Performing cycling: Cultural dimensions of cycling practices

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M.Sc by Research Thesis

2018

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For the Qualification of Masters Of Science by Research

2018

University of Salford

School of Environment and Life Sciences

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<u>Acknowledgements</u>

Firstly, I would like to give my sincere gratitude to my supervisor Dr Mags Adams, for guiding me throughout my thesis. For her continuous support, relentless motivation and her vast amount of knowledge not only during my MRes but also throughout my tenure at the University of Salford. I would like to thank her for the inspiration, drive, and her fundamental role in helping me achieve to be where I am today.

I would also like to thank my co supervisor Dr Graeme Sherriff and the academic staff in helping me with my thesis, for the insightful comments and the vital training needed for which I am truly grateful.

I would like to thank all the participants who contributed to this study, without your input my work would not have been completed to the standard that it has, thank you for your time and efforts.

Lastly, I would like to thank my family and friends for their continuous support, patience and ear for when times got tough.

Abstract

As there are various strategies put in place to increase cycling, cycling within the ethnic minority is still predominantly low and the reason why has not been broadly studied. This research aims to understand more about why there is a lack of cycling amongst the Indian ethnic community in the UK. Primarily this research uncovers why cycling for commuting or leisure purposes is intermittent within the Indian ethnic minority compared to the white majority groups. It explores boundaries of culture and religion, investigating the meanings, practices, and competencies of cycling amongst Indians living in the North West of England.

The study uses practice theory as an analytical framework in providing an alternative method in realising the complex nuances between the elements that create the practice of cycling. This helps to focus on cycling as being considered as a social issue rather than an individual behaviour. Using a systematic review to first outline the available literature on cycling amongst ethnic minorities and then semi-structured interviews amongst 19 participants, the study established several barriers.

The study found that amongst the Indian participants who are primarily Muslims, there with profound religious barriers playing a role, though Islam promoted physical activity. For men and women, there was a clear distinction on what can and cannot be practiced due to cultural and religious beliefs. Further cultural norms from first generation towards the younger second or third generations living in the UK have different meanings towards the practice of cycling and these meanings have an effect as to whether cycling can be a feasible option. This research is designed to help create or modify existing policies that are centred on transport and sustainability, through education and training, specifically cycling within neighbourhoods that are predominantly Indian and or Muslim living in the UK.

Chapter 1 Introduction

Outline of the chapter

This chapter will provide a general introduction of cycling, the health benefits of cycling, and cycling averages in the UK amongst ethnic minorities. The following chapters entail the barriers towards cycling amongst the Indian ethnic minority.

The chapter starts with an introduction of why cycling is important in today's society with a brief history of transport in and around the city and how the UK reached the cycling levels which are prevalent now. The aim in introducing these subjects was to grasp on the widespread health issues, the cost, and how cycling or any cardiovascular exercise can alleviate the strain on both health and economic expenditure. Following on, cycling statistics are then introduced from both the general population and ethnic minorities. This is to ensure that a greater understanding is achieved on how low cycling is compared to the white majority population.

The chapter will then outline the thesis aims and objectives outlining how practice theory can be used as an analytical framework on increasing cycling amongst Indian ethnic minorities.

Cycling, where are we?

Cycling in Britain has fallen from 37% in 1949 states Horton, Rosen, and Cox (2007) , to 2% of all journeys made (DfT, 2016c). Tremendous amounts of interest to plan and design cities to be more sustainable are on the increase, due to the growing concerns of pollution, obesity, congestion and physical inactivity says de Nazelle et al. (2011). With increased evidence showing that cycling is beneficial for health and environmental sustainability (de Nazelle et al., 2011). However the British governments history of transport have more often than not neglected cycling from their transport policy and are more inclined to promote car dependent societies (Tapp, Davis, Nancarrow, & Jones, 2016) .

Around the first world war towards the late 1950's the bicycle was a universal mode of transport throughout the western world however it was then superseded by motor vehicles thus lowering the percentage of bicycle use (Oosterhuis, 2016). Subsequently, during the 1970s, the numerous advantages of cycling had been highlighted by activists, politicians, health experts planners and policy makers, renowned for the clean, sustainable, and healthy mode of transport (Oosterhuis, 2016).

During recent years, the increasing trepidation of climate change, traffic congestion and the decline of non-renewable energy sources has put governments and planning sectors back on route to promote active travel transportations as an alternative to driving cars (Woodcock, Banister, Edwards, Prentice, & Roberts, 2007) . An outcome that is recognised to tackle and improve health and wellbeing, traffic congestion, and fatalities along with the environmental concerns due to climate change (Giles-Corti, Foster, Shilton, & Falconer, 2010). It is now widely documented that in order to reduce greenhouse gas emissions to reach a more sustainable level, the transport sector, more specifically the automobile has a major role to play (Cohen, 2010; Woodcock et al., 2007). Throughout the years and into the century, urban

sprawl, demands on the labour market, and flexibility with increased mobility has increased resulting in the increase of cars says Haustein and Hunecke (2007).

Song, Preston, and Ogilvie (2017) has stated that the growing reliance on cars has led to congestion, pollution, and physical inactivity resulting in direct and inadvertent costs to society. The authors then outline that walking and cycling has the potential to facilitate such challenges. Woodcock et al. (2007) has highlighted the link with the burning of non-renewable fuels, pollution and decreased health. Woodcock et al. (2007) states that transport related emission are having a detrimental effect to the environment, and to reverse the effects of transport pollution cities necessitate safe environments and easy access to roads and paths for longer journeys. Spotswood, Chatterton, Tapp, and Williams (2015) stating that due to the lack of active mobility there is a growing concern about the detrimental consequences the transportation industry has on the increased level of obesity, physical inactivity and other health related issues.

Benefits of cycling

Cycling provides a number of benefits to both the individual and the wider society along with substantial benefits to the environment, offering an accessible form of physical activity for many people with the added health benefits physical activity can carry (Bonomi, Soenen, Goris, & Westerterp, 2013; Uttley & Lovelace, 2016). According to Yang, Sahlqvist, McMinn, Griffin, and Ogilvie (2010), physical activity can reduce the risk of cardiovascular diseases, type 2 diabetes and some forms of cancer along with other chronic medical conditions. Having an active life style can promote good health with the added benefit of lowering mortality rates with an improved quality of life (Yang et al., 2010).

Health in the general population

Cycling in particular is more likely to promote a healthy heart, raising the heart rate sufficiently to improve cardiovascular fitness and has been associated with improved health outcomes for both young and older adults (Yang et al., 2010). Celis-Morales et al. (2017); Tainio, Monsivais, Jones, Brand, and Woodcock (2017); Torjesen (2017) have all found the benefits of cycling that would cause a significant benefit to the populations health. Andersen (2017) also identified from the works of Celis-Morales et al. (2017) that active commuting especially by bike resulted in a considerable significant decrease in all causes of death from related illnesses with the risk of mortality for all causes reduced by 10% (Winters, Buehler, & Götschi, 2017). The study was one of the biggest studies to come out of the UK, studying active commuting using data from Biobank (a major health resource and charity department). The study aimed to investigate the associations of commuting and cardio vascular diseases and other related illnesses. 236,540 participants took part, 54% being women where cycling and mixed mode cycling commuters achieved great overall physical activity and fitness levels. The study also suggested 90% cycling commuters and 80% mixed mode were hitting targets of the current physical activity guidelines which according to (Bull et al., 2010; Winters et al., 2017) adults aged 19-64 should aim to reach 150 minutes a week of physical activity. These results also show to be consistent amongst other studies that have evaluated cycling such as Møller, Østergaard, Gade, Nielsen, and Andersen (2011).

Tovey (2017) notes that a total of 35,820 deaths were attributed to obesity in England and Wales in 2014, meaning the death of each individual is on average 12 years early. The NHS cost attributable to overweight and obesity is estimated to be at £6.05 billion with an increase of £15.6 million for out of work people regarding obesity and overweight medical issues, pushing the total sum up to £6.07 billion. Although dying early saves the UK government 3.6 billion in expenditure, the net cost to the UK is £2.47 billion, 0.3 of the total budget in 2016,

1.8% of NHS budget irrespectively for the same year (Tovey, 2017). With The British heart foundation BHF (2017) stating that due to cardiovascular diseases there is a total health care cost of £9 billion a year, with 158,155 people dying of cardiovascular dieses, 42,245 under the age of 75. Active commuting predominantly cycling can have a substantial effect on the population health reducing cost and premature deaths allowing the UK to spend saved funds on much needed infrastructure and improved services in facilitating active transport (Andersen, 2017).

Health within the ethnic minorities

According to (CabinetOffice, 2014; NHS & Niblet, 2017) physical inactivity is prevalent in disabled, older, and ethnic minority people. NHS and Niblet (2017) states that 45% of black/black British children and under 30% of Asian/Asian British children in year 6 were either obese or overweight, mentioning that people from Asian, Black and Chinese ethnic groups were more likely to be inactive than those from white and mixed ethnic groups.

Scarborough et al. (2010) reveals that for those born in the South Asian countries such as India, Pakistan, and Bangladesh but dying in England and Wales with coronary heart related deaths accounted to a quarter whereas those born in England, coronary heart disease related deaths resulted in just 15%. The report from Scarborough et al. (2010) also stated a gender difference between men and women, with men born in Pakistan, Bangladesh and East Africa are more likely to die with a heart disease than women born from the same country. Health and Social Care Information Centre (HSCIC, 2006) reported that amongst minority ethnic groups the prevalence of angina and heart attacks was the highest in Pakistani men, and Indian men and women, and lowest in Black and Chinese participants with angina being prevalent within 30% in Pakistani men and 14.7% in Indian women. HSCIC (2006) also stated that type 2 diabetes accounted for most cases, men of Black African, Black Caribbean, Indian, Pakistani and Bangladeshi had higher occurrence of type 2 diabetes aged 35-55+ than

the general population and amongst women type 2 diabetes was more common in Indian, Pakistani and Bangladeshi groups aged 35+. Fischbacher, Hunt, and Alexander (2004) also found that in the UK, lower higher density lipoprotein in cholesterol levels were found to be prevalent amongst south Asian ethnic groups than the general population with the lowest being in Bangladeshi groups. Physical activity was low amongst women from Indian/Pakistan and Bangladeshi and elder people, with low levels contributing to an increased risk of coronary heart disease and mortality through the effects of obesity and insulin, concluding that physical active substantially reduced coronary risk by 30-50%.

Cycling

DfT (2016c) statistics have shown that in the UK 23% of domestic GHG were created from transport. An increase of 15% in 1990, 64% of all trips were made by car and cycling made 2%. The DfT (2016b) further shows that the mode share in England in the year 2015, 15% of adults cycled at least once a month.

The cycling levels in cities of Denmark, Netherlands and Germany are some of the highest in the world state Pucher and Buehler (2007), and over the past three decades these countries have been able to increase the number of cyclists showing that cycling can flourish in European roads such as UK even when people can afford motorised transports. Low cycling was not always the case for the UK as Pucher and Buehler (2008) suggest, the bike share amongst the Dutch Danish and German cities fell considerably from 50%-85% of trips in the 1950's and then declining radically due to the popularity of automobiles to 14-35% of trips in 1975. By the 1920's bicycle use increased becoming the most popular transport for the Dutch and by 1939 the number of cyclists were 4,000,000 1 bicycle for every 2 inhabitants a number that overshadowed the number of cars on the road at the time which was 100,000 (Welleman, 1999).

Today in Denmark cycling accounts to 26% of all trips with less than 5km roughly (3.1 miles) of all trips made. 37% of these trips are made for leisure purposes, 34% for work, 15% for errands 12% for education and 2% for business purposes (Kristensen & Weihe, 2017). An average Dane cycling 1.6km (0.9mile) a day, annual savings of approximately €215 million (£188 million) with four out of ten Danes owning a car and nine out of ten owning a bike (Kristensen & Weihe, 2017).

Meanwhile the UK (Golbuff & Aldred, 2014; Horton et al., 2007) writes that cycling in 1949 24 billion Km were covered by bicycles resulting in almost 37% of traffic on roads. After the war, to promote an upsurge in prosperity resulted in the increase of motorised vehicles in almost all European countries subsequently meaning a fall in the number of cycles on road. As many thought to have accepted the use of motorised transport some saw a major concern one particular person Colin Buchannan (Golbuff & Aldred, 2014). Colin Buchannan a town planner, adviser, and a professor in transport had contributed to the planning world, presenting issues transport can face and still facing society today (Parkyn, 2001).

Colin Buchannan in his *Traffic in Towns* reported persuaded town planners to invest in cities and towns to help facilitate car transport and at the same time solving future congestion on roads (Golbuff & Aldred, 2014; Headicar, 2015; Reid, 2015). The report pushed in recognising what damages cars could cause towards British landscapes, the environment as well as rural and urban backdrops with the report stating that cars will ruin towns (Gunn, 2011). By 1960's to early 1970's public expenditure for roads had exceeded the amount originally proposed from £140 million to £790 million in 1975-6, of which over half was spent by local authorities wrote Gunn (2011). Cycling fell from 23 billion km in 1952 to 3.7 billion in 1973. Golbuff and Aldred (2014) concluded that despite investment and increased policies in promoting cycling the numbers have not changed however there are pockets of cycling in some towns and cities, but no increase compared to the funding devoted to it.

Netherlands unlike the UK have decreased the construction and expansion of roads. Car parking and concentrated efforts on building a more sustainable region concentrating on people, making it more pedestrian friendly thus more liveable (Pucher & Buehler, 2008). Regional Policy makers such as those in Rotterdam strongly promote the policies towards active travel increasing sustainable transport and decreasing the effects of transportation has on climate change (Helbich, Böcker, & Dijst, 2014). In the recent report from DfT (2016a), the prime minister announced the Cycle ambition cities programme in 2013, with the aim to spend £10 per person to build cycling networks across all the major cities in the UK with a total funding of £191 million. This plan was aimed at adding and improving cycling networks, improved facilities for cyclists and pedestrians in the efforts to increase cycling from 0.8 billion in 2013 to 1.6 billion stages (measured as estimated total number of cycle stages) in 2025 (DfT, 2016a).

According to Douglas, Watkins, Gorman, and Higgins (2011) The promotion of active travel by the public is now essential on the health agenda, and transport policies in the UK have tried to increase the amount of cycling by implementing many strategies (Aldred & Jungnickel, 2014). Regarding this in the UK, London's bicycle sharing scheme when it was first introduced in July 2010 comprised of 3000 bicycles at 315 docking stations throughout the centre of London (TfL, 2010), and now having more than 11,500 bikes at over 750 docking stations across London (TfL, 2017). Ogilvie and Goodman (2012) found that in the first seven months of Barclays Cycle Hire (BCH) going live females made under a third of those registering to the scheme and that data from TfL (2016) also noting that in 2016 men are still frequent cyclists than women, and is popular with white groups and least popular among black Londoners and growth rates for Asian and mixed ethnic groups grew substantially slower even though showing a higher trip rate. TfL (2016) also reporting that on average households with higher income generally have a greater cycling trip than those of lower income households. However Ogilvie and Goodman (2012) did find some optimism

with the lack of affordability and cycling hire scheme, stating that registered users from low income disadvantaged areas, where docking stations are not situated made more trips on average than those from less deprived areas, suggesting that due to the lack of affordability and storage there is a greater demand for cycling in deprived areas.

Where are the ethnic minorities?

According to HSCIC (2006), among minority ethnic groups, Bangladeshi (11%) and Pakistani (14%) of women adhered to achieving 30 minutes of recommended physical activity on five or more days a week. Bangladeshi and Pakistani Men (51%) were common in having low physical activity rates. The overall participation in physical activity reported by HSCIC (2006), was consistent in Irish, Black Caribbean, Black African groups, and lower in other groups such as Pakistani and Bangladeshi men and around six in ten Indian and Chinese men. Similarly, Fischbacher et al. (2004) concluded in their literature review that the levels of physical activity were low in all South Asian groups than the wider population.

Similar findings were found by Song et al. (2017), where females and ethnic minorities were less likely to change their travel behaviour from car to more active travel choices along with the Bowles and Green (2008) consultant report stating that Asian men were influenced by religion affecting how one will interact with the outside world, further to this the report also outlined that In regards to women cycling, husbands would be ashamed or humiliated if their female counterpart (wives, daughters) were to be seen participating in cycling or any sort of physical activity. From a woman's perspective the report delineated that women had no time to cycle as house chores and childcare were regarded as priority.

What is clear however despite the support from government policies, there has been little or no change in cycling rates as shown by (Green, Steinbach, Datta, & Edwards, 2010; Pucher, Dill, & Handy, 2010; Steinbach, Green, Datta, & Edwards, 2011). Further (Ogilvie &

Goodman, 2012; Steinbach et al., 2011) state that in London for instance cycling is disproportionally an activity carried out by affluent white men, where 86% of male and 94% of female cyclists identify themselves as white Green et al. (2010). Furthermore the (DfT, 2016b) local walking and cycling statistics report shows Chinese adults having the highest prevalence rate in cycling of at least once a month (20%) whilst Asian British have the lowest amount of cycling per month of 9%.

Pooley et al. (2013) have stated that the government promote cycling by advertising the benefits but neglect to consider many factors involved preventing people from cycling. Shifting travel away from the car and towards a more sustainable form of transport such as the bicycle has proven to be a particular challenge (Spotswood et al., 2015). As active commuting helps incorporate physical activities into everyday routines without the cost of a gym membership people still tend to prefer travelling by car (Guell, Panter, Jones, & Ogilvie, 2012). As cycling levels still remain low (DfT, 2016b), even with the incorporation of soft measures such as feeding information about the advantages of alternative travel modes so that people can make their own rational choice, in addition of continued investment of transport infrastructure these soft interventions have become commonplace in UK but have yet to make an impact in the increase of active travel (Spotswood et al., 2015). The lack of resilience of these soft measures has led researchers such as (Aldred & Jungnickel, 2014; Spotswood et al., 2015; Watson, 2012) to study approaches to policy using a more social theoretical method.

As there is a growing amount of evidence on the benefits of cycling, the enduring question amongst the minds of researchers is how cycling can be increased (Pucher et al., 2010). The proportion who fail to meet such targets tends to be higher amongst women and racial and ethnic minority groups as proven by authors such as (Green et al., 2010; Sallis et al., 2013; Steinbach et al., 2011; Whitt-Glover, Crespo, & Joe, 2009)

to name a few. As Pucher et al. (2010) state that cities around the world support the importance of policies that help encourage cycling however it is not clear which measures are the most effective and which policies help the encouragement of cycling for ethnic groups. The meanings of ethnicity as Steinbach et al. (2011) suggests are less well explored, the mobility practices will be used differently amongst ethnic groups as her study found that cycling for some ethnic participant was an invisible mode of transport. However in countries such as China and India Pucher, Peng, Mittal, Zhu, and Korattyswaroopam (2007) found that, generally walking and cycling serve the highest percentage of trips in smaller cities and villages where income was low, trip distances were shorter and where public transport was not available, further stating that in china non-motorised transport accounted for 40-55%.

Thesis Focus

This research aims to evaluate why there is a lack of active travel amongst the Indian ethnic community in the UK. Specifically, this research is expected to uncover why cycling for commuting or leisure purposes is intermittent within the Indian ethnic minority compared to the white majority groups. It will also explore the boundaries of culture, religion and environment to understand if any of these factors play a role in cycling/commuting practices. This research is designed to help create or modify existing policies that are centred on transport and sustainability.

The research will utilise practice theory as a framework for analysing the barriers towards cycling. A common element in the works of many authors such as (Bourdieu, 1990b; Giddens, 1984; Reckwitz, 2002a; Schatzki, 2008; Shove, Pantzar, & Watson, 2012) is the theory of practice, which looks at social constructs of behaviour and how issues are related to the social than focussing on individual behaviour.

The research Objectives are:

- To evaluate the factors and barriers towards the different cycling behaviours of Indian ethnic groups
- To identify the materials, competences, and meanings associated with cycling in Indian ethnic groups focusing on using practice theory to conceptualise factors to determine which elements explain attitudes and barriers to cycling
- To develop a set of recommendations in overcoming barriers found within the Indian ethnic minority

Outline of subsequent chapters

In the introductory chapter, cycling/health issues and polices were briefly mentioned as to why the research is important. What follows now is the structure and extent of the remaining thesis.

Chapter two and three follows onto a literature and systematic review to gauge what literature is currently available on cycling within the ethnic minority and what these studies have concluded. The literature review chapter will discuss on subjects of different cycling strategies, the improvements of such polices, identity, the importance of movement and then an introduction to practice theory. These subjects will lead to a better footing on the importance of cycling and transport in general and how it affects population behavior. The systematic review is conducted to assess what is already known about cycling amongst ethnic minorities bringing in literature from sports and physical activity to better justify the need for more studies on the lack of cycling within the Indian ethnic minority. The chapter will discuss topics on Islam, culture, and ethnicity to providing a structure understanding how they play a role in the decision to start cycling.

Chapter four outlines the methodology. What sampling methods were used, why semi structured interviewing was practical, and the location of where the study took place. The chapter also describes in brief a reflexive approach to the data and describes two different methods of analysis along with the ethical considerations.

The chapters that follow on are the results and discussion chapters. Chapter 5 outlines the results using headings of materials, meanings, and competencies portraying all the issues involved amongst the Indian ethnic minority when cycling is considered. This entails subjects such as experiences, conforming gender roles, Islam, cultural practices along with safety and cycling facilities values and how these barriers and assistance affect cycling choices.

