13	14
No opportunities to interact	24	41
No time to interact	19	22
There is no need to interact	3	4
Very high level of interaction	26	36
Very less level of interaction	40	55
05-Do you feel the sense of being included in the community~	81	82
No	33	58
Due to lack of community living	13	13
Due to residents from diverse cultural background	12	13
Yes	51	90

<b>Phase 1 – Initial Noting &amp; Coding</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Residents get together for common activities	13	13
There is social interaction that leads to community living	26	27
06-What are your ‘problems’ and ‘issues’ that you encounter on daily basis in the neighbourhood~	81	83
Issues related to housing unit	14	14
Lack of children play areas	29	38
Lack of Open spaces and less green areas	36	48
No problems and issues faced	11	11
No social interaction amongst residents	13	15
Parking issues	25	27
Security issues	7	8
Sewage problems	2	2
Traffic issues	8	8
Noise due to cars	0	0
07-What are your suggestions that you think are the physical factors that will improve the neighbourhood for a better community living.	81	242
Common spaces for people to meet and interact	64	118
Indoor common spaces	26	29
Outdoor common spaces	54	84
Children play areas	24	28
Parks	37	40
Planning adequate parking spaces	11	11

<b>Phase 1 – Initial Noting &amp; Coding</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Roads infrastructure to solve traffic issues	7	7
Street furniture	4	4
Walkways and cycling paths for pedestrians	18	19
08-What are your suggestions that you think are the Non-physical factors that will cater for socially inclusive neighbourhood.	81	83
Formal supports	0	0
Informal supports	2	2
Participation in common activities within community	21	22
Social ties	3	3
09-What are the contributing socio-cultural factors for ‘social inclusion’ in your community neighbourhood~	81	209
Attitudes of residents	11	11
Community belongingness	6	6
Frequency of socio-cultural activities	29	30
Involvement and engagement	9	10
Opportunities for social interactions	32	40
Social ties	8	8
Willingness to meet and interact	19	22
10-Do you feel that it is important to have community living with social cohesiveness within your neighbourhood~ How does it help in the overall well-being of the family~	81	84
No	2	2
Social Cohesiveness is not essential for	1	1

<b>Phase 1 – Initial Noting &amp; Coding</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
neighbourhood		
There is no social cohesiveness in the neighbourhood	1	1
Yes	78	87
Social cohesiveness caters the concept of secured community living	31	34
Social cohesiveness brings socio-cultural exchanges between expats	53	63
Social cohesiveness caters good mental and physical health	24	25
11-Do you feel that the layout and design of neighbourhood and open spaces within your neighbourhood can influence social interaction	72	75
Neutral	3	3
No	4	4
Yes	76	174
Building close to each other do not favor social interaction	25	27
It caters to green areas for residents	14	15
It increases social interaction and community living	38	45
12-Give a Brief Outline about yourself.	79	79

## Codebook\\Phase II-Developing subordinate themes

*Codebook 2 – Phase 2 Coding*

<b>Phase 2 – Developing Subordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Challenges	81	83
Issues related to housing unit	14	14
Lack of children play areas	29	38
Lack of Open spaces and less green areas	36	48
No problems and issues faced	11	11
No social interaction amongst residents	13	15
Parking issues	25	27
Security issues	7	8
Sewage problems	2	2
Traffic issues	8	8
Noise due to cars	0	0
Community	81	85
Average level of interaction	13	16
No interaction	5	5
No interaction due to cultural differences	13	14
No opportunities to interact	24	41
No time to interact	19	22
There is no need to interact	3	4
Very high level of interaction	26	36
Very less level of interaction	40	55

<b>Phase 2 – Developing Subordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Cultural Issues	81	82
Attitudes of residents	11	11
Community belongingness	6	6
Frequency of socio-cultural activities	29	30
Involvement and engagement	9	10
Opportunities for social interactions	32	40
Social ties	8	8
Willingness to meet and interact	19	22
Design	72	75
Neutral	3	3
No	4	4
Yes	76	174
Building close to each other do not favour social interaction	25	27
It caters to green areas for residents	14	15
It increases social interaction and community living	38	45
Inclusion	81	82
No	33	58
Due to no community living	13	13
There are people of different cultures and no interaction	12	13
Yes	51	90