Chapter 6, the discusses the findings related to cycling using data from other studies reflecting upon what was found and what needs to be done to increase cycling. With the final chapter concluding the thesis along with the references and appendices at the end of the study.

Chapter 2 Literature review

Outline of chapter

In this chapter the concepts of cycling policies, strategies, and the improvements they have made, the importance of identity, movement and behaviour will be explored. Drawing on sociological and transportation literature to help provide a context for the research objectives evaluating how these factors affect transport demand and transport choice.

The literature review will also look at other countries that have implemented cycling strategies to increase cycling to determine if they were successful, and if not, what problems were encountered. Although the concepts are discussed in general and not for a particular ethnicity it gives a brief standing on what some of the barriers are. This allows exploring the Indian ethnic minority in greater detail to see if such barriers are prevalent.

The three topics on identity, movement and how behaviour shapes travel will be discussed. Identities are shaped by many factors such as profession, pay bracket, and how the Indian minority identify themselves when using different modes of mobility. The importance of movement is examined to shape how this plays a role on cycling practices in everyday lives, and how factors such as time, cost and policies on behaviour determines what transport choices are chosen

This succinct overview then follows on to what practice theory is. This outline does not critique practice theory but rather gives an introduction on why and how it is important to use as a framework. It will help answer question 3 of the research on the materials, meanings and competences that the Indian minority may retain.

Cycling policies and strategies

Cycling has received a noticeable role in transportation policy because of the environmental and health benefits when compared to the car (Heinen, Maat, & van Wee, 2011). Providing suitable and safe infrastructure that are connected with neighbourhoods is at the core for active travel policies along with policies to improve public transport can help increase the chances of individuals to travel by bike with the added promotional campaigns and programmes encouraging active travel as a safe, convenient and a healthy option (Winters et al., 2017). Winters et al. (2017) further states that policies work best when different levels of societal and economic considerations are met along with the cycle routes, city design and individual barriers are considered which will ultimately limit car use. Cities within Netherlands, Germany, and Denmark, cycling is safe and convenient where almost everyone cycles differing from ages and economic bands state (Pucher & Buehler, 2007). With Pucher and Buehler (2008) suggesting the bike is not regarded as an expensive hobby or for someone that is physically fit and educated to cycle on the roads but for whoever wants to cycle can cycle.

For example in Denmark the strategy was built on three pillars (Ministry of Transport., 2014). Firstly, Everyday cycling: introducing a door to door strategy, which meant that traffic congestion on the roads would be reduced and a greener transportation solution created combining bicycle use with public transport, ensuring good parking at these stations along with other hubs. The goal was to also establish bicycle importance in work places, so commuters have an incentive to switch from cars to bikes in combination with public transport. In addition to this, getting people to cycle on weekdays Denmark created intelligible cycling routes and created cycle superhighways to attract bicycle commuters, with many municipalities investing in cycle campaigns, cycling ambassadors and the construction of new bicycle tracks. Secondly, Active holidays and recreation: this was placed to achieve

cycling as a hobby and to do this Denmark introduced better access to cycling routes and destinations, along with holiday packages that centered around the bike creating an expert tourism group to develop Denmark as a cycling holiday destination. Thirdly, new and safe cyclists: helping children to cycle safely to school and to other recreational grounds to maintain cycling over the years making cycling a natural choice.

Similarly in the Netherlands, non-motorised transport are at the center of transport policy suggests (Buehler & Pucher, 2010). The authors found that Amsterdam amongst issues centering on, bike parking, safety, waiting times and busy intersections and a major bicycle theft issues to be a major concern, Amsterdam addressed these problems with several strategies. The strategies included, increased bike parking spaces, traffic calming areas reducing the speed of cars, bike education and campaigns. Similar to Denmark, Buehler and Pucher (2010) reported to have created separate bike paths rather than on road bike lanes. In order to combat theft in Amsterdam, the introduction of bike registration was implemented alongside and stricter police checks ensuring bikes were with their legitimate owners (Buehler & Pucher, 2010) . Further to this Pucher and Buehler (2008) stated that municipalities were responsible for making specific cycling policies, suggesting that local authority were in charge of cycling training, campaigns and promotional activities even though funding is provided by governments.

In the UK a cycling strategy has been planned to get more people walking and cycling (DfT, 2017). This includes better and safe streets for cyclists, better connected streets with communities for those making short journeys, car speed limits where appropriate and cycle training for children. The strategy also planned to build better biking facilities, improvement of rural roads for safer cycling and better-connected routes with public transport hubs, schools and workplaces with the addition of integrated routes for those with disabilities and health conditions. Grants and funding to local authorities was also in place to promote cycling and

walking. The UK strategy also acknowledged the importance of behaviour change and set out

plans to revolutionise cycling (DfT, 2017).

Assigning behavioural outcomes to policies which are created to promote active travel is

challenging as individual decisions to start active travel are not only determined by individual

needs, partialities and attitudes but also with the incorporation of external factors such as the

physical and social environments one is in (Winters et al., 2017). A range of policies crossing

from different sectors of government can help design policies towards the physical and social

environments directly or indirectly influencing active travel (Winters et al., 2017). DfT (2017)

also stated to provide £1 million in funding to revive cyclists who own a bike but do not cycle

through campaigns implemented by cycling UK, in which cycling UK announced that 18,500

people cycled regularly in England last year (CyclingUK, 2018). Furthermore making cycling

accessible to those in hard to reach communities and in deprived areas around the country, as

the Images of cycling as something of an activity and the perceived image of the cyclists are

not always agreeable (Daley & Rissel, 2011). Agreeing is Gatersleben and Haddad (2010) as

the authors findings suggested recent or new cyclists assumed other cyclists around them to

be everyday cyclists, whereas non cyclists perceived cyclists around to be for those who cycle

for the enjoyment and have a lot of time and money to do so.

How cycling can be Improved

Many studies have been conducted concluding that bicycle infrastructure can help improve

and increase the amount of bicycle commute and safety of cyclists (Pucher et al., 2010). Titze,

Stronegger, Janschitz, and Oja (2008) an Austrian study found that participants who

commuted regularly on bikes and found to have bicycle tracks on their commute were twice

as likely to cycle, however also concluded that adult commuting was strongly influenced by

time a factor that was also found in the present study affecting a few participants on whether

to cycle or not. Similarly Panter, Heinen, Mackett, and Ogilvie (2016) stated that the delivery

of new cycling infrastructure in the effort to promote active travel including walking and cycling was advantageous in the time spent cycling, meaning that cyclists would on average travel 80 minutes a week more, further the study also found that infrastructure for active commuting promoted those who cycle least and new cyclists to start cycling, concluding that designing and implementing transport systems in favour of active travel or reconfiguring old transport systems to adhere to cyclists would help improve cycling and the numbers of cyclists along with population health

Sener, Eluru, and Bhat (2009) used a multiverse analyses using web-based surveys in Texas USA, with the study respondents outlining they preferred cycling routes with no parking or cars parked at an angle. The study also found that respondents preferred fewer stop signs and red lights, lower speed limits for cars and lower traffic volumes that would help increase cycling. Two studies by Dill and Carr (2003) and Parkin, Wardman, and Page (2008) found using a state and local spending analyses that cities with higher levels of bicycle infrastructure saw higher levels of bicycle commute. Dill and Carr (2003) a study using 35 large cities in the US corroborating that bicycle lanes help promote and increases cycling commute. Further to this Pucher et al. (2010) had conducted an international review using 139 studies, although noting that studies varied in type and quality they established positive connotations with cycling interventions with the increase of cycling. 139 studies and 14 case studies from cities such as London, Paris, Berlin, and Copenhagen were also examined, and the research found that cities adopting a variety of interventional packages had experienced larger increases in the number of bicycle trips.

Particularly, in London where cycling is increasing due to pressures from the many key actors involved such as the then London mayor and Transport for London (TFL), have recognised that cycling is the best chance solution in order to minimise congestion within London (Marije de Boer & Caprotti, 2017). Cycling would also help deter problems from London's

transport system, city wide pollution and public health concerns states Marije de Boer and Caprotti (2017). Nevertheless Marije de Boer and Caprotti (2017) also stated national and local efforts to increase cycling has not been successful as the national government is not taking the appropriate and necessary stand in improving cycling measures and regarding this the country has remained car dominant.

Further Pucher et al. (2010) suggested that Culture, custom and habit has a role to play in cycling cities, non-cycling commuters in cities where cycling is high will respond differently to policy changes regarding the bike than non-cyclists in cities where cycling is low, meaning that in cities where cycling is prevalent cyclists will help increase, promote and encourage non-cyclists to start cycling or even contemplate on cycling. Gatersleben and Appleton (2007) finding that non-cyclists were more likely to cycle when surrounded by other cyclists concluded that different strategies need to be implemented addressing different groups of people for the population accepting cycling for both short and long journeys. Such investments in infrastructure such as, cycling paths, safer lanes, connected hubs have shown to be a positive outcome to increase cycling (Aldred & Dales, 2017; Clayton & Musselwhite, 2013; Goodman, Sahlqvist, & Ogilvie, 2013; Song et al., 2017) . However Pooley et al. (2013), Pucher and Buehler (2008) and Song et al. (2017) have also noted that policies that solely concentrate on safety and infrastructure will unlikely be unsuccessful as other factors that inhibit individuals from taking up cycling are more complex around situations of their everyday lives.

Pooley et al. (2013) writes a better more concentrated approach is needed that tackles infrastructure, legislation, spatial, social and economic change to promote cycling and making it normal especially for shorter journeys. The reason countries like the Netherlands, Denmark and Germany have cities that flourish in residents cycling is due to the fact that policies are sympathetic adhering to everyone making them multi-faceted and self-reinforcing (Pucher &

Buehler, 2007). As Pooley et al. (2013) concludes that at the individual and community level the complications and possibilities that can help influence how and why individuals decide to choose certain travel options could be met when other factors such as the social construct are met in accordance to the 21st century.

Identities of cycling

Subjective and socio-demographic factors also influence individual's ability to cycle. These factors include safety, convenience, time, habits, attitudes, values and norms as well as ethnicity, gender family circumstances, income, and age outlined by (Kloof, Bastiaanssen, & Martens, 2014; Pucher & Buehler, 2007; Rietveld & Daniel, 2004; Steinbach et al., 2011) . According to Dill and Voros (2007) who conducting a survey research found that men and younger adults below the age 55 are likely to cycle, and people who cycled regularly, had or saw family members or friends cycle were more inclined to be regular cyclists. These findings are similar to (Handy, Van Wee, & Kroesen, 2013; Heinen, 2016; Steinbach et al., 2011) , with Titze et al. (2008) noting that as cycling is seen as a popular mode of transport the more residents will be inclined to start cycling thus altering cycling as a norm influencing social support. Titze et al. (2008) also wrote that support from external factors has a big influence for people to cycle, whilst Rietveld and Daniel (2004) state for cycling, cultural traditions more importantly ethnicity plays a role, as cycling is an alternative mode of travel which is less likely to be likened by individuals who have different cultural backgrounds.

Horton (2009) has suggested that cycling points to an antithetical form of practice in forming an identity, pointing to an environmentalist view, the practice of cycling form only part of a sustainable green lifestyle, however as cycling is perceived as an environmentalists practice cycling can hold a key identity for environmentalists to display their identity through the act of cycling. Cycling also involves a rider and this also revolves around identity, as Cox (2015) writes, cyclists will either conform to the practices of cycling or fall into the stereotypes of the

typical cyclists such as when an individual is visibly aware of a minority group like cyclists in the UK who account for 2% (DfT, 2016c) a sense of belonging and identity is formed which broadens their reality from an isolated individual.

Murtagh, Gatersleben, and Uzzell (2012a, 2012b) found in their analyses of the importance of identity associated with travel mode behaviour as well as societal identities, in that a range of identities existed projecting on what travel choices were used for work, education and other journeys. Stryker and Burke (2000) writes that identity is an internal factor, consisting of adopted meanings and expectations that are linked with the various role's society has to offer, the social structures is created by the connected spaces and roles linked with meanings. Regarding this Heinen (2016) discovered transport identities were important predictors of travel choice and that the intention to change, from one mode to another, social role identities, self-identities and place identities were found to be associated with mode choice. If an individual were more likely to use a certain mode it would be less likely for that individual to change.

Murtagh et al. (2012a) writes in a study involving 248 working parents in England of both urban and suburban areas who owned a car and earning above average, found multiple identities are related to travel choice and the identities related are varied in order of importance. The stronger the parent identity the stronger the link of the individual walking, similarly the stronger the worker identity the stronger the link the individual will drive, concluding that the patterns of multiple identities competing with one another from parent to worker will result in travel mode choices being negotiated. As Stryker and Burke (2000) suggests that individuals are involved in multiple role relationships who hold multiple identities strengthening one another or competing with one another resulting in the prevalent identity being reflected.

Similarly Pooley et al. (2011) found in his study in Lancaster that people chose not to cycle due to certain constraints and made it difficult for them even when they were inclined to cycle or walk for certain trips. The difficulty and uncertainty associated with active travel and family, household, and wider social circles pressure the ways traveling identities are created. These identities can structure attitudes towards travel mode choice. With Pooley et al. (2011) and Titze et al. (2008) concluding that social influence and support from friends and families was advantageous for people to cycle more. As people enjoy the freedom that come with walking and cycling they are however also associated with the dangers and the appearance they perceive which will result in individuals being discouraged from taking part in active travel choices.

Identity formation is embedded from the earliest processes of socialisation, learning at an early age of infancy helps the development of awareness and the development of identity (Jenkins, 2004). Identities vary amongst individuals and can be more or less noticeable depending on the different political and social situations one is in (Aldred, 2013). In order for identities to be related to transport it is important that transport related identities exist in a dynamic relationship with other social identities (Aldred, 2013). Riding a bicycle for mundane journeys in the UK and most of the developing world the cyclist is assumed by others to be of someone who is brave as well hazardous, a risk taker and an inconvenience, tolerated in countries where cycling is high and unreceptive where cycling is low these characteristics questioning identity are prevalent (Skinner & Rosen, 2007) .

Identity is both a sense of what people are and the sense of who they may be similar to or different from (Skinner & Rosen, 2007) . A vast amount of policy, investment and commitment has gone into increasing cycling from a facilities and infrastructure perspective without having any regard and unproven assumptions about the individual attitudes, needs and behaviours (Skinner & Rosen, 2007) . The practice of cycling and cyclists themselves

have become a peculiar sight as people feel the pressure on living a more active lifestyle, to be on a bike whilst commuting or any other journey whilst still in a motorist dominant world, more calls will be heard stating cycling is dangerous and unsafe (Horton, 2007).

As cars are a part of people's identity the act of driving have become unquestioned somewhat unnoticed, as to move through life requires one to own a car and removing the car from societal norms could be challenging Lee (2015). Cycling is looked at as an instrument for leisure and play and not as a means for transportation for adult inhabitants Lee (2015). Green et al. (2010) write roads can also form identity, society is dictated by motorised activity to the disadvantages of others who use the road, creating stigmatised cycling identities, when cyclists are treated with equality and respect cyclist identity could be created differently. Further (Gatersleben & Appleton, 2007; Jakobsson Bergstad et al., 2011) write material positions such as the car have an affective and manipulative way of impressing others because it conveys a conventional expression of economic and cultural status, giving an immediate image of social identity and standing wanting to gain the approval of others.

In a study by Mann and Abraham (2006) 18 participants were interviewed about transport choices to work. The study found that a journey to work by car ensured the pleasantness to travel, ensuring with the added importance of autonomy, the sense of being in control. The study also found that owning a car obliged one's identity as it allowed the participant to show who they were. Time, utility, and efficacy were also presented as a common decision-making process to choose between the car and other modes of transport. Similarly (Steg, 2005; Steg, Vlek, & Slotegraaf, 2001) stated that car use was not only a popular method of travel due its nature but by a car showed for an individual to express social positions, whereas cycling, as transport policy has ostracised cycling after the world war has fallen in to a marginalised identity for two groups of people, for those of a low status and for the privileged individuals who value speed rather than safety (Aldred, 2014).

Similarly focussing on cyclists and what it means to be a cyclist Gatersleben and Haddad (2010) conducted a survey research to find what or who a typical cyclist is. Responses given by the participants concluded with four main stereotypes, responsible cyclists (safe and responsible), lifestyle cyclists (spends time and money), commuters (commuting professionals) and lastly day to day cyclists (normal everyday users). These stereotypes appeared to vary between respondents depending on how often they cycled and for what purpose cycling commute was for. The four stereotypes that emerged shared certain characteristics that made them distinct from one another, for instance a responsible cyclist was perceived to be someone who tolerated road rules, wore reflective gear, stopped at traffic lights and was less likely to use a BMX or cycle because they could not afford a car. Similarly, lifestyle cyclists were avid enthusiast using the bike for a range of journeys and much more likely to spend time and money on their bike and equipment involved, these cyclists were keen to cycle on countryside regions and other different terrains as well cycle for charitable events. Commuters however were perceived to be more likely male professionals who were highly educated and assertive on the road where as day to day cyclists were more likely to be female and like the responsible cyclists were kind, responsible and wore normal attire with no special biking equipment.

These findings show an interesting description on the perceived identities of a cyclist but however fail to identify the subjective evidence on who a cyclist is and why they cycle. Gatersleben and Haddad (2010) conclude that those who recently used a bike perceived cyclists as normal everyday cyclists using the bike for both commuting, shopping and leisure purposes whereas those who cycled once or never say cyclists as someone who enjoys cycling and spends a lot of time and expenditure to fund their hobby. If cycling is seen as an activity for very few keen people and not as something that could be incorporated into everyday practices then for policy purposes these perceived stereotypes could be a barrier (Gatersleben & Haddad, 2010) . Similar to the stereotypes found by Gatersleben and Haddad (2010), Green

et al. (2010) found cyclists to be white and more likely to have come from an affluent social groups, with Asians representing 7% of cyclists cycling once a week compared to white representing 17% (DfT, 2018).

What it means to Move

Mobilities research overlaps with many other aspects of studies, from globalization, communications and migration and border studies to tourism, cultural, transport and anthropology studies (Sheller, 2014) . Further (Sheller, 2014) states that   mobilities has a focus on the embodied practices and materiality's of movement, from digital and communicative mobilities, infrastructure and systems of governance, that helps create an enabled or disabled representation of movement in where the exemplification of ideologies, and meanings are attached to both the movement and stillness. The emphasis on moving and the practice of movement helps understand how meanings are constructed within the mobile practice (Spinney, 2007). Mobility and the different ways of moving helps to form an identity and a sense of belonging, however as (Sheller & Urry, 2006) suggests the new mobilities paradigm must tolerate not only the questions on globalisation and the eradication of states, identities and belonging but also accept the fundamental questions of what the fitting subjects and objects of social inquiry are. implying that studies have not examined how and why people move and the meanings surrounding mobilities and how such movements structure the web of social life.

Mobilities is considered to be more about the movement of people and commodities from A to B, more than providing a means of access to workplaces and amenities but is a more of a social constitute for modern day society to have access to the prevailing opportunities and constraints, freedom to limitations, and justice to inequality (Shaw & Hesse, 2010). The importance of taking a mobilities approach to tackle the barriers of cycling within the Indian ethnic minority is so that mobilities can situate into a research gap within the geographical

study of transport. As Shaw and Hesse (2010) suggest, mobilities helps to discover topics beyond transport geography, explaining the conditions that underpin the construct of movement, experiences whilst moving and the implications such movement can hold within the close and wider geographical environment and the impacts mobilities can hold against the sociocultural, economic and political atmosphere.

Movement for people has been an important factor, being omnipresent in everyday life, the option to move freely throughout areas in order to perform tasks or convoluted activities that shape society is usually taken for granted (Pooley, 2017). Issues surrounding movement have been pivotal to many types of organisations state Sheller and Urry (2006), from traffic congestion to accidents, expansion of roads and airports and, technology on the move. Issues relating to mobility have been focal to the point where the "mobility turn" is extending into the social sciences surpassing the contrast between transport and social research (Sheller & Urry, 2006)

Transportation and the benefits it holds has been unfairly distributed around many spaces and thus has caused the inevitable where diverse areas experience different transportation accessibility resulting in inhabitants experiencing dissimilar mobility opportunities (Pyrialakou, Gkritza, & Fricker, 2016). Pyrialakou et al. (2016) write that space or places for transportation are not the only problem when mobility is involved. The temporal, socioeconomic and demographic variables can have an adverse effect in regards to mobility, as the absence of accessibility to and from places plays a vital element in prompting many dimensions of social exclusion (Kenyon, Lyons, & Rafferty, 2002). When the physical mobility of people is restricted, accessing many of the social prospects are reduced, as the lack of access to transport will act as a key obstacle to employment opportunities states (Kenyon et al., 2002). Kenyon et al. (2002) further commenting that the lack of accessible,

available and affordable transport will lead to the prevention of educational and training opportunities for all age and skill groups.