<b>Phase 2 – Developing Subordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Residents get together for common activities	13	13
There is a lot of interaction and community living	26	27
Lived Experiences	81	85
Amenities	33	36
Children Play Areas	33	36
No	20	22
Yes	14	14
Day care facilities	0	0
No	6	6
Yes	10	11
Grocery	0	0
No	0	0
Yes	36	36
Health care	0	0
No	5	5
Yes	33	35
Hospitals	0	0
No	4	4
Yes	9	9
Laundry	0	0
No	1	1
Yes	18	18

<b>Phase 2 – Developing Subordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Open spaces	0	0
No	28	37
Yes	24	26
Parks	0	0
No	25	29
Yes	17	18
Supermarkets	0	0
No	1	1
Yes	56	56
Non Physical Factors	81	83
Formal supports	0	0
Informal supports	2	2
Participation in common activities within community	21	22
Social ties	3	3
Participant Profiles	79	79
Physical Factors	81	83
Common spaces for people to meet and interact	42	58
Indoor common spaces	26	29
Outdoor common spaces	16	16
Children play areas	24	28
Parks	37	40
Planning adequate parking spaces	11	11



<b>Phase 2 – Developing Subordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Roads infrastructure to solve traffic issues	7	7
Street furniture	4	4
Walkways and cycling paths for pedestrians	18	19
Planning - Light & Ventilation	81	81
Not satisfied	19	23
Satisfied	73	99
Relevancy of Social Cohesion	81	84
No	2	2
Social Cohesiveness is not essential for neighbourhood	1	1
There is no social cohesiveness in the neighbourhood	1	1
Yes	80	209
Social cohesiveness caters the concept of secured community living	31	34
Social cohesiveness brings socio-cultural exchanges between expats	53	63
Social cohesiveness caters good mental and physical health	24	25
Why here	81	81
Accessibility of the locality	21	30
Affordability	16	16
Amenities	21	27
Community belonging	19	22

<b>Phase 2 – Developing Subordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Cultural reasons	16	25
Multicultural aspects	3	5
Overall design of community	12	14
Proximity to childrens school	13	13
Proximity to family and friends	10	10
Proximity to religious reasons	1	1
Proximity to workplace	41	43
Sense of security	12	13

Codebook\\Phase III-Developing superordinate themes

*Codebook 3 – Phase 3 Coding*

<b>Phase 3 – Developing Superordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Choice of Neighbourhood	91	357
Reasons to select to reside in neighbourhood	91	357
Accessibility of the locality	28	40
Affordability	22	23
Amenities	29	36
Community belonging	19	22
Cultural reasons	20	29
Multicultural aspects	3	5
Overall design of community	20	26
Proximity to childrens school	17	17
Proximity to family and friends	11	11
Proximity to place of worship	1	1
Proximity to workplace	46	50
Safety and security	14	16
<b>Design &amp; Layout of Neighbourhood</b>	<b>81</b>	<b>432</b>
Children Play Areas	44	63
Children Play Areas	44	63
Inadequate Chidren Play Areas	33	49
Sufficient Children Play Areas	14	14
Common Indoor Spaces	26	29

<b>Phase 3 – Developing Superordinate Themes</b>	<b>Interviews Coded</b>	<b>Units Meaning Coded</b>	<b>of</b>
Inadequate common indoor spaces to meet and interact	26	29	
Common Outdoor Spaces	46	63	
Open spaces	46	63	
Inadequate common open spaces to meet and interact	28	37	
Sufficient Common spaces to meet and interact	24	26	
Housing Unit	81	203	
Overall experience of planning, light & ventilation	81	203	
Not satisfied with planning of the unit	19	23	
Satisfied with planning of the unit	73	99	
Parking Areas	25	27	
Parking issues	25	27	
Parks	39	47	
Parks	39	47	
Inadequate parks in neighbourhood	25	29	
Sufficient parks in the neighbourhood	17	18	
Key stakeholders	10	66	
Dubai 2021 Plan	6	8	
Increase awareness amongst residents on social cohesiveness	6	8	
Factors considered for development of neighbourhood	9	36	
Infrastructure provision	7	9	