In regards to cycling, as a practice is conducted globally however there are clear pockets where cycling is and is not popular (Horton et al., 2007). In some times and places cycling is easier than in other places, cycling practices are encouraged or discouraged depending on place and space, in favorable or less favorable conditions, where within countries or cities some are cycling friendly and some are not, with some representing strong cycling cultures whilst other countries do not (Horton et al., 2007). As cities are dedicated to the rapid and increased movement of people and goods throughout the world, many spaces of mobility appear to only support the beginnings and destinations, as places have been established as either work or home spaces, places where social interaction can take place, places where there is meaning, that movement and meaning as a social practice has been ignored (Spinney, 2007). As Schatzki (2008) states, "*the world intelligibility is how things make sense"* the word intelligibility having two meanings or dimensions, one is how the world makes sense and secondly how actions can make sense. Schatzki (2008) further states that how things make sense are their meanings, and a meaning of something is the understanding of something, something that is encountered in all phenomena of experience and thought.

Traveling Behaviour

Travel behaviour can be affected by various transportation project that have an effect on time, cost and other factors in which individuals will respond to such changes by numerous choices available, from mode to destination or frequency and choice (Stopher & Lee-Gosselin, 1997). As Chatterton and Anderson (2011) state behaviours are seen as reflection on the given information and prompts that are given to an individual. Further Spotswood and Tapp (2013) indicates behaviours are also influenced by deep cultural arrangements, giving the example of

physical activity, that if it is not within a cultural group to partake in then the intention and attitudes towards physical activity will result according.

The foundations for public policy towards pro environmental behaviour change rely on behaviour policies, policies that regards people as unqualified and ignorant of environmental sciences and blind in their response to any risk (Owens, 2000). It is because of this perception that policy makers choose to implement policies that are information based, as the public must be engaged and better informed in order to change their view on environmental change, with the commitment that if people know about the dangers of their behaviours towards the environment the more friendly people would be (Owens, 2000). However Owens (2000) goes on to argue that although having knowledge is vital, the barriers towards a lack of environmental action is not due to the scarcity of information but a more intervening problem that revolve around the social and political context and personal and institutional limits.

Kollmuss and Agyeman (2002) also state that normative influences such as cultural and family traditions can influence attitudes, if the dominant people transmit a lifestyle that is unsustainable, pro environmental behaviour is less likely to occur. As Shove (2003) argues distributing information to the public on the cause that it would change environmental behaviour is defective as such methods fail to acknowledge that environmental consumption is a shared, cultural and collective action, making it impossible to see how the formations of environmental costs of the daily life can progress (Shove, 2010). To address this environmental progression with an understanding of normative influences, theories of social practice has been pursued to address the shortcoming of behaviour change through information feeding (Hargreaves, 2011).

Practice theory has become somewhat an outlook of growing theoretical prominence (Ritzer & Stepnisky, 2014). Practice is the routinised way of acting, along with the assumptions that come with human behaviour, it affects how humans act, how humans manage their bodies,

objects or subjects things in the wider world (Ritzer & Stepnisky, 2014). Chatterton and Anderson (2011) state that in every case an individual's behaviour is determined by their own weighing up of their attitudes to the behaviour in question. Conscience and preconscious views, and how these views relate to society, the emotions, decisions and several possible internal and external factors will result in ultimately deciding the behaviour of an individual on the choices he or she will make.

What is Practice theory

Social practice theory in now increasingly applied in the analysis of human interaction and behavior in a society (Morris, Marzano, Dandy, & O'Brien, 2012). Morris et al. (2012) states that practice theory looks at the human practices (the matter of different ways of doing) and the interconnected elements of the physical and mental activities, norms, meanings and knowledge. These elements will relate to form people's actions and behaviours, deemphasising the significance of the agent and instead pursuing the practice (Reckwitz, 2002b; Ritzer & Stepnisky, 2014). Social practice theory looks at the wider perspective to identify, factors within a society that influence why actions are performed in a certain way. Practice theory looks at the practice that is being undertaken, rather than looking at the individual undertaking the action, where the individual is no longer the unit of enquiry (Chatterton & Anderson, 2011).

Interpreting individuals as routinely manipulating the elements that compromise a practice (Aldred & Jungnickel, 2014). Many authors such as (Bourdieu, 1990b; Reckwitz, 2002a; Schatzki, 2008; Shove et al., 2012) have worked with and analysed the theory of practice and the concept of practice is important as it helps bridge the gap of structure and agency (Ritzer & Stepnisky, 2014). The individual behaviour is embedded within a web of social practices where structure and agency are linked (Vaara & Whittington, 2012), where structure as Giddens (2006) states is the means and the outcome of a practice. Giddens (2006) through

structuration theory states that social theory must recognize that time and space junctures are the basis of all social existence.

Structure and agency are connected (Shove et al., 2012). An activity is shaped by the structures of various rules and meanings, these combined produces the structure of human actions constantly reproducing structures that limit or enable actions (Feldman & Orlikowski, 2011). Giddens (1984) claims that structuration theory acknowledges individuals as replicating the social system to avoid disparagement. This suggests that both structure and agency are inherently the same as through the process of socialising are imbued by structural influences. People as actors are adapted to perform structural expectations when found in circumstances that ae reproduced by society. As agency inclines towards the capability of doing things, structure relates to going through life's many challenges through the practical knowledge one has gained by structural factors, rules and resources.

Giddens (1984) suggests that human activity is created through repetition and not by individual social actors, but however recreated by them when expressing oneself as an actor. As Giddens (1984) sees practices based on consciousness and repetition of social activity through time and space , where actors and structures mutually establish a recurrent of the social viewing the actions as processes rather than a phenomena, Bourdieu (1990b) sees the notion of practice through practice, habitus and field. This notion of mutual constitution is that all social orders cannot be conceived without understanding the role of agency in producing them similarly agency cannot be understood as human action but understood and configured by structural conditions (Feldman & Orlikowski, 2011). Bourdieu (1990b) further states that the habitus is a product of history, it produces individual and collective practices ensuring active presence of past experiences, deposited in the forms of schemes of perception, thought and action guaranteeing the correctness of practices and their consistency over time.

Both Bourdieu and Giddens represent practice in a sophisticated attempt to rethink structure and agency through practice states Caldwell (2012).

South Asians and physical activity

One of the most apparently untraceable problems in the leisure management in the UK for the past three decades has been that of the involvement of sport and physical activity amongst ethnic minorities particularly from those of South Asian decent (Snape & Binks, 2008). The low levels of participation amongst this group which include Indians, Pakistanis, Bangladeshis is a common theme throughout the international community that are prevalent of many heart and cardiovascular dieses and other illnesses that could be improved if physical activity was established in their lifestyle (CabinetOffice, 2014; I. M. Lee et al., 2012; NHS & Niblet, 2017; Snape & Binks, 2008). Snape and Binks (2008) conducted a research study in Blackburn, a region in the North West of England known being one of the principle centers of the post war cotton and textile mills that bought in a lot of immigrant workforce predominantly from South Asian regions. The field research was conducted through a semi-structured interview centered on the Blackburn North healthy living centre with staff involved with the promotion of healthy living and females that was participating in physical activity programmes. The cultural barriers found within the study which was a common thread that propped up amongst the Muslim participants was Izzat (respect) or personal reputation and family honour, something that Asian communities have high priority of, amongst the established hierarchy within homes and families than the white British counterpart (Snape & Binks, 2008).

Further Walseth and Fasting (2004) conducted a literature review between 1990 and 2004 within a western European context on minorities in sport participation and found that the major concerns for not participating in in any physical activity or sport amongst the minority women were home and family responsibilities and amongst the men were work and education

responsibilities, similar findings were found in (Long, Hylton, Spracklen, Ratna, & Bailey, 2009). Johnson (2000) study of a lifestyle survey which examined the degree to which ethnic barriers were involved in the lack of exercise and physical activity amongst ethnic minorities found that some barriers were similar to that of the white British majority that included, not having enough time, not being sporty enough, family obligations and age related behaviour constraints.

Johnson (2000) also found that men were less likely to be constrained with pressures of modesty dress restrictions and gendered relations, and that half of the Asian female population felt that these reasons were not identified as being actual barriers for them to take part in Physical activity. However, there were some descriptions of certain issues that was deemed important for future policy and campaigning events that could help increase participation especially amongst Asian women and these were modesty, the dislike or not of being in a mixed gendered setting, or in a place where bare bodies were on display was clear disincentive amongst all Asian groups regardless their gender. Johnson (2000) further stating that women especially those of Muslims faith of Pakistani and Bangladeshi origin particularly resisted to mixed gendered facilities along with some men who articulated a sense of embarrassment towards mixed sex facilities, other barriers noted were embarrassment or shyness was slightly mentioned more often by Muslims than Hindus or Sikhs but was still a factor along with women expressing family and husband disapproval amongst Pakistani and Bangladeshi women.

Walseth and Fasting (2003) conducted a qualitative interview amongst 27 Egyptian women and found that Islam does encourage sport participation for women further explaining that there are different interpretations of the Quran and depending on how secular an individual is the stricter barriers will be thus having consequences for the participation in sport. These barriers included the use of the veil, gender segregation and non-sexual movements along

with the power relations amongst men and women, which in turn get adopted into people's bodily practices. In another paper Elling and Knoppers (2005) used a questionnaire methodology to investigate sport participation gender and ethnicity in Amsterdam. The questionnaire was distributed to 1025 young people aged from 14-20 asking questions from what sports they took part in, with whom and if they were associated with any sporting club or organisation. The question what sport you would like to take part in was also asked to see if the participants were likely to be involved in sports that were popular in the Netherlands.

Elling and Knoppers (2005) found, female minority students participated less in sporting activities and the reason for this was attributed to Islamic beliefs. Between Turkish and Moroccan female groups Turkish female participated the least at 18% compared to Moroccan females 40% who participated in sports a clear difference even though both countries Islamic countries however noted that the difference may not be with religion but Turkish girls being more restricted because Turkish communities in the Netherlands displayed a more social cohesion and control compared to their Moroccan Counterparts. More than 70% of ethnic boys participated in sporting clubs compared to ethnic girls, which was a little less than a third. The results suggested that gendered and racial/ethnic normative images still have an influence on how sporting activities are structured and the involvement of sport amongst ethnic minorities can both positively or negatively influence the choices made creating a habitus amongst teenagers.

The relationship between religion, ethnicity, identity and sport needs to be in a position of prominence of analyses of British Asian Muslims (Mackintosh & Dempsey, 2017). Mackintosh and Dempsey (2017) write with regards to the interpretations of Islam, sport and the inclusivity within the Islamic teachings there are several diverse perspectives of the role, meaning, and belief held around sport participation of Muslim communities and with regards to these interpretations Muslim communities may be put off due to the negative and unclear

stance on sport and Islam. The authors further go on to state that due to the confusion of students trying to balance Islam and societal expectations in regard to sport, there is a struggle for Muslims to participate in sport when it is considered unimportant in Islam. However according to Kahan (2003) the strongest barrier found towards physical activity is the influence of parents, this was because Muslims that immigrated 30 to 40 years ago to western societies thrived in the educational and labour system, and have instructed their children to do the same thus refraining children from extra-cuccricular activities and instead focus on achieving high calibre educational and career goals.

Physical activity and sport is perceived as halal (allowed) and an important factor primarily because exercising is understood as taking care of one's body in which Islam the body is sacred and the gift from Allah (Walseth & Amara, 2017). Martin and Mason (2003) write with reference to Islamic scriptures cited by the authors that within Islam, leisure is a concept of relevance in the Islamic world looking at Iran, Turkey and Egypt they conclude that leisure is already a significant and profound in these three countries. The Islamic literature most particularly the Hadith (reports and sayings of the prophet Muhammad) are full of stories about the prophet and his encouragement to his followers in taking up and be involved in physical activity state Walseth and Amara (2017) , most notably running, horseback riding, archery, and swimming (Pfister, 2010). Yet, parents have secondary thoughts when it comes to children participating in sports as it is perceived as an obstacle and dictating Islam because of the gossiping from neighbours and the wider community (Kahan, 2003).

Active sport and recreation are widely encouraged in most Islamic countries as of a policy to develop healthy minds and bodies, but practical problems do occur when in relation to traditional cultures especially relating to participation by women (Martin & Mason, 2004).

Cycling as a practice

The theory of practice gives a way to acknowledge problems (Bentley, 2009). Caldwell (2012) suggests that the status of human beings as subjects is bound to practices and that human agency must be something that is contained within practices. Caldwell (2012) states that if by focusing only on the practices of human beings as the focus of the social then practice only highlights that everyday activities is guided not by the individual, or the intentional action accompanied by knowledge and know-how but by the routinized practices led by tacit knowledge and or informal rules of society. Countering this argument is from Reckwitz (2002b) who argues that practices are time sets of mental activities. They unavoidably involve certain routinized ways of exploring the world, of desiring something, of knowing how to do something and that a practice will always consists of routinized performances. Within the bodily movements is connected to the knowhow, the particular ways a person would interpret behaviour, aims and emotional levels (Reckwitz, 2002b).

According to Schatzki (2008) a social practice is a regular bodily activity held together by a socially standardised way of understanding and knowing, further stating that for example a practice of an X-ing such as (cooking, working) is an unfolding, spatially dispersed nexus of doings and sayings organised by the understanding of the X-ing and the relation the particular practice has with practical knowledge. Schatzki's definition of practice however is somewhat vague according to (Reckwitz, 2002a; Shove et al., 2012) as practices need to be organised by knowledge and expressed in bodily activities. According to Reckwitz (2002a) he suggests that Schatzki is missing in the description of practice theory, "things". Stating that objects of non-human form or artefacts are components of practices. Reckwitz (2002a) further illustrates that the objects in a social world should be treated as necessary components certain practices to be practiced. Both the human body and mind and the object will provide the necessary requirements for a practice to take place.

Reckwitz (2002a) goes further to say that change in society is a change in cultural codes depending on the change of technical media. What Reckwitz (2002a) here suggests that artefacts or 'things' 'objects' must be used within reason of understanding of cultural codes becoming a part of social practice. Practices are things people do to achieve different goals in life. The relationship between humans and objects in systems of different practices is the relationship of practical understating. Reckwitz (2002b) supplements practices to seven elements so that practice could be better understood, they are, *Body* (where practice is a routinized bodily performance), *Mind* (mental activities), *Things* (practice cannot occur without object), *knowledge* (ways of understanding), *discourse* (practices amongst different practices), *structural processes* (found in the routine nature of practice), *agent/individual* (human mind and body combinations that form a practice). These seven elements are refined further by Shove et al. (2012) defining practices as, *meanings* (understanding) *material items*, and *competences* (how to do things) (Maller, 2015).

Shove et al. (2012) signifies that social practices like cycling involves elements such as knowledge, competences, materials, tools, infrastructures and symbolic meanings. Practices are connected to time place and space, they form complex systems of routinized behaviours that act on their own, each practice affecting another practice throughout daily life (Blue, Shove, Carmona, & Kelly, 2014). Looking at cycling through the lens of practice theory all practices are routines of bodily performances but at the same time sets of mental activities writes Reckwitz (2002b), further any social practice consist of certain aspects of both mental and bodily knowledge for a practice to be performed, and for practice theory the bodily movements of the social and the mental routines and their knowledge are also the place of the social. Movement or mobile bodies encounter others in the multi-sensory physical world, a travelling body will involve movement along with pleasure and pain and this is how humans make decisions or preform, human bodies rely on the notion on movement, nature taste and desire making sense of the world creating ideology and meaning (Büscher & Urry, 2009)

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As cycling is overshadowed by motorized modes of transport in the modern world, practice theory, more specifically looking at materials, meanings and competences will help shape what the practice of cycling is and how it is seen amongst the Indian ethnic minorities. Practice theory will help define the meanings of cycling and how movement or mobility is shaped. As cycling and sustainable transport literature is largely focused on infrastructure and facilities, using practice theory as a framework will support why different social and cultural practices around cycling amongst different ethnic minority groups are equally important to increase cycling.

Previous work on practice theory according Shove et al. (2012) has been written to be a continually produced states . Reckwitz (2002b) suggests that as a practice is an arrangement of actions reproducing the practice which is carried by an individual, many practices need to be harmonised together, making the individual a carrier not only of behaviour but also ways of understanding knowing and desiring. As these mental activities are the necessities of practices, Shove et al. (2012) argues that there is nothing wrong in this line of questioning however states there is something missing. Using the ideas of practice theory written by shove using materials meanings and competences it put the practice in the line of enquiry.

Using cycling as an example, Shove's theory of practice will help to showcase the many ways cycling has evolved over time, what has changed and what stayed the same, what new or old competence, meanings and materials are needed and what it means to each and many individuals to cycle. Competence referring to skills, materiality to the objects, figures and technologies, and meanings referring to beliefs, thoughts and norms are investigated when using practice theory. As practices such as cycling can become a mundane task that can switch over time from being a purpose for commute to a purpose of leisure and may disappear completely from one's routine as it is detached from the social practice (Twine, 2015). As meanings, competences and materials change practices will also change whilst some made

outdated. However, some practices can change to new elements such as from cycling to driving the car to taking public transport for certain activities and it these elements that help understand the process of cycling within the ethnic minority.

Chapter summery

This chapter has provided an analytic overview of many of the current issues related to transport mode choice and the barriers that affect the practice of cycling. Looking at various cycling strategies across Europe shows that implementing changes to infrastructure and facilities in the hopes of increasing cycling will not work and a mixture of, infrastructure, legislation as well as social and economic investment is needed.

It also examined identity and movement and how transport can play a role in shaping behaviour. Transport has an effect on how one is perceived in a social world, with the car symbolising superiority and cycling outlined by Gatersleben and Haddad (2010) for those of a lower income, environmentalists or individuals with a bit of spare time . Movement along with identity shows that transport has the potential to alter economic status, as access to transport indicates access to the world, yet still there are places where cycling is and is not popular with cities being designed for A to B destinations and not for the in-between.

A introduction of practice theory was introduced to show the importance of meanings, materials, and competences in a social world and how these three elements must exist for a practice to be performed. Materials are not just artefacts but something that holds meanings for the reproduction of daily life. Meanings are shared amongst groups as it is directed towards behaviour change, and competences are the knowledge needed to perform the practices.

The research conducted on South Asians and physical activity identified a range of cultural, religious, gender, and societal context that can help frame the analyses of cycling with Indian ethnic minorities helping to compare some of the barriers found amongst Indians and cycling.

In chapter 3 a systematic review is conducted to analyse existing data on cycling within the ethnic minority.

Chapter 3 Systematic review

Outline of chapter

This chapter will demonstrate a systematic review conducted to find any relevant research that has been conducted on cycling within the ethnic minority. The systematic review will help answer the research objective on what the different materials, meanings and competences are associated with cycling amongst ethnic minorities to determine which elements explain attitudes and barriers to cycling. Conducting this review will help gather information that is already available in changing policies and help towards shaping new strategies, specifically amongst the Indian ethnic minorities in the promotion of cycling. This will also help assess what studies have already been conducted and how this thesis can contribute to the wider literature. The discussion will take into consideration the materials, meanings, and competencies outlined by Shove to help outline what obstacles are involved in cycling and whether these obstacles are cultural or ethnicity specific and whether using cycling as the unit of enquiry can help determine what the issues of cycling within the Indian ethnic minority.

Why is a systematic review needed?

The systematic review is important as it uses clear but rigorous method in gathering data in order to provide reliable answers to research questions (Thomas & Harden, 2008). A method of making sense of the available literature, gathering data from large bodies of information databases answering questions on what works and what does not. Allowing to uncover and map certainty or uncertainty and help identify where research has or has not been done (Bettany-Saltikov, 2012; Petticrew & Roberts, 2006).

As well as a huge amount and increase in the availability of information, the number of web based sources have also increased although it allows scientific papers or studies in general to

be much widely and readily available it is hard to distinguish which websites are presenting reliable information or just a partial view of a particular issue (Petticrew & Roberts, 2006). Individual research may contain a bias view, methodologically unsound or may have conflicting conclusions (Bettany-Saltikov, 2012). Systematic reviews adhere closely to a set of scientific method that explicitly aim to limit any systematic error by attempting to identify appraise and synthesize all the relevant literature available in whatever design answering the question at hand (Bambra, 2011; Bettany-Saltikov, 2012; Petticrew & Roberts, 2006; Thomas & Harden, 2008).

As Higgins and Green (2008) and Petticrew and Roberts (2006) suggest that conducting a comprehensive impartial search for studies can be a time consuming and challenging task, as a database is subject specific, more than one database should be searched. However studies have also suggested such as Royle and Waugh (2003) who have identified that searching additional databases was seldom found to be affective in retrieving further studies and that a more selective approach would suffice.

Method

The objective for this review was to identify all studies that were conducted on the barriers of cycling within the ethnic minority groups in any country, population or study size where cycling might take place for commuting or leisure and pleasure purposes. Studies on physical activities within ethnic minority groups were included if cycling and its popularity was mentioned separately. The searches took place in the months May and June 2017 using three electronic databases (Web of Knowledge, Scopus and Science Direct) and according to Stewart, Anokye, and Pokhrel (2015) in regards to Scopus, they state the database houses the largest bibliographic database that indexes over 20,000 titles from science, technology, medicine and the social science that is updated daily and contains Medline and EMBASE databases within.

In each database a set of core key words were used but limited to anything involved with cycling and ethnicity: **"cycle* ride*" OR "bicycle* ride*" OR "cycle" OR "cycling" OR "active travel" OR "active commute" OR "bike" AND ethnic* OR race OR Asian OR black OR BME OR BEM OR "ethnic minority" OR "culture" OR "religion"** and anything published within the years 2000-2017. Table 1 shows the results of all three databases including the specific filters added or removed to narrow the search so that only the journals that are significant would be displayed.

Inclusion Criteria

The titles and abstracts were reviewed to assess whether the study identified cycling within ethnic minorities. Opinion papers, reviews, commentary articles, symposium articles, short communications, and articles that were in non-English languages were excluded from the review because as these papers would not provide the relevant qualitative data needed for the thesis. As results of cycling within ethnic minority were sparse, any articles that involved active commuting or physical activity that also looked at cycling and ethnicity were included within the search.

It was decided to include a wide range of studies that would help build a better foundation on answering the research question and help assess the research gaps on barriers towards cycling within the Ethnic minority groups. The selected studies included quantitative and qualitative measures related to cycling and ethnicity. Because of the lack of studies found to involve a hypotheses or objective that tackled cycling within the ethnic minority or the barriers involved in cycling for ethnic minorities the criteria were altered slightly that a wide range of studies could be found. It was decided to include papers on physical activity if the study involved cycling as a separate subject. The changes also included studies that comprised both adults and schoolchildren, studies that contained cycling or bicycle training as part of an activity amongst ethnic minorities or school children, cross sectional and correlation studies

were accepted in the criteria as long as the study involved ethnicity and cycling and any studies that included cyclists opinions and ratings, number of individual bicycle trips or the measure of cycling trips as a whole was also included. Studies on bicycling interventions that focussed on cyclist's safety and crash data was also included to attain any possible link from cycling safety and the lack of cycling practices in the ethnic minority as it is useful in assessing potential influences and the rate of decreasing or increasing levels of cycling.

	Science Direct	Scopus	Web of Science
Keywords	"cycle* ride*" OR "bicycle* ride*" OR "cycle" OR "cycling" OR "active travel" OR "active commute" OR "bike"	"cycle* ride*" OR "bicycle* ride*" OR "cycle" OR "cycling" OR "active travel" OR "active commute" OR "bike"	"cycle* ride*" OR "bicycle* ride*" OR "cycle" OR "cycling" OR "active travel" OR "active commute" OR "bike"
Terms for Intervention	ethnic* OR race OR Asian OR black OR BME OR BEM OR "ethnic minority" OR "culture" OR "religion"	ethnic* OR race OR Asian OR black OR BME OR BEM OR "ethnic minority" OR "culture" OR "religion"	ethnic* OR race OR Asian OR black OR BME OR BEM OR "ethnic minority" OR "culture" OR "religion"
Limited to year	2000-2017	2000-2017	2000-2017
Hit	10,456	77,173	28,810

Science/Categories	Arts and Humanities, decision science, energy, Engineering, environmental science, Philosophy, Psychology, social sciences, Sports and recreation	Arts and Humanities, decision science, energy, Engineering, environmental science, Psychology, social sciences, Multidisciplinary, Medicine	Ecology, Engineering environmental, environmental sciences, Environmental studies, Ethnic studies, Geography physical, Green sustainable technology multidisciplinary sciences, humanities multidisciplinary, planning development, Psychology multidisciplinary, Public environmental occupational health, Religion, Social sciences interdisciplinary, Sociology, Sport sciences, Transportation, Transportation science technology, Urban studies

Not words	bio* OR chemis*	bio* OR chemis* OR canc* OR cell* OR embry* OR anim* OR menstr* OR preg* OR bacte* OR "drug" OR Violence OR "ancestry" OR compu* OR machine* OR cyst* OR toxi* OR proced* OR lab* OR test* Trauma OR floo* OR proper* OR butter* OR fly* OR sod* OR elect* OR wate* OR war OR terror* OR educ* OR forre* OR GHG	bio* OR chemis* OR canc* OR cell* OR embry* OR anim* OR menstr* OR preg* OR bacte* OR "drug" OR Violence OR "ancestry" OR compu* OR machine* OR cyst* OR toxi* OR proced* OR lab* OR test* OR wast* OR recycl* OR bon* OR protie* OR hormon* OR "motorcycle" OR "motorbike" OR injur* Trauma OR floo* OR proper* OR butter* OR fly* OR sod* OR elect* OR wate* OR war OR terror* OR educ* OR forre* OR GHG OR nitro*
Limit to	Journals	Journals	Journals
Hit	664	501	862
Total studies that match criteria	30	32	31

Table 1 Database search criteria

Results

After 1,576 articles were gathered, the titles and abstracts were scanned so that only articles that discussed cycling and ethnic minorities were available. After the screening process 93 studies were identified. These articles were then screened further, and any duplicates removed. Phase three of the process was to then screen the full text of the remaining articles which led to 77 articles not eligible and therefore excluded from further review. The reasons for exclusions were that they did not provide an outcome needed for the review, these included data from physical activity and active commuting, indiscriminate data (data from walking and cycling), irrelevant data and non-evaluation articles.

In total, 12 studies were found to be of relevance: see table 2 of the final studies chosen for the review. The 12 studies included were research studies from the USA (3), UK (5), and Netherlands (1), Taiwan (1), Malaysia (1) and one study that was conducted throughout Asia (1).

Title	Author	Year	Background	Method	Country/ Region
Bicycle sharing in Asia: a stakeholder perception and possible futures	(Mateo-Babiano, Kumar, & Mejia, 2017)	2017	Looks at bike sharing schemes in Asia by examining the motivators, restraints and opportunities, in achieving sustainable urban mobility	Online questionnaire survey	Asia

Biking practices and preferences in a lower income, primarily minority neighbourhood Learning what residents want	(Lusk, Anastasio, Shaffer, Wu, & Li, 2017)	2017	Examines bicycle preferences of blacks and Hispanics compared to white counterparts.	Surveys	USA
Active travel in London: the role of travel survey data in describing population physical activity	(Fairnie, Wilby, & Saunders, 2016)	2016	The Transport for London's London Travel Demand Survey (LTDS) was analysed to understand the demographic links towards active travel amongst London residents.	The travel information was collected from household members ages five and over for a given travel day based on annual sample of 8000 households. The residents resided from inner and outer London and were analysed using multivariate logistic regression indicators related to active travel.	UK

User behavior analysis of the public bike system in Taipei	(Pai & Pai, 2015)	2015	Examined factors that influenced the bike use intention on bike sharing schemes	Questionnaire survey	Taiwan
Cycle training for children: Which schools offer it and who takes part?	(Goodman, van Sluijs, & Ogilvie, 2015)	2015	The study looks at the 'Bikeability' cycle training scheme, this paper examines which schools offer Bikeability, and which children participate in cycle training.	Used operational delivery data	UK
The association between physical environment and cycling to school among Turkish and Moroccan adolescents in Amsterdam	(Mäki-Opas, De Munter, Maas, Den Hertog, & Kunst, 2014)	2014	This study examined the effect of physical environment on cycling to and from school among boys and girls of Turkish and Moroccan origin living in Amsterdam.	Data was gathered from the LASER study	Netherlan ds

Environmental and demographic correlates of bicycling	(Sallis et al., 2013)	2013	The Study compares bicycle ownership and bicycling frequency, and projected increases in cycling if perceived safety from cars was improved	Secondary data from the Neighborhood Quality of Life Study	USA
Are bikeshare users different from regular cyclists	(Buck et al., 2013)	2013	Investigates bike share system users travel behavior developing a profile of user demographics comparing one day users to annual members of capital bike share in Washington DC	Data was used from a regional household travel survey of area cyclists	USA
Inequalities in usage of a public bicycle sharing scheme: socio-demographic predictors of uptake and usage of the London (UK) cycle hire scheme	(Ogilvie & Goodman, 2012)	2012	examine inequalities in uptake and usage of London's Barclays Cycle Hire (BCH) scheme.	Obtained complete BCH registration data and compared users with the general population.	UK

Cycling and the city: A case study of how gendered, ethnic and class identities can shape healthy transport choices	(Steinbach et al., 2011)	2011	This paper uses London as a case study to explore why the meanings of cycling might reverberate differently across urban, gendered, ethnic and class identities, as cycling is rare and not a choice made equally across the population and in London regarded for the affluent white men.	In depth interviews	UK
Children aged 9–14 living in disadvantaged areas in England: Opportunities and barriers for cycling	(Christie et al., 2011)	2011	The aim of this paper is to explore levels of cycling and opportunities and barriers to increase children's safer cycling in disadvantaged areas in England.	A cross sectional survey including school-based questionnaire	UK

The level of physical activity amongst elderly in a community	(Ayiesah, 2007)	2007	As little is known about the physical activity amongst Malaysian seniors, the study looks at the barriers to physical activity.	Questionnaire survey	Malaysia

Table 2 Relevant articles

Findings

Christie et al. (2011); Goodman et al. (2015) both conducted studies amongst children and the frequency of cycling or having had cycle training. Christie et al. (2011) aimed to find the barriers and opportunities of cycling in disadvantaged areas in England amongst 4286 children aged 9-14 years of age along with eight focus groups two of which were exclusive to Muslim women and Sikh women. The level of bike ownership amongst school children was at a high of (77%), of the children however the percentage of ethnic children owning a bike was low. The study also found that young people who classed themselves as Black African, Indian, Pakistani, and Bangladeshi were less likely to own a bicycle than those of white and black Caribbean, along with 1 in 4 Indian, Pakistani, and Bangladeshi had reported to never riding a bicycle compared to 1 in 10 young white and black Caribbean.

Similarly Goodman et al. (2015) using Edubase, a register containing information on all state funded and private schools in England and wales found from a sample 12,8881 schools , out of which 6986 children, 3515 (50.3%) being males that bikeability (cycle training) was lower in ethnic groups and exceptionally lower in South Asian groups than amongst white children and slightly lower for Black and mixed ethnicity children. There was a lower trend of cycle training uptake in ethnic children regardless whether the school offered cycle training or not.

These findings showed some correlation with the statistic of ethnic adults cycling specifically Asian adults shown by (DfT, 2016b). The results remained the same when data was adjusted to counter in another child, family and area characteristics. Goodman et al. (2015) study did come with limitations as the data was gathered from a national data that had a broad research outcome involving different research aims rather it being specific to cycling.

Mäki-Opas et al. (2014) analysed a previous study that was conducted in 2003-04, a cross sectional survey conducted by the health department with the university of Amsterdam. The analysis was to determine whether the built environment affected cycling rates among Turkish and Moroccan adolescent travelling to school living in Amsterdam. Turkish and Moroccan adolescents were of special interest as they did not have a special cultural background on cycling and furthermore were less likely to keep physically active, ride a bike and more likely to be overweight. The original study selected random people of (n=1556) of Turkish origin and (n=995) of Moroccan origin, however the analyses was capped in this study to (n=697) as these participants were aged 10-18 years. The results showed that from a mean age of 14 years less than one fifth of participants cycled to school with Turkish participants cycling more than Moroccan participants. The study also found that bicycle friendly infrastructure and an environment that was enjoyable to ride was negatively associated with cycling to and from school after the distance from home to school was taken into consideration, however a bike friendly infrastructure was important amongst the female participants, as for every increase in bicycle infrastructure there was a (51%) increase in the odds of cycling.

Ayiesah (2007) conducted a study on the elder generation in Kuala Lumpur, Malaysia, as the people are living longer there is a need to develop health promoting strategies to cope with the consequences of ageing. The aim was to explore patterns of physical activity which included cycling amongst a group of Malaysians people using a self-administered questionnaire that assessed their demographic characteristics and physical activity routines. 70 questionnaires

were conducted with 36 males and the remaining 34 females. Among the results Malay respondents showed the least amount of physical activity followed by Indians then Chinese, and out if these respondents only (5%) cycled. However, this was the only result on cycling amongst the ethnic groups and no barriers of cycling were mentioned.

Four studies on bike share schemes were conducted by (Buck et al., 2013; Mateo-Babiano et al., 2017; Ogilvie & Goodman, 2012; Pai & Pai, 2015). Buck et al. (2013) studied the demographic users of bike share schemes in the Washington DC area. The data was based on three different surveys, household travel survey originating from 2007/08, 2011 bike share survey and 2011-member survey. The respondents for the member survey was 5,464, the bike share survey respondents were from 340 people and from the household travel survey included 25,197 respondents and regarding this people were randomly selected to participate in competing a travel diary. Amongst other findings, the only data regarding ethnicity found that 80% of the bike share schemes and everyday cyclists were white, Hispanics accounting for 3-5% of cyclists and bike share users with the lowest amount of cycling by Asians and African Americans, Asians accounting for 3% cyclists and 7% bike share members, and African Americans accounting for 8% of cyclists and 3% bike share members. This study did come with limitations as bike share users were selected from docking stations only located within downtown Washington, along with this bike share member surveys were conducted online which promoted some bias.

Similarly, Ogilvie and Goodman (2012) examined the usage of bicycle hire schemes in London. Data was provided by Transport for London on user registration between July 2010 and Feb 2011. The registration data contained the tile, date of registration and type of access to the scheme along with using postcode to assign ethnicity, mode of commute and deprivation. However, using postcodes to assign ethnicity as access keys could be passed to individuals it was not known who was or is using the scheme to ride a bike. None the less the

study found that less than one fifth (18.4%) out of 99,615 users were female, with (69.6%) being male. Regarding ethnicity little association was found other than lower trips were made from users living in areas where 25-50% was non-white British.

Mateo-Babiano et al. (2017) studied bicycle-sharing programmes across Asia, examining the motives, barriers and future opportunities trying to identify any strategies needed to make bicycle sharing better and more adaptive for local Asians. The study comprised of an online questionnaire evaluating the interest of the various stakeholders involved, including the public, private and non-government bodies in regard to bike share in Asia. Potential participants were recruited through a web-based call, a total of 93 respondents participated in the survey with males accounting for (n=59) and females (n-34) from participants across participants were asked if they would like to have a copy of the final report once it was available for distribution Philippines (n=26) and India (n=32), there were a total of 56 cities and 11 countries represented across Asia with (74%) of them aged between 25 and 49, while the rest of the participants aged 18-24 (9.68%), 50-59 (20.75%) or 60-69 (5.38%) Along with more than half the participants agreeing that bicycle sharing systems are a benefit to health and the environment along with ease of traffic flow and congestion, respondents also mentioned communities becoming more vibrant, friendly and interactive with the surroundings and reduces the desire to own a private car. Regarding community perception the study found the community and cultural barriers relating to cycling were weak barriers and that technical constraints such as infrastructure, transport integration, and lack of places to ride and the lack of programme awareness with (17%) agreeing that cycling is a poor man method of transport.

Pai and Pai (2015) using a questionnaire survey amongst 557 respondents found only (66%) of participants used the bike share scheme and only (21%) rode a bike less than once a month and (43%) less than 5 times a month Most of the respondents used the bike share for short

trips around 20-30 mins, with only (6%) exceeding 60 mins, with almost (98%) willing to use the bike share for recreation purposes and more than (80%) to use the bike share for transportation. The conditions as to why usage of the bike share was low due to the locations of the docking stations, rental ratio and safety. Steinbach et al. (2011) study contained an exploration of the meanings of cycling across the gendered, ethnic, and class identities. The study took an interview approach amongst 78 individuals with various backgrounds along with one focus group and interviewing cycle trainers and used data from media and cycle blogs. The study found Asian ethnic clothing was a barrier along with cycling a practice for children and not grown women, and amongst black and Asian cyclists they were under represented across media outlets and were rendered inappropriate for some in a similar background to cycle. Drawing from a comment from a Muslim participant the study mentioned that the visibility of cycling was inappropriate in the community as the body was on show.

Lusk et al. (2017) study aimed to identify bicycling practices and environmental preferences of Blacks and Hispanics to see whether they were different from whites. The study methods A random sampling survey was distributed to addresses in the area of Roxbury, Massachusetts, as the survey was on a construction of a two-way bicycle track the respondents were given 42 colored pictures of road without a bicycle provision, road with shared line markings, bike lanes besides parked cars and curbs, shared paths and two-way cycle tracks. Other pictures included how the separation would be constructed, from either concrete post to bushes along with pictures of bike parking facilities. Out of 1537 surveys only 252 were completed leaving a return rate of (17%). Along with the mailed surveys intercept surveys were also taken over a course of three days at the site where the cycle track would be built including the same questions as the mailed survey and 120 surveys were included. Observations were also conducted to see who was riding in terms of gender, age, attire, safety equipment, type of bike, child on bike, carrying items on bike, and at what time.

In the mail survey, (37%) were White, 37% Black, and 11% Hispanic, (58%) of whites were male, (38%) Blacks were male, and 15% of Hispanics were male. From the mailed survey, self-reported bicyclists, 66% were White, (56%) were Hispanic, and 55% were Black.

In the intercept survey, 36% were White, (32%) Black, and 16% Hispanic with males comprising the majority at 78% Hispanic, (77%) Black, and (72%) White. The mail survey responses saw that residents, cyclists, and non-cyclists preferred cycle tracks as a very safe way method when riding bikes, these respondents consisted of Whites (90%), Hispanics (74%) and Blacks (64%). Similarly, in the intercept surveys White (100%), Hispanic (79%) and Black (76%) bicyclists felt safest on the cycle track. Regarding safety, the mail survey found 52% of Hispanics and 47% Blacks preferred to park their bikes at home compared to whites 28% as Blacks and Hispanics thought their bikes may get stolen. The increase of cycling amongst Hispanic (81%) and Black (54%) bicyclists/ non-bicyclists would cycle more if members of the family or friends were cycling. For clothing, Whites (68%) wore helmets compared with Blacks (17%) and Hispanics (21%). Hispanics (98%) and Blacks (97%) wore their ordinary clothing compared with Whites (90%), and more Whites (7%) wore spandex compared with Blacks (2%) and Hispanics (0%).

Sallis et al. (2013) study was aimed to find if there was any association in cycling increase if safety from cars was improved. The study used secondary data from a Neighborhood Quality of Life Study (NQLS) that was conducted between 2002-2005 in Seattle, Baltimore Washington DC regions comparing physical activity and health of residents. The participants aged from 20-65 who could speak English and able were recruited by mail and telephone with a return survey sample of 1745. Half the sample were men (51.7%) with a mean age of 46 years with majority identifying themselves as white (75.1%) with other groups, African Americans (12.1%), Asian Americans (5.6%), and Hispanic/Mexican/Latin American (3.3%). However, the data regarding ethnicity was little, the only information found was ethnic

groups with a bike rode less than White non-Hispanic owners along with stating that

improving safety from traffic would provide a greater benefit to those who needed it, thus

nonwhites would have a larger increase in cycling if they felt safe from traffic

Discussion

The different Materials involved in cycling

Materials are an important part of any practice, it is not something that holds a status or

identity says Shove and Pantzar (2005), but however many practices involve materials and are

directly connected in the reproduction of social life. Within the systematic review only a few

studies identified barriers regarding cycling within the ethnic minority relating to the

materiality's needed to cycle. The studies from (Christie et al., 2011; Mäki-Opas et al., 2014;

Mateo-Babiano et al., 2017) found that bicycle infrastructure and safety were barriers towards

cycling however these findings have also been found to affect white population. The Study

from Gatersleben and Appleton (2007) stating that respondents in the study found cycling to

be unsafe among 389 questionnaires surveys from members of university of surrey, similarly

(Handy et al., 2013; Heesch & Sahlqvist, 2013; Pucher et al., 2010) finding that lack of

infrastructure and perceived safety measures were major influences if an individual was to

cycle

Whilst conducting this review three supplementary systematic reviews were examined, two in

2010 and one in 2015 that looked at interventions to promote cycling, two of these reviews

(Pucher et al., 2010; Yang et al., 2010) concluded that there is a crucial role for public policy

in the encouragement of cycling, further stating that positive cycling activities and the

improvement of infrastructure had the potential to increase and encourage cycling rates.

Drawing from Steinbach et al. (2011) a study that conducted qualitative research amongst 78

individuals and a focus group found that cycling was a practice that was uncommon and

irrelevant type of mobility amongst minority women. In one instance where the question of cycling was asked amongst a group of Asian ethnic women, the question was responded with laughter, thereafter the women outlined several reasons on why cycling was inappropriate, which included, children, storage and clothing.

Although, Nettleton and Green (2014), a paper that discusses the changes in mobility therefore not in the review had discussed Steinbach et al. (2011) study, writing, there have been substantial improvements to counter these barriers such as clothing pegs, carts and better storage facilities. As a practice, cycling is rooted and personified as a social action, expressed through certain social and material environments from where the meaning of cycling can take place write Nettleton and Green (2014), and citing Steinbach et al. (2011) the conditions that made cycling ridiculous amongst the ethnic women was not by the list of barriers explained by the women but by the mere laughter once the question was posed implying that the question or in fact the practice of cycling was a joke.

Through the review it was evident that materials such as infrastructure and safety was a barrier amongst the participants within the studies. Although the findings do not directly affect a certain ethnicity or culture it does however explain how the materials affect cycling. The importance of safety and infrastructure need to be examined if cycling were to increase. Given that most cycle lanes are situated along streets and junctions a cyclist is never safe and materials such as infrastructure is important as well the bike itself.

The Meanings involved in cycling

The meanings cycling holds is the idea that it is directed towards a certain behavior (Spotswood et al., 2015). How the Asian women laughed in Steinbach et al. (2011) study, a practice is only considered ok, if a number of participants were involved. As Bourdieu and Nice (1977) explains because of the inherent nature instilled by tacit knowledge some

practices are deemed unthinkable. Like Jensen (2013) another study on mobility writes about Copenhagen being an established city of cyclists, acquiring cycling knowledge reflects the mobility and the established cultural spaces of knowing. Cycling experiences vary on not how spaces are shaped but how people feel and sense the spaces of everyday whilst cycling around the city.