<b>Phase 3 – Developing Superordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Planning for common spaces between built forms	6	8
Return of investments	7	15
Social cohesiveness amongst residents	4	4
Is Dubai Socially cohesive city	10	22
No	7	12
Somewhat	6	6
Yes	3	4
Suggestions for social cohesiveness	89	590
Concept of social cohesiveness	79	88
Social cohesiveness is essential	79	88
Yes	78	87
Social cohesiveness caters the concept of secured community living	33	37
Social cohesiveness brings socio-cultural exchanges between expats	57	68
Social cohesiveness caters good mental and physical health	24	25
Social cohesiveness is not essential	0	0
Design and Layout of neighbourhood	87	288
Physical factors in neighbourhood design & layout	87	288
Children play areas	28	32
Common spaces for people to meet and interact	69	126
Indoor common spaces	26	29

<b>Phase 3 – Developing Superordinate Themes</b>	<b>Interviews Coded</b>	<b>Units of Meaning Coded</b>
Outdoor common spaces	57	89
Children play areas	24	28
Parks	37	40
Planning adequate parking spaces	12	13
Roads infrastructure to solve traffic issues	8	8
Safe and secured community design	2	3
Street furniture	4	4
Walkways and cycling paths for pedestrians	18	19
Participatory approach	4	4
Socio-cultural factors amongst residents	82	210
Attitudes of residents	12	12
Community belongingness	6	6
Frequency of socio-cultural activities	29	30
Involvement and engagement	9	10
Opportunities for social interactions	32	40
Social ties	8	8
Willingness to meet and interact	19	22

# Appendix VI - Durbin Watson Statistic Table

Models with an intercept (from Savin and White)