Similarly a report by Bowles and Green (2008), a report that did not appear in the database searches but through Google search engine stated, cycling was not a common practice amongst the south Asian community. Some of the barriers identified by the report were home, and work commitments and that cycling was a recreational activity rather transport mobility, along with lack of facilities, education, and too lazy or embarrassed to cycle. These findings are similar to what Koshoedo, Paul-Ebhohimhen, Jepson, and Watson (2015) found; a paper that investigated physical activity amongst South Asian communities concluding from a qualitative systematic review with findings from 14 papers stating some South Asian groups perceived physical activity as an inappropriate or an needless activity. The practice did not enhance or add any value to their daily lives, a practice that was adhered to western societies that did not incorporate into lifestyles of South Asian residents. Cultural restrictions, the lack of role models prevalent in physical activity or sport, and the poorly promoted healthy lifestyles were explained to be the reasons why there was limited acceptance of living an active lifestyle (Koshoedo et al., 2015; Lawton, Ahmad, Hanna, Douglas, & Hallowell, 2006).

The meanings of cycling suggest that if people are not seen doing a practice or are not a participant in said practice then they would conclude the practice would not fit (Spotswood et al., 2015). The studies suggest that ethnic minorities must alter the meanings of cycling from something that is a sport to a practice that can be engaged through any form social activity. The thought that an activity is needless or inappropriate may relate to the fact that no gain was benefited as promoting cycling and something was needed where actual value is shown. It is

important for policy makes to promote cycling not just for health benefits but is a form of a convenient method of transport for many social activities. As Larsen (2016) found in his study of Copenhagen, the locals have created their own meanings of cycling and have understood cycling to be a convenient and a practice that is easy to do day to day.

Competences needed for cycling

Throughout the daily activity learning is constantly happening sometimes without releasing, whilst some skills can be obtained among the way some practices such as cycling would require effort (Shove et al., 2012). Studies from (Ayiesah, 2007; Christie et al., 2011; Fairnie et al., 2016; Mäki-Opas et al., 2014; Steinbach et al., 2011) all concluded that further research is needed amongst ethnic minorities and the barriers towards cycling with Goodman et al. (2015) stating that for policymakers to increase ethnic diversity of cycling, formal cycling training would be an important factor especially for those parents who are less likely to have acquired the skill to ride a bike thus failing to teach their children.

Bicycle training has proven to be successful by two studies from the Netherlands that studied ethnic and immigrant women in cycling training analysed by Kloof et al. (2014). This paper had not appeared in the initial systematic search as the keywords 'immigrant' rather than 'ethnic' was used studying immigrant refugee and non-western women. The paper concluded that cycling lessons is not enough as for some women having access to a bicycle is difficult and riding a bicycle with traffic is daunting. The second study by Wolters (2011), a master's thesis using interviews from 19 women with the majority age being 35-55 and all migrated from non-western countries found that all women who completed cycling lessons were able to cycle, with four who could use the bike for everyday purposes and the rest able to cycle in the park. However, this study also found that although the participants could ride the bike and would save the women time and money whilst cycling, it did not mean the respondents would participate in more activities outside the home as household chores and child duties took up a

lot of time. There are also several articles that have been conducted studying physical activity amongst South Asian groups that have been excluded from this review as these articles do not discuss cycling as its own entity but rather incorporated into the broader category of physical activity.

The competency in knowing how to cycle, the skills needed to cycle are different wherever cycling is practiced. Shove and Pantzar (2005) explain through the practice of walking that it is conducted different everywhere, from a busy street to a countryside, and from country to country such movements are produced and reproduced by the actors doing the walking. In the same way cycling would be different for ethnicity, gender and age each having a different competence on how to cycle. The studies above showed that cycle training although successful knowing how to cycle amongst traffic is daunting for some, and for others taking up cycling full time is replaced by other activities that renders cycling as something that takes up too much time.

The concluded outcomes of the studies reviewed must be treated with caution as some of the studies relied upon extensive samples with a small returned outcome, some studies used secondary data with no reliable information on the barriers towards ethnicity and cycling. Only one intervention study was found regarding a proposed cycle track from Lusk et al. (2017) that found both Blacks and Hispanics would cycle more if safety for cycling was improved. Both Lusk et al. (2017) and Sallis et al. (2013) concluded in their study saying investment and construction of cycling facilities is needed in ethnic neighborhoods to increase cycling, improve health, whilst being effective and cost efficient. With Lusk et al. (2017) further implying that investment capital should also be allocated in ethnic and lower income neighbourhoods in Massachusetts rather than only wealthy neighbourhoods, as the study found minority individuals were cycling.

Plans on improvement for active travel only in high income neighbourhoods was found by Aytur, Rodriguez, Evenson, Catellier, and Rosamond (2008), looking at land use data suggested that less than one in five residents of lower income counties in USA had non-motorised transportation improvements compared with nine out of ten residents in higher income improvements, further suggesting non-white residents may not have an equal opportunity to access a number of physical activity opportunities that are readily available to higher income counties.

Chapter summary

In this chapter several sources available on cycling and ethnic minorities have been reviewed as they reflect on the study topic. Through the literature review common thread of barriers were discovered. These were safety, infrastructure, clothing, storage, and children. The systematic review also showed that more studies were needed on cycling amongst ethnic minorities as this as an understudied subject that is relevant in increasing cycling in the UK.

Reviewing sources from other studies from physical activity, sporting, Islam and south Asian communities helped articulate the importance of why this study is needed. The article pointed out several barriers more predominant in South Asian Muslim communities. The aspects of modesty played a role in female not partaking in sports although Islam encourages physical activity. The aspect of community gossip and respect were also barriers in so that the status is not tarnished. The chapter also found that sport in three Islamic countries, Egypt, Iran, and turkey was popular outlining that culture also plays a role in physical activity, sporting, and cycling.

Chapter 4 Methodology

Outline of chapter

In this chapter the research design is outlined, highlighting why specific methods of data collection, sampling and analyses was used. Firstly, the aims and objectives are reintroduced as a reminder on what the study is about. Thereafter sampling methods and data collection methods are discussed demonstrating the strength in using some methods over others when conduction research based on a specific question about hard to reach participants, outlining why certain methods were appropriate.

The chapter will also discuss why North West was chosen for the study location and when data collection complete. The ethical consideration put in place, and how the data was analyzed using two different methods will also be explained.

Research aim:

This research aim is to understand more about why there is a lack of active travel amongst the Indian ethnic community in the UK. Primarily this research is expected to uncover why cycling for commuting or leisure purposes is intermittent within the Indian ethnic minority compared to the white majority groups. It will also explore the boundaries of culture, religion, and environment to understand if any of these factors play a role in cycling/commuting practices.

The objectives:

- To evaluate the different cycling behaviours of Indian ethnic groups using practice theory as an analytical framework to identify how cycling practices can be changed.

- To identify the materials, competences, and meanings associated with cycling in Indian ethnic groups in order to determine which elements explain attitudes and barriers to cycling

- To develop a set of recommendations for how these barriers might be overcome.

Sampling method

Snowball sampling was used to recruit participants for this study as it was suitable for identifying certain participants who may be difficult to identify (Hennink, Bailey, & Hutter, 2010). Snowball or chain sampling is used in order to identify suitable candidates witch rich information who then become well situated in order for the sample size to grow (Walther, 2014b), in this way participants who have been contacted for interview would then use their social networks to refer the researcher to other potential participants who could participate (Mack & Woodsong, 2005). This type of sampling is useful as it allows to uncover hidden populations who may not be willingly accessible, and in the case for this research South Asian ethnic minorities who cycle have been found to be lacking noted by DfT (2016b), along with Snape and Binks (2008) stating sport and physical activity among south Asian minorities is a major problem.

There have been numerous studies that have used snowball sampling when researching topics of cycling among certain groups (Marije de Boer & Caprotti, 2017; Simons et al., 2014; Winters, Sims-Gould, Franke, & McKay, 2015) and has been successful in implementing such sampling strategies. Hennink et al. (2010) writes, snowballing allows building trust as participants are likened with the familiarity that can then describe the process of the study to other potential candidates relieving any concern one might have prior to taking interviews. Building trust is of importance as Mackintosh and Dempsey (2017) found there are challenges in accessing certain groups such as South Asian Muslims specially for someone who is a non-

Asian, non-Muslim white researcher, and for this particular study as the research was of Asian Muslim heritage it was easy to build trust and rapport.

However, there is bias towards using snowball sampling. Participants that are being interviewed would either feel uncomfortable revealing their contacts, or the contacts identified answering questions with the same generic responses. The number of possible networks through one source limits the amount of information gathered. Outlined by (Kowald & Axhausen, 2012), using the same social network could result in one gender more dominant than the other decreasing the chances of the study population being representative. The bias may be a result from homophily and once the connection is made it is up to researcher judgment to find a new sample. Although these biases were sometimes prevalent it was the best form of sampling to use to gather a wider social base that would not be achievable through other means of sampling.

Other sampling methods could be used such as purposive sampling, a method where participants are chosen due to known characteristics (May, 2011), a form of sampling technique where one's judgement is used to verify potential participants, however the sampling is a disadvantage as it is prone to bias where judgement could be poor or impractical (Research-Methodology, 2018). Random sampling could also be used; however, this would acquire a general phenomenon thus defining the problem to a larger population states. As the study was regarding an ethnic minority reaching a target sample of 20-30 participants could be easily achieved using snowballing rather than other sampling methods. There was no definitive recruitment strategy as snowballing was used in the hopes of gathering momentum once initial contact was made, however there are challenges in recruiting participants who are part of a sensitive or hidden population and so certain eligibility criteria allowed to narrow down sampling parameters for potential participants to be interviewed (Ellard-Gray, Jeffrey, Choubak, & Crann, 2015) .

North West was chosen to be the study location. A strategy outlined by TfGM (2017) had indicated residential areas were to be linked with cycle routes that are connected to key destinations and local stations. Further better signage would be placed in town centers and making cycling routes generally more attractive to increase cycling. With the introduction of Local cycle networks, off road cycling routes, and highway lines with secure parking introduced in order to make cycling a natural choice (TfGM, 2017). Cycleways have already been introduced in a number of key areas in Greater Manchester such as Wilmslow, Prestwich and Cheetham hill and many more (TfGM, 2018a), and according to the TfGM (2018b) press sheet the cycle way surpassed one million bike journeys. In Lancashire a strategy report outlined by Davies (2016) reported that a total of £6 million has been made available in order to provide four cycling routes by 2018/2019. The investment delivering 23km of new cycle routes along with improvement of the 95km already available across East Lancashire and Blackburn which will bring a benefit of £2.80 of every £1 spent (Davies, 2016).

The criteria suggested after discussion with the thesis supervisor that interviewing participants of Indian heritage would be beneficial as there would be no language barriers as to those who were of Pakistani or Bangladeshi heritage who did not speak English, and Indian participants would feel comfortable in taking part in the interviews. Accordingly, this would result in an authentic exploration of cycling attitudes along with cultural traditions and beliefs among Indians living in the North West regions, as these regions were easily accessible saving time and cost. In the Northwest the percentage of Asian/ Asian British is 4.69% (4.4 million) 7.6% of which are Indian (Gov.UK, 2018).

Reflexivity

Being an insider researching cycling within a community or ethnicity that is more than like mind holds certain disadvantages and advantages. The obvious disadvantages would be to negotiate assumptions with factual data, as it would be assumed by the participants that the

research would already know the answers to some of the questions. However, insider research allows a deeper understanding of the topic complemented by prior knowledge, knowing the lingo or native tongue allows the research to establish a quicker rapport thus allowing to delve in further communication (Taylor, 2011).

When there is a chance to communicate explicit knowledge of past experiences with participants certain perspectives can be transformed in discussion in order for the interview to be open, whilst at the same time extending and or validating personal views (Etherington, 2004). In the same way being an insider helped the researcher understand the social and cultural underpinnings of Indian culture, religion, and what it is like to be an ethnic minority from an outsider perspective, but at the same time negotiate, and form new meanings of the external reflections allowing to check for distorted analyses based on prior experiences.

Hennink et al. (2010) states that the characteristics of the interviewer such as the identity and the background can influence the interview. This will reflect upon how the interviewee will respond having an influence on the data collected and affecting the quality of the data, this could be anything with the appearance, characteristics and how the interviewer is perceived. Reflexivity, an analysis of frequent evaluation is important in any research as it involves how the perspectives of participants reflect their personal view and how the researcher can also bring their own influences to the research data (Finlay, 2002; Hennink et al., 2010). Clifford and Marcus (1986) have also suggested insiders studying their own culture can compromise a distinctive outlook and an in depth understating of the research in unique ways. This reflexive approach was undertaken by Spinney (2008), in his thesis investigating the movement, meaning, and practice of cyclists. An avid cyclist himself he used a reflexive approach in interviewing such cyclists as an insider being a cyclist but also an outsider as no one cyclist is similar. Regarding this, this research offers an insider status as a British Indian to gain access and understand any cultural cues, traditions, and jargon facilitating quicker access and at the

same time prohibiting the research from being subjective as the interview and the interviewee have different experiences.

Qualitative research

Qualitative research has a number of approaches to study social life, these methods have the ability to document social experience in order to understand the individual and social complexity, evaluate and interpret policies enabling the understanding of human meanings and social orders (Saldaña, 2011). Whereas quantitative research methods will use variables in order to form hypotheses before the original data is collected which then the hypotheses is tested (Brannen & Coram, 2016). Qualitative research uses a flexible approach and in doing so comes with consistency, and with the styling of the thesis question can only be answered with qualitative research (Corbin & Strauss, 2015) . To gain an insight to paradigms of Indian ethnic minorities and their practice towards cycling qualitative research methods was used and more precisely semi structure interviewing.

Semi-structured interviews

Semi structured interviewing was conducted rather than focus groups as semi structure interviewing allowed a better insight in participants life. Although focus groups present a natural environment for participants to feel comfortable and engage in, as well helping influence and influencing others to participate in topics of conversation (Litosseliti, 2003), focus groups may hold certain participants to withhold information than others. This is stated by Acocella (2012) saying that participants activate a defence mechanism if they feel anxious within a group, this is due to the fear of being judged, question or disappointed often conforming to popular opinions within a group. Other times participants, because of peer pressure would give a stereotypical answer to that which is commonly appropriate (Acocella, 2012).

May (2011) states interviews produce insights into people's everyday experiences, values, opinions, and feelings towards questions. It is because of these experiences the method used was in-depth semi-structured interviews compromising of both male and female participants. Semi-structured interviewing was central and only methodology in obtaining data for the thesis. Using interviews enables the aim of exploring and understanding the beliefs and perceptions of cycling amongst Indian ethnic minorities. Semi structured interviewing according to Gillham (2005) is the most important way of conducting research interviews, this is because it allows the interview to be adaptable allowing to explore further. Compared to structured interviews where little room for respondents to elaborate is given (May, 2011).

Before the interviews begun, a structured open-ended interview question list was written, this allowed the conversation to be general but structured so that the responses can increase the comparability of the study. An interview guide approach was conducted using the question sheet allowing the interviews to take a free form of conversational approach where the questions are not asked in sequence but rather letting the conversation flow as long as all the basis of the thesis were answered. As unstructured interviews are conducted with the help of observational data (Dicicco-Bloom & Crabtree, 2006), semi structured interviews are the only data point which allows the interviewer to delve deep into the social and personal constructs of the interviewee (Dicicco-Bloom & Crabtree, 2006). Compared to structured interviews, semi structured interviewing has better potential for the knowledge produced via the dialogue obtained, allowing much more leeway for different perspectives that need to be discussed in greater detail (Brinkmann, 2013)

Hennink et al. (2010) state that it is an advantage of learning or knowing the language of a subgroup as it helps in building a rapport, as some participants may not speak English. Further the interviews were all conducted in participant homes or café settings, as these were the preferred locations for the participants. Gill, Stewart, Treasure, and Chadwick (2008)

suggests interviews should take place in settings where there are no distractions but more importantly in settings that are suitable for the participant as the familiarity helps the participant to relax thus attaining a better interview. Although settings such as public cafés or private homes may result in responses being attuned to the environment as people talk differently according to the setting suggests Durand and Chantler (2014), establishing rapport with the participant prior to the interviews helped alleviate some of the pressures and concerns that would have occurred in giving an accurate account no matter the location (Gill et al., 2008). For this study interviews took place either in cafes or participant homes as these were the places for participants felt comfortable conducting interviews.

All interviews were digitally recorded after gaining consent from the participants. Recording interviews protects against any bias that may occur and has the ability to account for anything that was missed or misheard (Gill et al., 2008). Further Whiting (2008), suggesting that recording interviews produces a relaxed atmosphere allowing the interviewer to focus on the dialogue rather than be distracted by note taking. The best method of transcribing the recorded interviews were done digitally to allow an authentic representation of what was discussed in the interview and to also allow adding notes and memos ensuring no important information was missed.

Saturation point

Hennink et al. (2010) reports that participant in qualitative studies does not require gathering of detailed information as the studies are very detailed and are explanatory. The information gathered, and the key terms annotated through an iterative process was repeated after 12 interviews and at 19 sufficient information was gathered for the interviews to stop. As the purposes of recruiting participants is to seek distinctions of cycling and cultural practices thus allowing context with participant experience rather than conducting a large sample of interviews with the same experiences (Hennink et al., 2010).

The total number of participants that are involved in a study is determined by what information would be gained, as new information would be gained from the first initial interviews and by the fourth and subsequent interviews nothing new will be gained (Hennink et al., 2010). According to Baker and Edwards (2012) who conducted a review of the question 'how many interviews are enough' with renowned social scientists revealed that a number of suggestion had been from anything as little as 12 to 101 with one social scientists Charles C Ragin stating that for masters students 20 cases is sufficient. Researchers have to outline their expectations according to the time and resources available thus it is better to conduct smaller interviews with chance of conducting a creative and explanatory analyses than a large number of interviews where the research will run out of time and resources (Baker & Edwards, 2012).

In total 19 interviews were conducted as saturation point was reached and no new information was obtained after 12 interviews. Data was collected between September 2017 and December 2017. Saturation point was known as analyses of interviews were conducted at the same time the interviews were taken as it allowed to capture key themes, words and topics and enabling to make a judgement whether new avenues should be explored or if whether further data collection would amass in further contribution to the data (Robinson, 2014).

Once theoretical saturation was reached, and further research would not have benefitted the study the interviews ended at 19.

Interview guide

The interview guide first included some general questions about the background of the participants, these included, age, gender, marital status, country of birth ethnicity and religion, these were closed questions as it allowed to gain an insight of who he participant was building a rapport (Hennink et al., 2010). As Kitchin (2000) states establishing and maintain a rapport with the interview participant will help construct a trusting and safe relationship whilst at the same time allows the interview to be neutral and objective to gain better analyses of the data. Building rapport is an essential element as it is easier for participants to share personal experience and attitudes as it happens (Dicicco-Bloom & Crabtree, 2006).

The first set of questions was based on the individual; these questions were broadly related to the topic of cycling but general as rapport was still being built. Once the relationship was established the key questions then focussed on personal accounts of cycling, the barriers and assistance of cycling and whether personal beliefs experiences, meanings, cultures and identities played a role. The questions were then focussed on the outer social networks of the participant, including family, friends and community to gain a better insight of cycling, these were essential questions that were designed to collect and collate the core information (Hennink et al., 2010), allowing to gather knowledge about the Indian ethnic community and the cycling practices. The Key questions were assigned with numerous probes to explore further nuances and for participants to elaborate on specific subject interests, this also allowed to gain a better understanding of the issues that were prevalent and to access a personal perspective of the interviewees (Kitchin, 2000).

The closing questions were focussed on the efforts made to encourage people to cycle, these questions although important helped phase out and ultimately finish the interview. As it is not in good nature to abruptly finish an interview as the participant may be in a vulnerable position states (Hennink et al., 2010), these were broader questions but focussed on cycling and then concluded with if anything else would want to be discussed. The interview guide is important that it is in a logical order in so that the interviewee is not confused, as if the interview is confusing the data collected will not be sufficient nor of good quality (Hennink et al., 2010). The interview guide is attached in appendix A.

Ethical consideration

Ethical approval was considered carefully for this thesis. For the 19 interviews conducted it was important that all participants understood the nature of the study and how their information would be used prior to any interviews taking place. Regarding this the participant was informed with an information sheet and a consent form that they were asked to sign before the interview began. The researcher also introduced himself to the participants outlining the basics of the study and answered any questions the participants had. All consent forms were signed and their names anonymised in the study securing their identity with the signed consent forms stored in a secure location, which will later be destroyed after thesis completion. The consent form is shown in appendix B and the information sheet is shown in appendix C. The University of Salford, Research Ethics Committee approved the ethical approval for the study in August 2017 see appendix D. There were no extensive ethical implications to be considered as no vulnerable groups were being studied along with the subject held as being controversial. However, with any research care was taken to ensure all risks were acknowledged and an effort made to minimise such risks for both the researcher and participant.

Ethics are important in order to convey moral standards and codes (May, 2011; Saldaña, 2011). Ethical consideration are not produced to be advantageous for the researcher however are implemented so that all rights and interests are considered for the project and anyone involved (May, 2011). Ethical principles are prominent in qualitative research due to the methods involved in researching the beliefs, values and feelings of participants gaining trust (Hennink et al., 2010). Hennink et al. (2010) further writes, to achieve this a sense of intimacy is created which thus demands care and consideration causing no harm to the participant, keeping all information secure and anonymous. Any breach in the ethical consideration will result in the security of the participant compromised (Hennink et al., 2010). The process of anonymity was produced in the information sheet and explained prior to the interview. All forms and paperwork were kept securely with the participant pseudonyms created separately on a computer, which was only accessible, by the researcher. The original audio files were stored digitally and deleted once transcription and analyses was complete keeping the anonymised copies until the research is concluded.

Analysis

Data analyses in qualitative studies centres on transcripts or written data in order to increase understanding of the subject study, involving data being dismantled in order to explore different values, beliefs, meanings and experiences (Wong, 2008). Wong (2008) suggests that the process for analysing involves in finding patterns so that information is well defined, placing them into categories to create codes to crate meanings of the data. Firstly, whilst conducting interviews, notes were taken to familiarise with the data, this was done on all the interviews as it helped with the analyses later in the study. Once the transcripts were written further notes were taken highlighting the general threads and key words. Burnard (1991) writes, creating headings and subheadings is useful to minimise the amount of codes, to generate a viable data analyses without generating any bias. As access to outside researchers

was not available, the transcripts were instead uploaded to Nvivo to create the final coding analyses.

The process of thematic analyses is used as it helps arrange descriptive data in detail (Braun & Clarke, 2006). Vaismoradi, Turunen, and Bondas (2013) writes that the text can be broken into small detail and then reassembled after common threads are found. Codes were written and re-written to discover categories and subcategories enabling a comparison through the emerged themes. Thematic analyses allows for a flexible approach in creating codes, underlines the differences and similarities and is a quick and easy method to learn (Braun & Clarke, 2006). Similar methods were used by Steinbach et al. (2011), a study on social and cultural factors to determine transport choices using thematic analyses in identifying themes using preliminary analyses to help structure further data.

The type of coding used was known as 'In Vivo' codes, these codes were phrases used by participants in order to develop structured analyses of themes. Castleberry and Nolen (2018) notes that using In Vivo codes helps provide a personal insight to participant data allowing the use of participants voice to decipher unique occurrences. Using phrases of participants also made it easier to cluster common meanings of words together and helped when coding in Nvivo began.

The next stage was to organise the codes (Burnard, 1991; Vaismoradi et al., 2013). To do this Nvivo helped finalise the findings to present the complex results clearly. Several additional codes were identified involving substances such as, behaviours on cycling, practice of cycling, and different modes of transport, cultural barriers, religious barriers, gender, and barriers towards cycling. In most cases codes are written with words as it helps with consistency says (Vogt, 2014). The codes in Nvivo lets the researcher know what themes are attributed to a passage in the transcript allowing for merging, deleting and creating new codes at any time. Once coding was complete duplicates and similar codes were merged to clean up

the data. Multiple codes were used for each transcript and coding stripes assigned to each transcript to view all the themes attributed.

Using Nvivo had many advantages allowing time to analyse the data thoroughly saving time and easier to conduct outlined by (Alyahmady & Al Abri, 2013; Wong, 2008), identifying themes, summarising findings, looking for key words and phrases was easier and beneficial in making conclusions of the data. To be familiar with both thematic analyses and using Nvivo a two-hour session was taken in the University of Salford to help with the research study.

Chapter summary

This chapter outlined the purpose and approach of the research explaining a full description on why semi-structure interviewing was the best approach in collecting data. The chapter also discussed snowball sampling in recruiting participants, as it was an accessible method in building a sample from participants who were hard to reach. The data locations were justified as many strategies have been implemented in the northwest to increase cycling, yet cycling is still low amongst Indian ethnic groups.

Reflexivity, ethical considerations, and data analyses methods are is also discussed to ensure a strong analytical approach is conducted when extracting relevant information from the data. Chapter 5 will now discuss the findings from the participant interviews.

Chapter 5 Results

Outline of chapter

This chapter displays the results found from the research conducted amongst the Indian participants. The total number of 19 participants were interviewed, 12 males and 7 females. 18 of these participants were Indian and one Bangladeshi as his ethnicity was not known prior to the arrangement of the interview. The age ranged varied from 18-74 non-co-habitant or married, see table 3 for details. The participants that were interviewed were all middle-class backgrounds. 17 out of the 19 participants were in a professional career with an average income of 6k-40k with 2 of the female participants retired housewives.

The names of the participants in table 3 are all pseudonyms. The chapter is split between the three elements Materials, Meanings and Competences outlined by Shove et al. (2012) and also discussed in chapter 2. This is because practices involve a combination of intricate elements in order for a practice to take place states Spurling, McMeekin, Shove, Southerton, and Welch (2013).

As a practice, cycling is comprised of these three elements, materials, (eg bike, facilities, infrastructure), competences (eg knowing how to ride) and meaning (eg why cycling is favoured or not). The successfulness in preforming a practice with these three elements rests upon the materials and competences, which in turn rests upon cultural conventions and expectations changing behaviour to what is deemed appropriate (Spurling et al., 2013).

As discussed in chapter 1 the primary goal for this research is to uncover why cycling for commuting or leisure purposes is intermittent within the Indian ethnic minority compared to the white majority groups. Exploring the boundaries of culture, religion, and environment to understand if any of these factors play a role in cycling/commuting practice.

Name	Gender	Age	Ethnicity	Religion	Marital Status
Assad	Male	25-34	Indian	Muslim	Single
Asif	Male	25-34	Indian	Muslim	Single
Bilquis	Female	65-74	Indian	Muslim	Married
Faheem	Male	25-34	Indian	Muslim	Married
Farid	Male	18-24	Indian	Muslim	Single
Fatima	Female	35-44	Indian	Muslim	Married
Hafsa	Female	25-34	Indian	Hindu	Single
Hussain	Male	25-34	Indian	Muslim	Single
Javed	Male	18-24	Indian	Muslim	Single
Mehfuza	Female	25-34	Indian	Muslim	Married
Rainah	Female	45-54	Indian	Muslim	Married
Sabir	Male	45-54	Indian	Muslim	Married
Sabiha	Female	35-44	Indian	Muslim	Married
Safraz	Male	25-34	Indian	Muslim	Single
Safwan	Male	25-34	Bangladeshi	Muslim	Married
Siraj	Male	25-34	Indian	Muslim	Single
Sufiyan	Male	18-24	Indian	Muslim	Single
Tariq	Male	18-24	Indian	Muslim	Single

Yara	Female	35-44	Indian	Muslim	Married
	Total	**Average Age**			
Male	12	25-34			
Female	7	35-44			

Table 3 Participant Information

Meanings

This section will discuss the meanings associated with cycling. The participants explained the different meanings cycling had, from being a childish activity, to a leisure activity and a chance for an individual to escape. Horton (2007) has mentioned that cycling for some people cycling is associated with depending on the rider and the observer, with Larsen (2016) writing that cycling is an ambiguous practice that people can associate different meanings with.

This section also draws on the different cultural gendered relationships within family settings in order to discuss why certain activities are more popular with men than women and how theses dynamics have affected their role when thinking of cycling. Skinner and Rosen (2007) written that cycling and other transport behaviors resonate from many factors including personal such as home, work and domestic priorities that can act as a barrier for a person to consider cycling.

Cycling as a childish activity

Cycling to the participants differed from the regular cyclist to non-cyclists in that cycling had a different meaning. For most of the participants it was a childish practice that was done as a kid. As *Assad, Asif,* and **Mehfuza** say

"…Growing up cycling is seen for kids under the age of 10, cycling is seen more of a leisure activity what you do with friends and stuff, then you get that period between 10 and 15 where you're growing up where you slowly stop cycling…" **(Assad)**

"The only time I've ever cycled is for leisure when I was a kid I've never used it for an actual proper means of transport to anywhere" **(Asif)**

"Yeah, when I was a kid obviously all the time" **(Mehfuzza)**

These three accounts indicate that the meaning of the bicycle or the action to ride is an act for kids. A hobby or a piece of toy until one grows out of it is into a new phase in life. It was noticeable that cycling for all participants was common whilst growing up, it wasn't a practice to keep for or for environmental purposes but solely for the pleasure to ride. This for some was an avenue to explore new boundaries, amuse oneself or to just fit in. **Hafsa** a second generation participant from India studying in the UK, mentioned cycling with her brother was fun and they used to compete with each other.

…" Me and my brother we like used to compete each other but it was like fun" **(Hafsa)**

Mehuza Outlining that having a bike was popular amongst kids where she lived to fit in.

"I think we wanted bikes because other kids wanted them…" **(Mehfuza)**

Where **Safwan** and **Asif** rode the bike to play

"…When I did have a bike yeah I rode it a lot but again it wasn't hobby it was just the fact we had a bike was messing about with it and stuff…" **(Safwan)**

"Yeah, we used to go on we used to make up these little missions that we would go on or we'd go exploring see when you had a bike it meant that you could go a lot further…" **(Asif)**

Holttinen (2010) writes that whatever the practice, consumers always look for some beneficial meaning towards it. What a practice means to the individual, assimilating and using resources to what makes sense will create the value of the practice. This implies that meanings are associated with the emotions and what is appropriate to do at a certain time. Whether it was for fun, to fit in or for play, cycling held different meanings to the participants mentioned above, holding a different sense of emotion to what cycling is used for. As Chatterton and Anderson (2011) write that in any intention behaviour and attitudes are connected with emotions.

Participant also mentioned cycling stopped once they reached adulthood but however there was a distinction of why cycling stopped due to gender, females compared to males felt more restricted to be mobile especially on bikes where the body was on display. For some participants like *Assad* said growing up cycling is a practice for a certain age. Once older the practice of cycling is to be slowly phased out eventually forgotten, and into new methods of mobility.

"...You don't have time to cycle you doing other activities where don't have time to cycle then you get to that age when you're 16 and you're thinking about getting a car and you want to kind of achieve that..." (*Assad*)

Asif although stating that he has no need of car as it is easier for him to walk, he does mention the aspect of affluence within Asian communities and what it means, socially in driving a car.

"Focussed on making money and working their way up in the world and so you start of a with a car and after having a car you want nicer cars and nicer cars and nicer cars having a bike it's just not the normal progression is it" (*Asif*)

Weedon (2004) states being in a certain class, inequalities could be inevitable or social and undesirable. Moreover, classes of identity are still prevalent in many social context such as

that what *Assad* mentioned about owning a car with a sense of achievement. Class will remain an important factor of identity. The culture around the car with gendered identity and certain car practices are visible within this study as it was mostly the male participants who talked about owning a car and feeling empowered. Jensen (2011) who states a male character in Disney movies of the 1950's and 60' would boost his masculinity through fast and aggressive cars. Further (Sheller, 2004) has written that car materialises personality and take hold of the egotistical nature of the owner or driver, as someone who is competent, powerful able and sexually desirable. However, the class identity and the relation it has with car culture is not prominent only within the Indian ethnic or Muslim culture as Stradling (2002) found that driving a car is attractive to the younger generations and those who are poor due to the sense of personal identity a car holds. Similarly Miller (2001) has written that cars are distinguished of power and prestige, manifestations of wealth, beauty, and style with a ritualised pass to adulthood affecting the attitudes and feelings of gender and generation. Driving or owning a car and the class status a car holds can lead to either empowerment and inclusion or social exclusion which is maybe why ethnic minorities such as the one interviewed held cars in such high esteem

The concept of driving a car signifying a certain class that is higher than someone who cycling may stem from the notion that cycling in south Asian countries such as India cycling was deemed for the poor. Stated by Law and Karnilowicz (2015) a study on the relationships and characteristics of cycling within Melbourne, Australia that people of Vietnamese, and Sri Lankan participants suggested that cycling in their home country is considered poor. The participants extended further saying that white competitive cycling was a sign of grandeur, with people of Japanese participants stating that people in Japan cycled in normal attire and without the concern of gears and cycling attire, with migrants regarding cycling in Australia as an elitist and sporty activity.

For *Yara,* cycling stopped because she matured, and cycling was not to be practiced. *Yara* explaining that cycling stopped at a certain age most probably pubescent years and pointing out that the community she lived in was Indian Muslim, which pressurised her on what she can and cannot do

"Because the community that we lived in it was very Indian Muslim so I think after a certain age once girls sort of go to high school year 10 you wouldn't cycle" **(Yara)**

"*I think my life changed when I started secondary school… whereas religion has come into it a lot"* **(Rainah)**

The practice of cycling regarded, as a leisurely activity for kids is a noteworthy especially as some participants of both genders stopped for different reasons. Kids transitioning to different modes of transport are nothing new. Underwood, Handy, Paterniti, and Lee (2014) from a western context has discovered participants perception of cycling had changed from elementary school to high school, bicycles were replaced by cars, which became a new symbol of freedom with females being particularly sensitive to images associated with cycling. From an Islamic background as Johnson (2000) has highlighted modesty plays a role in both males and females partaking is sporting activity where their body is shown in public.

The traits underlined in the four quotes shows how men and women's ability in being mobile is differed in the behaviours of the spatial and temporal context. Whilst males are readily able to switch in to new mobile practices for education, monetary and status terms women are less likely to be as mobile due to changes to their body that act as a physical barrier and community shaming acting as a mental barrier. It is evident that from an Indian perspective the body after maturity is deemed shameful when out on display however this does not hold certain females back when partaking in physical activities which is explain further in 'Conforming-Females in culture and society', where some females went running whilst

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at the same time adhering to cultural and religious rulings.

It has also been found that when aging the actual and perceived risks that relate to physical activity is redundant. The topic of playfulness in adults has been studied elsewhere see for instance Proyer (2012) who found from a study of 324 adults that playfulness is not only a facilitator of pleasure but is also helpful when coping with stress. In particular Barnett (2011) found that blacks and Hispanics females tended to be less playful than their white counterparts and fewer differences were found for the males. Similarly Barnett (2005) found that in contrast with white students, black students would become bored in certain leisure activities and would want a something a little more challenging.

An unexplored debate is whether playfulness in recognized, altered or displayed the same with other ethnic races. Although Barnett (2011) studies were not specific to Indian minorities it does however show some light on how ethnic adults perceive playfulness or leisure. Once reaching adulthood a few participants in this study abandoned cycling when reaching a certain age, due to pubescence for females and accustomed to driving for males.

Participant as cyclists

This section talks about how being on a bike or practicing other physical activities allows participants to feel free from the stresses of worldly affairs can bring.

The participants mentioned cycling and other forms of physical activity such as jogging as a chance to escape from reality, a thrill or something that is peaceful, an act that is fun, and in some instances closer to god.

"Everything, yeah escapism you're getting closer to nature which means you get closer to god and you realise things are a lot better you know" **(Safwan)**

"You release all your energy the anger you know whatever you had just take it out on the hills in it you come back your minds a lot fresher happier you just feel good you come back feeling good" **(Safwan)**

"Uplifted, uplifted as you do you're in nature you're in the natural environment you see wildlife thriving in your area it's good to see" **(Assad)**

Safwan and **Assad** describe the sense of escape and the freedom that cycling can provide. The outdoors, nature and the natural environment affords different pleasures and sometimes spiritual with a feeling of empowerment and control. The pleasure of the environment with **Assad** describing wildlife he witnesses whilst on his journeys is enriching especially in an urban, car centric environment. As Roberson and Babic (2009) found in their study of the benefits of exercising in natural environments participants have discovered a simple way to repudiate the impact of everyday living in a modern society.

"...Once you come off the main roads then you go into the countryside its much obviously much more peaceful scenic obviously you can breathe a bit of fresh air as well and your lungs are opening up each time going there" **(Sabir)**

"...It's my thinking time and I feel good after when I've had a run that I've done something and I'm glad I've done it" **(Rainah)**

"I think yeah a lot of people they use forms of exercises for stress relief for escapement it just depends but it's a good way of doing that healthy way of doing that any anger resentment anything just letting it go" **(Safraz)**

Sabir has described a sense of freedom whilst cycling and in this instance for **Rainah** and **Safraz** jogging. This freedom, a chance to escape the confinement of a busy society, away from the urban infrastructure, pollution, and noise, and to be embodied with nature or the

natural environment is something the participants enjoyed doing. The practice of cycling or other means of active lifestyles is not just a commute or a social event but also a personal one, one that is more than just a practice but the movement having meaning. An environment where the body is together with nature free from all the happenings and distractions of the town or city landscapes. Being out in the natural environment, cyclists or walkers/joggers are uncovered, not trapped in a metal box which simulates the individual to the different senses of sights, sounds, smells and feelings in ways that the average car or public transport commuter will not experience. As cycle journeys tend to be longer in terms of distance, cyclists are exposed more to nature and the environment harbouring a sense of belonging to the outside sensory landscape, with the adjustment of speed and positioning will shape the uniqueness of cycling within a space (Jungnickel & Aldred, 2014).

The act of walking, jogging, and cycling is similar in that they can both display movement in the outside world where bodies are on display. However clearly walking and jogging is preferred than cycling, resonating cycling in holding a different meaning. The practice of walking or jogging is inexpensive compared to cycling and prior training is not needed to maneuver a bike on and off road. For a cyclist to perform the practice as delineated by Tight et al. (2011) is in need of surfaced roads where as walking is universal where it is not considered as a means of transport but a practice that is performed.

Conforming-Females in culture and society

This section speaks about how women confirm to societal and cultural pressures due to influences of family and community members. Cycling for female adults holds a different meaning to family and community members to that of female children. Cycling is not a desired practice for women in Muslim Indian communities, although some may jog, or cycle whilst at the same time acting upon the requirements of modesty.

Many participants mentioned that religion had nothing to do with the Indians not cycling but the Indian culture itself. As _Siraj_ states below religion has been reduced in people's lives to an extent where desired lifestyles can be openly pursued.

"the pervasiveness of religion in lifestyle has been reduced a lot so Islam does suggest people are more economically friendly look after the environment, environmentally friendly sorry however I mean with religion becoming a smaller factor in people lives people aren't looking at the holistic view of how religion plays an impact in the lifestyle so yeah I mean there's a counter narrative" (**Siraj**)

Siraj highlighting that the prevalence of religion in everyday activities is concentrated to an extent where activities such as physical activity can be pursued. However, being modest and at the same time participating in physical activity is not new. There are several both male and female sport stars that conform to religious practices whilst at the same time competing in sporting events. Most prominently a well-known fencer Ibtihaj Mohammed who has worn a headscarf all her sporting events with Nike further releasing a sporting headscarf (Lesavage, 2017). For a female to pursue cycling whilst being comfortable and modest can be done further iterating the fact that the cycling holds a deeper meaning within the Indian community.

Mehfuza acknowledges the fact that, what one does is manifested through the act of a female and how she conforms to her surroundings, the cultural *respect* or *honour* are noticeable by the family and the outside community and she must act or play in a certain way, realising from a young age female are not supposed to mix with males. *Mehfuza* also recognised that her actions does not only represent her but her family and that if she was to fall out of line or conform to a duty unethical as it were, the community would know and talk about it thus undermining her family's honour. Bourdieu (1990a) talks about cultural producers holding a specific power, the cultural production and reproduction or practice and meaning are held by the dominant, in the case for, *Mehfuza, Yara,* the power was held by the dominant males or community members who had the final say.

"when I got to a certain age my dad was like ok get back in the house now…My dad would feel like I'm more vulnerable than my brother was even if he was younger than me… but I feel like in the Asian community they feel like girls are way more vulnerable than guys cuz it's not just a safety thing it's a, the honour thing reputation of the family kind of a thing…So like honour in the Asian community is a massive thing, where everything every big decision is often based around what will people think" (Mehfuza)

When *Yara* was asked what her husband would say if she wanted to cycle, she replied

"He'd say no" (Yara)

However, she did not mention if her husband completely forbade her from cycling or if she was discouraged to cycle as she mentions that her husband would look at her as if she was from a different planet. Referencing that cycling to her husband is something out of this world

"He'll look at me and hell just think I'm from a different planet" (Yara)

With *Yara* and *Rainah* explaining there is a lot of community pressure on what females can and cannot do although, *Rainah* jogs and her husband does not mind she illustrates why it might be a problem for other girls

"Not obstacle its pressure, pressure from the community" **(Yara)**

"Yeah he's fine with it" (Rainah)

"Pressure on people if it's a bloke that's fine but if you see a woman on a bike it's a whole different ball game" (Rainah)

From what the female participants have mentioned there is stricter control of daughters than on sons regarding practices outside of the home. This mind-set can be both stemmed from religion and culture and enforced on children, with the same beliefs, structure, and child rearing as their parents as to why the husband of *Yara* had a stricter role than the other husbands of the female participants. *Rainah* explaining that there was a lot of community pressure what a girl chose to do and that this would put people off cycling particularly females however for males it was ok. Within the female participants it was evident that they saw a clear divide between men and women and the different gender roles within the community, not just for cycling but also for the everyday practices and the divisions of class and gender in society.

When asked if running or cycling would be practiced in the community, participants like *Sabiha* and *Fatima* mentioned that they would, with *Sabiha* stating she would hide to avoid community gossip with *Fatima* explaining she does not mind:

"Yeah we hide, we wear caps sunglasses and earphones so if anyone shouts at us we can't hear" (Sabiha)*

"Because if you somebody you know they tell the next person as well that you know what such a such a body was running… It's no big deal I still run even if somebody's seen me running am not bothered if they've seen me because I've not seen them and your focussed I'm focussed that's my chilling out time I enjoy it so like if you running thinking about who's looking at you then you won't be running for long if at all"… (Fatima)

The perception of people talking about them if they were to perform a task that was peculiar did not conform to the way others in the area acted would be a topic of discussion around the community. *Sabiha* and *Fatima* mentioned that they don't care what people say which shows a sign of rebelling to the societal pressure's females must act upon.