Durbin-Watson Statistics: 1 Per Cent Significance Points of  $d_L$  and  $d_U$

n	k=1		k=2		k=3		k=4		k=5		k=6		k=7		k=8		k=9		k=10	
	$d_L$	$d_U$	$d_L$	$d_U$	$d_L$	$d_U$	$d_L$	$d_U$	$d_L$	$d_U$	$d_L$	$d_U$	$d_L$	$d_U$	$d_L$	$d_U$	$d_L$	$d_U$	$d_L$	$d_U$
6	0.390	1.142	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7	0.435	1.036	0.294	1.076	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8	0.497	1.003	0.345	1.489	0.229	2.102	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	0.554	0.998	0.408	1.389	0.279	1.875	0.183	2.433	---	---	---	---	---	---	---	---	---	---	---	---
10	0.604	1.001	0.466	1.333	0.340	1.733	0.250	2.193	0.150	2.690	---	---	---	---	---	---	---	---	---	---
11	0.653	1.010	0.519	1.297	0.396	1.640	0.286	2.020	0.185	2.453	0.124	2.892	---	---	---	---	---	---	---	---
12	0.697	1.023	0.569	1.274	0.449	1.575	0.339	1.913	0.244	2.280	0.164	2.665	0.105	3.053	---	---	---	---	---	---
13	0.738	1.038	0.616	1.261	0.499	1.526	0.391	1.826	0.294	2.150	0.211	2.490	0.140	2.828	0.090	3.182	---	---	---	---
14	0.776	1.054	0.660	1.254	0.547	1.490	0.441	1.757	0.343	2.049	0.257	2.354	0.183	2.667	0.122	2.981	0.078	3.287	---	---
15	0.811	1.070	0.700	1.252	0.591	1.465	0.487	1.705	0.390	1.967	0.303	2.244	0.226	2.530	0.161	2.817	0.107	3.301	0.068	3.374
16	0.844	1.086	0.738	1.253	0.633	1.447	0.532	1.664	0.437	1.901	0.349	2.153	0.269	2.416	0.200	2.681	0.142	2.944	0.094	3.201
17	0.875	1.102	0.773	1.255	0.672	1.432	0.574	1.631	0.481	1.847	0.393	2.078	0.313	2.319	0.241	2.566	0.179	2.811	0.127	3.053
18	0.902	1.118	0.805	1.259	0.708	1.422	0.614	1.604	0.522	1.803	0.435	2.015	0.355	2.238	0.282	2.467	0.216	2.697	0.160	2.925
19	0.928	1.133	0.835	1.264	0.742	1.414	0.650	1.583	0.561	1.767	0.476	1.963	0.396	2.169	0.322	2.381	0.255	2.597	0.196	2.813
20	0.952	1.147	0.862	1.270	0.774	1.410	0.684	1.567	0.598	1.736	0.515	1.938	0.436	2.110	0.342	2.368	0.294	2.510	0.232	2.714
21	0.975	1.161	0.889	1.276	0.803	1.408	0.718	1.554	0.634	1.712	0.552	1.881	0.474	2.059	0.400	2.244	0.331	2.434	0.268	2.625
22	0.997	1.174	0.915	1.284	0.832	1.407	0.748	1.543	0.666	1.691	0.587	1.849	0.510	2.015	0.437	2.188	0.368	2.367	0.304	2.548
23	1.017	1.186	0.938	1.290	0.858	1.407	0.777	1.535	0.699	1.674	0.620	1.821	0.545	1.977	0.475	2.140	0.404	2.308	0.340	2.479
24	1.037	1.199	0.959	1.298	0.881	1.407	0.805	1.527	0.728	1.659	0.652	1.797	0.578	1.944	0.507	2.097	0.439	2.255	0.375	2.417
25	1.055	1.210	0.981	1.305	0.906	1.408	0.832	1.521	0.756	1.645	0.682	1.776	0.610	1.915	0.540	2.059	0.475	2.209	0.409	2.362
26	1.072	1.222	1.000	1.311	0.928	1.410	0.855	1.517	0.782	1.635	0.711	1.759	0.640	1.889	0.572	2.026	0.505	2.168	0.441	2.313
27	1.088	1.232	1.019	1.318	0.948	1.413	0.878	1.514	0.808	1.625	0.738	1.745	0.669	1.867	0.602	1.997	0.536	2.131	0.475	2.269
28	1.104	1.244	1.036	1.325	0.969	1.414	0.901	1.512	0.832	1.618	0.764	1.729	0.696	1.847	0.630	1.970	0.566	2.098	0.504	2.229
29	1.119	1.254	1.053	1.332	0.988	1.418	0.921	1.511	0.855	1.611	0.788	1.718	0.723	1.830	0.658	1.947	0.595	2.068	0.533	2.190
30	1.134	1.264	1.070	1.339	1.006	1.421	0.941	1.510	0.877	1.606	0.812	1.707	0.748	1.814	0.684	1.925	0.622	2.041	0.562	2.160
31	1.147	1.274	1.085	1.345	1.022	1.425	0.960	1.509	0.897	1.601	0.834	1.698	0.772	1.800	0.710	1.906	0.649	2.017	0.589	2.131
32	1.160	1.283	1.100	1.351	1.039	1.428	0.978	1.509	0.917	1.597	0.856	1.690	0.794	1.788	0.734	1.889	0.674	1.995	0.615	2.104
33	1.171	1.291	1.114	1.358	1.055	1.432	0.995	1.510	0.935	1.594	0.876	1.683	0.816	1.776	0.757	1.874	0.698	1.975	0.641	2.080
34	1.184	1.298	1.128	1.364	1.070	1.434	1.012	1.511	0.954	1.591	0.896	1.677	0.837	1.766	0.779	1.860	0.722	1.957	0.665	2.057