Sabiha mentioning that it is her chilling out time, a time to get away and that she is more focussed on the road than on what people have to say about it. Although *Sabiha* talks about running it is still relevant to discuss what the practice of keeping fit means in an Indian community. The practice of running or walking is more prominent therefore less of an issue than that of cycling, as most of the participants mentioned they preferred to walk with some mentioning they preferred jogging rather than cycling.

"I've tried recently well couple of years ago but it wasn't for me, so I give it up. When you're used to certain things you keep to it" (Sabiha)

Practices are routines, moving, understanding, wanting, and needing are connected to a practice (Reckwitz, 2002b). The change in mobility would mean to change routine and stability, with Shove and Walker (2010) writing, changing one feature of routine has consequences to other practices throughout the day. It was evident that the attitudes within the communities for females to cycle were an issue. Stride and Flintoff (2017) points out that parents, siblings or even the wider community have a certain form of power over a female on what can and cannot be done and in some instances, what is right and wrong. The interplay

with religion, culture, identity, gender creates a challenge for a woman to stay physically active and even her mobility choices.

Mentioned earlier an activity is shaped by the various rules and meanings as these combined create the structures of human actions. Society's life span is the outcome of social structure, culture and economic system (Giddens, 2014). He explains that during a life course the different stages in time are due to differ across different societies, social factors such as class, gender, ethnicity all influence the way life is experiences. Giddens defines structure as rules that help produce the social practice, in that social order is represented and produced through certain rules. Using structure as the basis, the female participants interviewed altered their social ruling to adhere to cultural and religious norms. What is classed right and wrong not just within the wider society where one interacts but an individual personal sphere where practices such as cycling is defined by structural norms. It is this where the practice shifts from something leisurely to an obstacle and it is this reason specifically why cycling should be investigated as a practice in its own entity. Practice theory helps to realise the everyday actions individuals take through life. Practices such as cycling are intertwined on the foundations of competences, materials, and meanings however such elements are not evenly distributed throughout society. It is because of this if cycling is to exist within ethnic minorities it will need people who are able to act on in order to keep it alive (Blue et al., 2014).

Women and the family are the foundation of an Islamic community, the Quran emphasized certain rulings a women pre Islam did not have (Haddad & Esposito, 1998). Such rulings gave women the right of contract marriage, inheritance, property however and much more however due to the dominant patriarchal society women were subservient to men and their family often playing both housewife and worker (Haddad & Esposito, 1998). For the women interviewed religion was a source of identification if not a cover for why they did not participate in

cycling. As mentioned earlier the prophet advocated physical activity however this comes with certain drawbacks as in cultures of non-Islamic societies, sport organisations, gyms, clubs and other physical forums do not offer minority women's cultural needs (Walseth, 2006). It seems for some Muslim women there are both the religious and cultural expectations of how she must act within society, this is more so important when in respecting one's body when participating in some sort of physical exercise.

Conforming-males in culture and society

This section speaks about how men confirm to societal and cultural pressures. Although the males have leniency on what they can and cannot do there are some issues that the male participants acknowledge that may cause a barrier to cycle.

The practice of cycling for males was viewed differently to how females saw cycling, for males it is completely the opposite. As Johnson (2000) writes the debate of sport cannot continue until the emphasis of what role sport plays. Sports can be part of everyday, influence by different role models and attitudes towards physical activity, which are created by the meaning of the term exercise. Male participants saw cycling as a form exercise and the ones who did not cycle or cycled on occasions found that cycling was not for them pointing towards other means on how they keep fit. The Excerpts below of *Tariq, Assad* and *Asif* who one or another have said cycling as a form exercise is not for them and that they would rather spend time doing other activities such as going to the gym or playing football.

"…*Going to the gym together playing football cycling isn't a preferred way of exercising or socialising with my parents*" (*Tariq*)

"…*However, if I wasn't that's because I have alternative methods of keeping myself fit, I do other activities*" (*Assad*)

"I've never really considered it as road confidence I think I'd probably be fine it's just more of you don't really think a bike of a mean of transport you think of it more of a means of leisure or exercise than anything else" (**Asif**)

Sabir and **Safwan** the elders two of all the participants preferred cycling than going to the gym, the saw the benefits of cycling, **Sabir** stating that had cycle in rain, hail and no weather had put him off apart from the snow and ice stating that for him cycling is the best form of exercise whereas **Safwan** explaining that he rather be outdoors than in gyms looking at people. **Safwan** also mentioned the fact that whilst growing up Asian parents would wrap their kids so to speak in both summer and winter days explaining that from an early age Asian kids are not used to the cold environments.

"Used to do it twice a week then I cut it down once a week and then sometimes when the winter came in, I used to pack it in obviously because of the bad weather and getting up the hills it was hard you know… I've ridden in rain, ridden in hail and that sort of condition cold, wind, obviously not ice and snow because it's dangerous… you'll do it was fantastic it keeps you healthy" (**Sabir**)

"Personally, cycling could be one of the best form of exercises so as far as health goals yeah absolutely I would recommend it highly" (**Sabir**)

"A lot of people go gym don't they gyms quite common thing in Asians that's always gonna be common you know gym's not an issue cycling's summat different you need dedication you know you have to put yourself through the pain… our mums dads puts us outside in massive bomber jackets on a bloody sunny day we're already have a bad start there… sometimes yeah it daunts on us if I go out this time you know…" (**Safwan**)

"I would never go to gym… It's not my scene… Yeah cuz I wanna be out in the nature not looking at other people" (**Safwan**)

There is no real evidence to show that the elder generations rather prefer outdoors than indoors when it comes to cycling or exercise. **Safwan** only started cycling 6-7 years ago and has not stopped since, with other members in his group cycling at the age of 40 and 50 whereas **Sabir** used to build, fix and sell bikes from an early age. However, it does outline the importance of intergenerational relationships, which will be discussed in the remaining of this chapter.

Domestic responsibilities within ethnic households

Males in this study also acknowledged the problems females may face whilst cycling or preforming activities outside the household generating the same responses as the females above about community cohesion and gossiping. Nevertheless, it was evident that it was easier for males to be mobile and household duties such as cooking, cleaning and other menial tasks within the home fell on the females.

Faheem talks about the chores in his household and how his mother really didn't have a choice stemming from Indian culture that females were tasked to do certain jobs

"To be honest I don't think she really had choice it's one of them the Asian culture is very narrow minded the males always dominant and the females like you know oh no that's the females job cooking female job washing female job cleaning" **(Faheem)**

"To be fair I've never seen my dad get up and say listen I'll do the cooking" **(Faheem)**

As **Faheem** is married, he was asked if the chores are shared within his household or was it the same as his parents:

"No, I do the hovering whilst she does all the dusting like you just got to chip in where you can in it" **(Faheem)**

Yara explaining why his husband doesn't do any house chores:

"Because the if I give my husband as an example his dad never did anything his mum used to do everything, now he had four sisters which used to do everything for him my husband he came into this country he bought the culture with him and he expects the same here" **(Yara)**

Sabiha and *Fatima* discussing cooking and chores in the house

(*In Guajarati sarcastic*) *"My dad's going to do it is he"* **(Sabiha)**

"*Yeah because I have OCD, so I have to do it"* **(Fatima)**

"I've got no choice" **(Sabiha)**

"Whys that?" **(Interviewer)**

"*About cooking? Who else is going to do it?"* **(Sabiha)**

"Husband? Kids?" **(Interviewer)**

"*Oh My God! He can just about pick his plate up no in our house it's a very Very Indian household"* **(Sabiha)**

"Could you elaborate on Indian?" **(Interviewer)**

"Like my husband goes to work I cook I clean I look after the children I look after my dad" **(Sabiha)**

It was duties like these that females like *Bilquis* responded that if they had time, they would stay physically active regardless if people talked about her or not, however she did go on to say she had plenty of time now as her kids are older but responded that she is too old

"Well I have children and family so you're busier with the family and kids bringing them taking them to school and pick them up and take them mosque so you don't have time for all that" **(Bilquis)**

The cultural norms a woman had to adhere after marriage women her duties, as a wife and a mother was more important than other duties such as working or keeping fit. **Sabiha** remarking that her household is *"very Indian"* and **Yara** explaining that any chores that needed to be done in her husband's household was completed by his mother and four sisters and that culture has followed him to the UK, the same cultural practices are to be applied. Ideas and ways of doing are not manifested from within but by what is around them, the thinking and thought process is structured from the movements of society, objects and factors that form an essential part of individual behaviours (Spaargaren, 2011). Similarly Spotswood et al. (2015) write that if people do not engage in such practices individuals will carry on with life believing such a practice does not conform with their routine.

The idea of women doing house chores and men working does not directly account for the lack of cycling within the Muslim Indian society, it does however show the patriarchal construct within homes of first- and second-generation participants. This divide between men and women show that there are clear lines of what each gender can and cannot do or what they choose to do and what is normal and abnormal within the cultural bounds, regarding this, the question was asked whether the current or future kids will conform how the parents did and interestingly the replies were different

"I want to break that I want to, I want my boys to do it as well as my girls because when they get married and when they have children, I know they both going to have to work" **(Yara)**

"Basically, yeah our generation the fourth generation changing" **(Faheem)**

The cultural and religious fields in a family are organised by the economic, social and cultural capital held mainly by the dominant agent (Dagkas & Hunter, 2015)**.** The westernised attachment of parents upon children has an effect on how kids will grow into adults, as parents have the dominant field they determine what forms the capital, the family plays a pivotal role and the key factor in amassing capital and its various forms (Bourdieu, 1996), resulting in acceptance of both cultures.

Consequently if parents involve physical activity, house chores and any other tasks that break down the Indian cultural gender roles through contributing and becoming the norm younger generations will not be afraid to go out cycling, jogging, or younger males taking part in tasks like house chores as shown by *Faheem* and how *Yara* is trying to break the discourse of specific gender roles within the Indian Culture of her household.

The accounts from these women demonstrate the household responsibilities and traditions changing over time. Archer (2001) found that young boys perpetrated a sense of dominant stereotypical notion that the man was the protector of the house in which he was free and autonomous whereas for women it was a place of restriction. She further states that men worked providing for the family whilst women were confined to domestic responsibilities, as the restrictions to women being I the home was justified by women being protected and safe whilst at the same time reinforcing men's notion of being a saviour of weaker women.

However domestic responsibilities are not only for females of Muslim or ethnic women as Coltrane (2000) found, women spending more time on household tasks and preform more of these tasks once they are married and become parents. For many of the women their identities are shaped by what the Indian culture or what perceived context of Islam find as an appropriate femininity, an impression that womens life and dress is monitored. Breaking these cultural long practices within the home may also bring about change of what cycling

could mean amongst females. From a practice that is deemed inappropriate or childish to a one that is similar to walking and jogging or keeping fit and healthy thus being a norm in the Muslim Indian communities.

The effect of intergenerational relationships

This section discusses how intergenerational relationships between parent and child plays a role on how kids will react to physical activity. It outlines how parents bonded with their kids, and what physical activity meant in Indian households suggesting that education is more important than sports.

The role parents have with their children is important on whether kids stay active. A study by Rodrigues, Padez, and Machado-Rodrigues (2017) found that the amount of physical activity a parent was involved in, positively influenced children's activity, looking at age, gender, income, and education it showed that physically active parents increased the chances of kids partaking in extracurricular sports compared to those children with low or inactive physically active parents. In the current study participants were asked if they ever cycled with their parents or pushed to cycle by their parents and although some were taught by their fathers, mothers and some learnt on their own however participants hardly ever cycled with their parents or got involved in the kid's social lives. *Faheem* talks about the cultural norms of what is appropriate for parents and children to do together and being involved with the children's social life was not normal for first generation parents, however second-generation parents such as *Faheem's* father plays football with him implying that the acculturation of both Indian and British cultures will make it easy for parents to socialise with kids

"My dad used to take me, no Asian cultures fathers… your parents don't tend to get involved in your social life… It's just a cultural thing I think…But now a days like my dad for example we just played football my dad came tagged along he likes you know he's British born most of

the parents like for example his parents from back home his dad like yeah do whatever you want this is your house that's it come home I'm your dad you're my son" **(Faheem)**

Rainah talks about how her father was always at work and her mother a housewife looking after seven children thus her parents having no time to socialise with the kids, however stating that she enjoyed her childhood no matter how hard it was, she also goes on to say her parents would never go her parents evening at her school

"Mum at home dad at work so really he was the only breadwinner so obviously my mum had like there was seven of us so it was quite a big family kind of thing and yeah it was hard but I can't hand on heart I can never ever say I had a horrible childhood because I didn't…No like when it came to school and you know when they had parents evening and our parents my parents definitely wouldn't go to" **(Rainah)**

Similarly, **Asif** also stated that parents were busy working being of immigrant backgrounds work was priority with labour intensive job roles whilst the children kept themselves occupied through whatever means

"…all parents actually all parents I knew at the time wouldn't really hang out with the kids they didn't really have time they were always working we've come from immigrant backgrounds and working hard was a very important part of that and they were like labourers and that kind of thing manual labour taxi drivers factory that kind of thing so they'd be grafting so we'd just keep ourselves occupied and we lived in quite a tight knit community at the time so you know the kids just play out play with each other play at each other's houses" **(Asif)**

Tariq calling it freedom, he the freedom to do what he wanted within limits, exploring your own social experiences, making friends or social groups rather than being taught or guided by parents learning how to be independent from a young age.

Yeah, I mean we had freedom when we were young when we're children we had freedom…
You had your friendship circles from a young age…you used to wake up go out and come
back at 9 at night and it was you sort of go to your own social experience rather than your
parents' sort of guide you in that way" **(Tariq)**

The statements above show how specific cultural practices have particular norms and
boundaries between parent and child. Such practices for the participants are manifested by
the power relation with their parents who in turn learnt from their parents, and these powers
and various items of capital are embodied with time and social space where the younger
generation through the interactions of society, family and culture will obtain certain habitus
(Dagkas & Quarmby, 2012). If parents incorporate physical activity into daily family routines
along with participation becoming the norm then the reproduction of said activity such as
cycling would be accepted amongst the agent's capital (Dagkas & Quarmby, 2012). This
holds true as **Sufiyan** points out although his father did not take him cycling, he was involved
in other sporting activities which may had led **Sufiyan** to the liking of cycling

"He used to take me football when I was really young, but I never enjoyed that, so I stopped
that he used to take me to badminton, tennis, swimming did a lot of swimming never cycled
though" **(Sufiyan)**

Or like **Faheem** and his dad

"We were growing up and we started doing kick boxing, so we did kick boxing for a while
and the after that all that died out after 16 and then just started going gym still go gym with
my dad now and again plays football with us regularly" **(Faheem)**

However, although these accounts may hold true it is still important to note that both **Faheem**
and **Sufiyan's** father were both second-generation parents born in the UK who were easily

accustomed to the importance of child socialising. In some instances, like the case for *Yara* whose father had no choice but to work when coming to the UK

"Priorities was he got married he knew he had to work, main reason for him coming is to support his family back home so everything changed for him when he came here it was just work" **(Yara)**

Or in **Bilquis** circumstances moving to the UK, getting married and looking after children

"Well he used to work so like a when we were in London he had a own business, he used to work for a motor company, then he first used to work in like a rag trade, then for motor company, and then it was like a morning, afternoon, night shift so I took care of children, cooking, cleaning take them to school I used to take them to the Library" **(Bilquis)**

Sabir stated that his parents were involved in his sporting life but feared him riding a bike

"Oh yeah but majority of the time they were more scared of me riding a bike" **(Sabir)**

Sabir further states nevertheless that education was more important than sporting activities, stating that he had a or we as in the perceptions of Asians have a stricter upbringing

"We had a we have a stricter upbringing and it's hard to talk to parents about issues such as maybe sports because they really wanted you to educate rather than going to sports…Education was a big factor so they wanted you to educate, learn more according to academics and that sort of thing as far as sports went it was a no go all the time" **(Sabir)**

Indians who immigrated somewhat 40 to 50 years ago, without educational background in labour intensive work patterns in the UK have instructed children to follow the educational route insuring they have a better future for themselves, hence deviating from any physical or

sporting activities or as Kahan (2003) found a barrier to achieving great educational and career focussed goals.

The analyses here show that there are ranges of meanings embedded within the practice of cycling. From being a child activity, to a form of escape whilst at the same time drawing from gender roles within culture and society showing how such culture practices and mind-set effects the decision on practicing cycling. Cycling and other sports for women was seen within the community as incongruous, however was still practiced by some female participants for the fact that they enjoyed doing so.

Men on the other hand had different aspirations in life, they were pushed to achieve educational greatness and in doing so abandoning any form of play. Although for males if cycling was to be pursued it would not be as difficult compared to females outlining Indian Muslims males are have a greater and broader access to mobility than Indian Muslim females. In essence, if the Islamic diaspora and cultural identities is to help improve cycling cultures if not a broader physically active culture the new identities need to emerge where global and local experiences are linked to offer possibilities in the increase of cycling. It is the change in identity where Indian Muslim women will have the confidence to Cycle, and where intergenerational relationships are strengthened between parents and children through practices such as cycling.

Materials

This section will discuss the element of materials and how materials affect the behavior of cycling. The participants drew on issues of facilities and, the affordability influencing them start cycling, discussing how facilities at work, clothing and infrastructure influences their choice whether to start cycling.

<u>*The importance of Facilities*</u>

Participants discussed the importance of facilities and how it plays a role in cycling. From parking, to cycle paths and introducing some bike share scheme in towns as well as cities in the hopes that these changes would help them cycle more. The Participants enjoyed being away from traffic as comments were made due to the lack of infrastructure around them to cycle.

"In London I'd say it is well actually not adequate but its sufficient… but there's a decent amount of space to park up your bike but in places like Bolton for example if your cycling around where are you gonna put your bike unless you're outside the gym or something you're not gonna have bike racks so then you have to go walking round aimlessly… **(Farid)**

Farid talks about the notion of walking around aimlessly to find a place to park his bike due to the lack of storage facilities in Bolton. He also points out that cycling storage will be outside of gyms places for health enthusiast but not for everyday commuters or leisure riders, the hindrance it would cause for him to walk around his bike is enough for him not to cycle. Comparing Bolton to London he suggests that although it is not satisfactory it is enough for him cycle, outlining that the provision of cycling infrastructure is limited to places where they are not readily accessible.

Sufiyan talks about the investment in London are greater than that of Manchester, perceiving that Manchester's bike scheme is not a success, insinuating people in Manchester do not want to cycle.

"They're always doing more in London they have invested a lot especially in London what I've seen which is good and I've used it like Boris bikes which is good and in Manchester we've recently got our own bikes which haven't been doing too well if I'm honest I think

*that's more towards northerners just being mancunion I don't think they really want to cycle anywhere if anything" (**Sufiyan**)*

Sufiyan perceptions on people being from up north or it being '*mancunion'* people rarely want to cycle. Although he acknowledges the new bike share scheme Mobikes in Manchester he also points towards the scheme not being successful. A study from Fishman, Washington, and Haworth (2012) found that bike sharing schemes in Melbourne, Australia lost the impulsive need to cycle due to helmet legislation, although not legal requirement in the UK, lack of bicycle infrastructure and undesirable attitudes from car drivers. Further Ogilvie and Goodman (2012) found females and inhabitants in deprived areas were underrepresented in using bicycle-sharing schemes and expanding and targeting into theses area has the potential in increasing cyclists.

Targeting deprived areas or feeding the spontaneity of cycling is proven by **Asif's** case below wanting a more relaxed approach to cycling, using minimal effort of just to get a bike and go such as Boris/Santander bikes without it being an expense. Further stating that he would, and a lot of his friends did cycle using Boris/Santander bikes as it relieves him from the stresses of his bike being stolen.

*"Yeah so those are good because you can pick one up from somewhere and leave it somewhere else it takes away the stress of having your bike nicked or you know where am I gonna put my bike if you've got enough of those docking points where you can leave your bikes then definitely no then you would and a lot of my friends in London did cycle and did use those bikes" (**Arif**)*

For some participants it was not important as their cycling routes were on country routes or due to experience were not that bothered

*"It's ok they could be improved like where I live there's not many cycle lanes, but saying that I usually go up the country routes, so I'm not really bothered" (**Sabiha**)*

*There's only one road but it doesn't matter it doesn't bother us we cycle on the roads (**Safwan**)*

The participants are aware of the lack of provision for cycling and cyclists that can affect them not wanting to cycle. From inadequate bike parking, to not having access to city bikes in towns are all provisions that need to be investigated for cycling to increase. Infrastructure has been studied and highlighted to be an encouragement for people to start cycling (Aldred & Dales, 2017; Burk, 2017; Clayton & Musselwhite, 2013)

Materials are not only formed around cycling infrastructure but are also contained within facilities in the work place that makes cycling easier.

Mehfuza commented on the lighting at work was not adequate in order for her to do her hair and makeup, showering facilities and appearances in professional work places were important for one not to come in sweaty or to even spoil their hair. The appeal or desire to be presentable in work settings did not directly mean having adequate showering facilities however it was important for some to shower if they were to commute to work. For some, although they had showering and other facilities to take a bike to work it was an inconvenience in their daily routine to do.