35	1.195	1.307	1.141	1.370	1.085	1.439	1.028	1.512	0.971	1.589	0.914	1.671	0.857	1.757	0.800	1.847	0.744	1.940	0.689	2.037
36	1.205	1.315	1.153	1.376	1.098	1.442	1.043	1.513	0.987	1.587	0.932	1.666	0.877	1.749	0.821	1.834	0.766	1.925	0.711	2.018
37	1.217	1.322	1.164	1.383	1.112	1.446	1.058	1.514	1.004	1.585	0.950	1.662	0.895	1.742	0.841	1.825	0.787	1.911	0.733	2.001
38	1.227	1.330	1.176	1.388	1.124	1.449	1.072	1.515	1.019	1.584	0.966	1.658	0.913	1.735	0.860	1.816	0.807	1.899	0.754	1.985
39	1.237	1.337	1.187	1.392	1.137	1.452	1.085	1.517	1.033	1.583	0.982	1.655	0.930	1.729	0.878	1.807	0.826	1.887	0.774	1.970
40	1.246	1.344	1.197	1.398	1.149	1.456	1.098	1.518	1.047	1.583	0.997	1.652	0.946	1.724	0.895	1.799	0.844	1.876	0.749	1.956
45	1.288	1.376	1.245	1.424	1.201	1.474	1.156	1.528	1.111	1.583	1.065	1.643	1.019	1.704	0.954	1.768	0.927	1.834	0.881	1.902
50	1.324	1.403	1.285	1.445	1.245	1.491	1.206	1.537	1.164	1.587	1.123	1.639	1.081	1.692	1.039	1.748	0.997	1.805	0.955	1.864
55	1.356	1.428	1.320	1.466	1.284	1.505	1.246	1.548	1.209	1.592	1.172	1.638	1.134	1.685	1.085	1.734	1.057	1.785	1.018	1.837
60	1.382	1.449	1.351	1.484	1.317	1.520	1.283	1.559	1.248	1.598	1.214	1.639	1.179	1.682	1.144	1.726	1.108	1.771	1.072	1.817
65	1.407	1.467	1.377	1.500	1.346	1.534	1.314	1.568	1.283	1.604	1.251	1.642	1.218	1.680	1.186	1.720	1.153	1.761	1.120	1.802
70	1.429	1.485	1.400	1.514	1.372	1.546	1.343	1.577	1.313	1.611	1.283	1.645	1.253	1.680	1.223	1.716	1.192	1.754	1.142	1.792
75	1.448	1.501	1.422	1.529	1.395	1.557	1.368	1.586	1.340	1.617	1.313	1.649	1.284	1.682	1.256	1.714	1.227	1.748	1.199	1.783
80	1.465	1.514	1.440	1.541	1.416	1.568	1.390	1.595	1.364	1.624	1.338	1.653	1.312	1.683	1.285	1.714	1.259	1.745	1.222	1.777
85	1.481	1.529	1.458	1.553	1.434	1.577	1.411	1.603	1.386	1.630	1.362	1.657	1.337	1.685	1.312	1.714	1.287	1.743	1.262	1.773
90	1.496	1.541	1.474	1.563	1.452	1.587	1.429	1.611	1.406	1.636	1.383	1.661	1.360	1.687	1.336	1.714	1.312	1.741	1.288	1.769
95	1.510	1.552	1.489	1.573	1.468	1.596	1.446	1.618	1.425	1.641	1.403	1.666	1.381	1.690	1.358	1.715	1.336	1.741	1.313	1.767
100	1.522	1.562	1.502	1.582	1.482	1.604	1.461	1.625	1.441	1.647	1.421	1.670	1.400	1.693	1.378	1.717	1.357	1.741	1.335	1.765
150	1.611	1.637	1.598	1.651	1.584	1.665	1.571	1.639	1.557	1.693	1.543	1.708	1.530	1.722	1.515	1.737	1.501	1.752	1.486	1.767
200	1.664	1.684	1.653	1.693	1.643	1.704	1.633	1.715	1.623	1.725	1.613	1.735	1.603	1.746	1.592	1.757	1.582	1.768	1.571	1.779

\*k\* is the number of regressors excluding the intercept

## **Appendix VII - Publication and Conference Proceedings**

### **PUBLICATIONS**

Firoz, M., & More, B. (2016). Social Inclusion of the Migrant Population in Dubai: A New Paradigm in Housing. *The International Journal of Sustainability in Economic, Social and Cultural Context*, 12(4), 19-33.

### **CONFERENCE PROCEEDINGS**

Baldry, D., Firoz, M., & More, B. (2016). Micro-urban spaces, social interactions, and sense of place in Dubai. *Seventh International Conference on Urban and Extra Urban Studies*. Philadelphia: Common Ground Publishing.

Firoz, M., & More, B. (2015). Neighborhood planning and Social Cohesiveness: The Case Study of The International City in Dubai. *The Second Asian Conference on the Social Sciences and Sustainability* (pp. 112-119). Fukuyoka, Japan: Intesda.

More, B., Baldry, D., & Kempton, J. (2015). Expatriate Housing and the Social Fabric in Dubai. *12th International Post-Graduate Research Conference 2015* (pp. 119-130). Manchester: University of Salford.