*"Cuz I'd have to bring my hairdryer at work which I don't think we have one, I'd have to do my make up at work and the lightings not great with the mirrors …I don't wanna be sat at work a hot sweaty mess just because I'm getting healthier that'd be really uncomfortable" (**Mehfuza**)*

"I think you'd be all sweaty and everything so then you gotta shower…that means your got to get into work at least 20 mins early, who wants to get into work 20 mins early" (**Faheem**)

"I mean in London the sort of companies F and I worked at there were facilities to shower, to get changed that being said you don't have time" (**Faheem**)

Javed talked about the comfort of his daily commute adding that changing showering is 'extra' on the daily routine, whereas *Siraj* could not bear take his personals with him adding more things to his schedule stressing the importance of appearances.

"I think it's just that comfort being comfortable, so you know I'll have to go to the train station in waterproof then when I get to work get changed, even though they've got changing room facilities they've got showers and stuff it's that extra on top of your day" (**Javed**)

"I just think it's just preparation you don't wanna be wasting time, I don't wanna take my kit with me to work take my suit with me, my suit would be creased when I get there it's just more things, I mean it sounds very menial but they do take a lot of time and obviously appearance is important so" (**Siraj**)

Safwan would cycle to work if he had showering facilities however it is important to note that his work place was only a mile away from where he lived would. Cass and Faulconbridge (2016) point out that the practices of everyday are squeezed within the limited time and space such as working, education or social conventions. Different practices become more compound to participate in, to fit into consumer society. Just as how participants did not want to change daily routines, wasting time in preparing the necessities of work, or adding extra practices once at work plays with the temporal patterns of individuals and are reluctant to change. Hence Cass and Faulconbridge (2016) introduce policies regarding temporality in the workplace which include enforce flexible working patterns (which for some participants it is available in their workplace) and the acceptance for lateness for low carbon commuters.

The materiality is amongst things that exist and help arrange social phenomena (Schatzki, 2010). Materials such as cycling facilities, or the affordance of buying cycling equipment, or better facilities at work all play a role on whether cycling is feasible. Bicycle parking for *Farid,* city bikes for *Asif*, or better lighting at work for *Mehfuza* are contributed to the nexus of cycling, and for these to be acknowledge would lead to change. For policy makers and planners to increase cycling, facilities that are not directly related to cycling such as facilities in the work places, time schedules, need to be adhered to as much as cycling paths and cycle storage to increase cycling. This would help increase cycling not just within Indian Communities but also for the wider population.

The cost of cycling

The bicycle for those who did not cycle saw cycling as an expensive practice, buying a bike along with the equipment that comes with it was a deterrent. The affordance of a bike, storage, and equipment meant people were reluctant to invest in a bike, or parents were reluctant to spend on additional extras.

"They seem to cost an average bike costs £400 or £500 from what I've seen which is quite expensive obviously there's a lot of different types and all that, growing up a bike was a bike really, so cost is one thing I think the other thing is probably is hassle where you gonna keep it" (Asif)

Farid talks about the perceptions of parents reluctant on buying kids helmets, as it was another expense. He talks about how when he was in primary school a cycling practice day was set up but however fell through, as parents did not buy helmets for their kids. Tariq discusses the fact that they the parents will not spend x amount of money on a bike knowing children will ride it for a couple of weeks and then the bike being stored away. He states in the discussion, as parents want to see a return in investment

"To wear helmets, it's not that we didn't want to wear helmets Asian parents weren't gonna cough up £20 for a helmet were they just for a one off thing so" (**Farid**)

"No that's how they see it they like to see they don't wanna spend £400 £500 on a brand spanking new bike knowing that it's gonna be used for two weeks and then its gonna stay in the shed or in the garden" (**Tariq**)

"And bikes are expensive as well you know" (**Mehfuza**)

Yara talks about the community not being able to afford a bike as she terms a 'proper' bike being in the region of close to a £1000. As a mother she also mentions about having to buy bikes for all four of her children even if it was an inexpensive bike.

"It's not just an Indian thing I think it's the area that we live in for a start I don't think they can afford bikes because they're expensive… you can pay up to £8-£900 for a bike for a proper bike if you went cycling…then if all the children wanted one then it's like £2-£300 times 3 and then there's storage problems where to put it" (**Yara**)

For ***Safwan*** who is an avid cyclist doesn't mind spending the money on an expensive bike

"…I mean I started off with £20 now thank god I've got two bikes I've got this one that's recently built that cost me about £1600" (**Safwan**)

Javed who used to cycle with his nephews but later stopped as his nephews got older and could not fit on the bikes they used to ride with claiming that the bigger bikes were expensive.

"They had their own bikes as well so grab them out the house take them out for a bit go on a bike ride with them and as they grew up that sort of died down they needed bigger bikes so couldn't afford bigger bikes" (**Javed**)

The participants who did not cycle saw buying a bike was an expensive item to commit to. As bikes have changed over the years, using different materials, styles and, weight, price tags for them have increased. As **Safwan** was in a cycling group he saw it fit to conform to what was needed for his bicycle journeys, something that felt natural, his *habitus.* Whereas other participants who are more reluctant on cycling and who mainly commuted by car adapted to their environment, claiming bicycles to be expensive, as they may not understand the necessities of what an individual may need on a bike like **Safwan** does. However, in some cases for some buying a bike is expensive solely for the fact that bikes or equipment could not be afforded, regarding this policy's to introduce bike share schemes in towns or places in low economic localities should be considered.

Materials, not only bikes, but everything connected to the practice of cycling such as infrastructure, and facilities accommodating towards the bike, along with the economic standing to afford a bike are identified to be some of the barriers within the Indian Community. Although these participants do not account for Indians around the UK, these material issues have been studied to be a barrier in general. Cycling is not only integrated by the infrastructure but also with expenses, and additional facilities that come with cycling, and although cycling infrastructure, facilities, and cheaper bikes and equipment may not guarantee a renaissance of cycling it will change experiences and expectations on the demand for cycling.

How Clothing can act as a barrier

Women wearing certain clothes to conform to religious and cultural society, whilst still trying to coincide with British society especially in tight knit Asian communities to avoid ridicule holds a significant meaning on the diaspora of Islamic and Indian cultures. As some women stated they would cycle in predominantly white areas shows how education on both Islamic teaching and the importance of being active is important if cycling within Indian Ethnic

minorities is to increase. As Dwyer (1999) found the patriarchal hierarchy use the notion of women's dress so that it is places as a marker of how vigilant or rebellious a women is in both the religious and ethnic sides of the community.

Hafsa, the only Hindu participant in this study who is in the UK for studies mentioned that people in her village in India do talk but that does not put her off from performing physical activities such as cycling, although she did mention that Muslim girls in the village do stop cycling after a certain age due to being uncomfortable whilst wearing the Burqa.

'Yeah status issues are there in my village I'm not criticising but I know my village is mainly Muslim people, they use to wear the burqa and I know all my friends are Muslims as I said when we were children we used to cycle in school as well it's their culture like after getting certain age like when they're teenager they have to wear the burqas so obviously they won't feel comfortable in having cycling in the burqas" **(Hafsa)**

Women such as *Bilquis* who migrated here when she was 13, did not attend school and went straight into employment learning English in night classes and with fellow employees where she worked, she then got married at 22 having a child at 23. She mentioned how the mentality was different through the generations and because she grew up in the UK from an early age she was more lenient towards her kids performing sporting activities.

"I'm the youngest of my family so my thinking is a lot different because I grew up here sort of like a I came here when I was about 12 13 so the way I grew up its different so my thinking is a lot different the children they can want to have the best of everything" **(Bilquis)**

The findings of people not cycling, jogging or preforming activities in the neighbourhood due to community gossip or the perception that the neighbourhood may talk is not new, Lawton et al. (2006) also found that participants in his study were reluctant to attend sessions, as people will gossip. However on aspects of physical activity it seems as though females are still

marginalised even though there are a few that take up physical activity, Farver, Bhadha, and Narang (2002) conducting a study on acculturation amongst Asian Indian adolescents concluded also that males were more likely to adapt with and integrate in society more so than their female counterpart, Indian males are granted more independence and are less supervised than females. Further although Indian culture plays a role in how Females act within spaces it is also possible that Modesty due to the Islamic belief plays a role. *Mehfuza* and *Yara,* talk about the difficulties in keeping fit whilst also abiding by religious regulations on appropriate clothing.

"You can't the way we'd be expected to cover ourselves is to wear a jubbah and a scarf" (Yara)

"…We get Asian men are not used to seeing Asian women like that so we get like abuse from cars guys shouting stuff we'll get other women in our community talking about us and we don't feel comfortable ourselves because being a Muslim you obviously have to cover and dress a certain way" (Mehfuza)

Mehfuza also talk about the leniency put towards men wearing shorts, as men also have to abide with certain regulations on what should be covered

"Islam men can't get away with wearing shorts they need to be covered more than that but there will be more leniency towards men in the culture it wouldn't frowned upon as much if a women was to wear cycling shorts" (Mehfuza)

Mehfuza then talks about the perception of how people use religion as a means to express their discomfort, or uneasiness towards women if she was to cycle, talking about the comfort of sportswear that is more comfortable on her whilst she's working out.

"...If I were to cycle I could cover up fully head to toe I could wear a head scarf and cycle but people would be like she's wearing tight clothing, it's not appropriate or she's unsure or whatever and people would try to use religion to talk about that person… and people do feel uncomfortable like some girls don't want to be dressed when working out me personally I know am a Muslim and I should be covered but if I was working out id wanna be in shorts so I know even though it's not a massive deal for me I wanna be in my shorts and be comfortable…" **(Mehfuza)**

Interestingly the women that do cycle or jog such as *Fatima* and *Sabiha* have said that when they out preforming their physical activity they wear the baggiest clothing in order that they cover up what men need to look at and that they feel comfortable in exercising in these clothing, even though tight sportswear is preferred and is sometimes worn by Fatima she will usually put a jacket round her waist

"I wear the baggiest clothes ever" **(Sabiha)**

"Do you feel comfortable wearing it?" **(Interviewer)**

"Yeah" **(Sabiha, Fatima")**

…It feels light on you when you running, less chance of chafing but like when I do wear the clothing sometimes I just wrap a jacket around my waist so when I'm wearing the leggings I'll have my running top, jacket and a jacket around my waits or something… well I don't wanna be perved on by guys whilst I'm running so to save me from getting cat called or feel uncomfortable whilst I'm running I cover the things guys men like to see simple as that" **(Sabiha)**

Rainah presented an interesting occasion that had happened to her whilst she was out running

"...There's a Mulsab (Islamic teacher) that lives across the road and he saw me a couple of times and he goes where have you been and I said oh I went running which shocked him and he goes oh don't you do enough at home that you have to do this...That made me feel shit...couple of days later I prayed my Salah and I went outside talking to somebody and I had my hijab on kind of thing and he was coming back from the mosque with this other bloke and he just went and I was so offended to what he said you look like a Muslim today"
(Rainah)

By description **Sabiha** and **Mehfuza** with the inclination that Asian men are shouting stuff or being cat called represents that men are the ones that judge and add to the discomfort of women partaking in physical activity. In comparison the female embodiment of what looks like a Muslim and what does not in **Rainah's** case goes back to the notion of community pressure on what is an ideal Muslim and what is not. The concept of hijab has several meanings but its profound use it to mean to cover up, modesty or to cover up is done as an act of faith and sacrifice to god not to show their religious identity (Benn, Dagkas, & Jawad, 2011). The notion of modesty, clothing and what to wear or cover is internal to one's belief and how it is interpreted, the expression of faith through covering up or not whilst exercising is between the individual and god and not the individual and the community, as participants have noted keeping healthy is part of Islam.

The issue of modesty also played a role in the beliefs of Muslim men but however with the responses given it clearly showed that it was easier for men to step away from the strict guidelines then it was for women. The male rulings for covering up for men is from the navel to just below the knees also known as *Satr* ensuring all parts are covered and not on display, however participants like **Sufiyan** stated that he would not wear the latex shorts in his local area for the fear of being judged by others however would not mind wearing the shorts in Manchester.

"...I'll feel uncomfortable, as I'm not covering my satr...with Asian and culture as well its

linked in with religion where you should always cover yourself so your

Belly button to your knees...I still got the same belief but the type of people I'll be seeing

there...Are a lot more westernised and they aren't Asian so I feel a lot more comfortable and

I can get away with it and I won't be judged..." (Sufiyan)

Sufiyan further does say that for his own comfort he would wear shorts of the lycra/spandex

so he does not show so much

"If I wore lycra then I'd always wear something baggy over it cuz id feel uncomfortable

myself even if I was in Manchester or even if I was with predominantly white area where it

was more acceptable because I wouldn't want to be showing too much..." (Sufiyan)

In some instances, wearing the lycra shorts if an individual chose to wear was not a problem.

In **Safwan's** case he notes that he does not wear the tight shorts however does not mind

people wearing it even though it may bother other members of his group, however he does

wear the tight tops for the sole purpose of aerodynamics whilst riding even though it is not

allowed due to Islamic beliefs

"Well yeah but the top doesn't really matter I know you're not supposed to wear tight tops

but the aerodynamics and you actually need quality tops... well some people wear it for me if

they wear it they wear it, it doesn't really bother me some of my mates it bothers them they're

more vocal about it but I'm not bothered" (Safwan)

The inclusion of one's faith when cycling or not is down to the individual, one may choose to

exclude themselves from the practice of cycling altogether due to reasons of modesty or

somehow make it work such as **Sufiyan** wearing shorts or **Safwan** only wearing the top. It

could also be argued that women and men may choose to exclude themselves in such activity

altogether, taking modesty to its extreme and be covered, however, from the responses given there is an apparent line on how both men and women interpret modesty, and how comfortable they feel given the environment.

Competencies

Competences are referred to the skill, knowledge and technique that is required to carry out a practice (Shove et al., 2012). For cycling this knowledge is anything from fitness, balancing and steering, and knowledge on traffic safety says Larsen (2016), indicating that some people may not have the necessary skill to navigate through certain environments whilst others might.

This section will discuss how participants themselves around town and cities whilst cycling, outlining the importance of safety and the lack of infrastructure. Some felt a surge of confidence when grouped with other cyclists whilst other more experienced cyclists held the power whilst cycling.

The ability to cycle

A common theme throughout the analysis was the aspect of safety of cycling or low confidence of, amongst the participants. Traffic and safety issues were common for both men and women relating to all aspects, from insufficient cycling infrastructure to motorists. The difficulty people faced when cycling or not cycling was apparent and attributed towards cycling on the roads both direct (infrastructure, motorists) and indirect (health and safety, cycling lessons, safety equipment) and how the participants managed these situations differently. The quotes below show the different aspects of what participants felt about road traffic safety whilst cycling or situations they had witnessed.

When **Farid** was asked if he cycled, he replied he did and was comfortable cycling in London going to the gym or to see his mates however almost immediately stopped when coming to Bolton, he says:

"A lot of cars that get extremely close to cyclists there's not a designated cycle lane so you feel kind of uncomfortable cycling on the roads you can't really cycle on the pavements either because well there's pedestrians" (**Farid**)

When asked about the cycle lanes he replied with:

"There's not enough of them they're only on the main roads but you're not always on the main roads so it's not really sufficient" (**Farid**)

For someone like **Farid** to cycle briefly in the busy London streets to stopping completely because of the dangers of the road in Bolton due to a lack of infrastructure is no surprise that it affected his decision in a more direct way resulting in a behaviour change. One female participant mentioned:

"My issue, I am conscience I don't know how to ride a bike on the road and I might be doing it wrong and a car might hit me I've ridden one in London and it was the most terrifying experience ever but when I went into the park it was fun" (**Mehfuza**)

Mehfuza describes the sudden change in behaviour or mood from something terrifying as she was not experienced enough for the road to something more enjoyable when any form of hazard was absent. Part of the experience of cycling is what it means to the rider and what kind of experiences will be gained from the ride. **Mehfuza** experienced two different realities of cycling firstly, being on busy streets and secondly, in quieter traffic free routes such as the park, feeling safer with the latter. This kind of behaviour was similar to other participants who

were less frequent cyclists or not cyclists at all. *Javed* mentioned three different statements whilst talking about the effects of cycling and the different experiences he had

 "They'll bully you, they'll push you to the kerb" **(Javed)**

"...like I said there's no cycle lanes so it was ducking and diving from the road to the pavement which isn't good almost bumping in to people walking and then cars they don't like it... although when you get to... you see a lot of cyclists..." **(Javed)**

"...better you feel more at ease..." **(Javed)**

Javed who has cycled a lot when he was younger mentioned these points whilst he was cycled. The notion of being bullied or someone dodging traffic whilst cycling on the road but however felt more comfortable when he was away from traffic and more at place in an environment where the number of cyclists increased. A planned performance of an activity such as cycling is not just an activity that comes to fruition when one decides to take part and as Guell et al. (2012) for cycling to be a social practice the scope has to broaden outside of attitudes, social norms and personal intentions.

However, on the opposite end of the scale a female participant *Sabiha* when asked if she was afraid on any traffic dangers replied with

"No I'm a G bro" **(Sabiha)**

"A G" referring to a Gangster someone with a bit of authority or power. A status of power not with something she physically holds, nor a status or reputation she has gained for unbeknown reasons however a power she has increased upon through her perseverance and habitual riding on the road as she gained more confidence.

In the same way *Sufiyan* an avid cyclist who has stopped cycling for around 6 months due to studies announced that

*"No I've given grief to the drivers once" (**Sufiyan**)*

Sufiyan is shown to have exerted his power to another driver as he was in a situation where the driver nearly ran him over. Power is not to be regarded just for the elite or dominant class, in this instance the dominant is the motor vehicle, the properties of authority associated with power comes from the movements, strategies, practices and performances, in short Foucault theorised power neither institution or structure but as a strategically situation with an array of interactions, and that where there is power there is resistance (Smart, 2004).

Although *Sufiyan* had mentioned that there are a few dangers cycling on the roads in Bolton mentioning that

*"Certain areas it could be bad, so I was in a bus lane I was with a couple of people cycling… and we got someone pulling out on you…you've had to break really hard and he nearly hit me, they apologised but it's still a danger so you have to be careful on what you're doing" (**Sufiyan**)*

Sufiyan further mentioning that

*"That's why there's no cyclists" (**Sufiyan**)*

For an avid cyclist to notice the problems of cycling infrastructure and to still be involved in traffic incidents no matter his experience shows that there are serious

Concerns in the way policies for cycling are in towns. Many of the decisions made to travel were based on the context of work, local infrastructures, and everyday life. Aspects such as these give the context of society and how each decision is based through different structures

and how individuals will travel. If one was to choose to travel by bike for either leisure or commute his/her actions will be determined by the structures around them and how these structures will affect the agency on what route to take when faced with either danger or interactions with other traffic and road users. This is shown by *Hussain* who mentions that he would cycle away from traffic as he is aware of the hazardous situations main roads can cause and points out to the fact that cycling or cyclists up north are not that common

"See I think cycling socially you'd wanna be taken away from the main routes because of traffic in general because I think if you're not an avid cycler or you're not cycling to a certain destination for a certain purpose you don't really wanna be going down the main roads because they kind of can become quite hazardous especially up north because we're not used to our cyclists" *(Hussain)*

The practice of cycling as a feasible mode of transport is not in-built within humans to naturally take up and preform, the users of the bicycle must feel at one with the bike, to the road, and to the surroundings, so that they could ride safely and efficiently. As Jones (2012) writes "not everyone wants to travel at speed balancing a thin metal frame…" the act of traveling at speed whilst on coming heavier vehicles are driving past could give any newbie the discouragement in taking up cycling. Cyclists adopt and manage their own limitations when on the road and it is up the cyclists what they can master and this is partly the reason why many do not take up cycling. Bourdieu and Nice (1977) write equitable experiences begin early in life and these structures of different characteristics that determine the conditions of said experiences is often facilitated by family relations accustomed to them, and it is these relations that build upon the habitus which the become the basis of awareness and appreciation of all consequential experiences.

Having the knowledge to cycle around town and city streets along with traffic means having a level of awareness when out cycling. The competences of cycling means taking charge of the

bike and the ability to manoeuvre around traffic, pedestrians whilst at the same time being safe. Participants mentioned how cars bully them off the road, the hazards involved whilst cycling on the streets and the ability to feel powerful or powerless depending on the experience of cycling. Tackling competence involved within cycling practices, that is the knowledge or the ability to cycle both on and off busy roads and junctions can help resolve some of the issues outlined by the Indian participants. This is not to say local councils do not offer cycling lessons to whoever needs it but these programmes or classes need to be available and heavily advertised for those who are thinking of cycling.

Chapter Summary

Splitting the results into the three elements of meanings, materials, and competences has helped breakdown the core issues related to cycling. From analyzing the interviews, the participants have helped provide a representation of how they see cycling. From the analyses themes of, cycling as a childish activity, participants as cyclists, conforming males and females in culture and society, domestic responsibilities, effects of intergenerational relationships, facilities, cost of cycling, and the ability to cycle were found to be issues in the uptake of cycling. This analysis has helped shed a light on some of the barriers related to cycling helping to answer the research objectives outlined in chapter 1. As the themes of safety, facilities and cost of cycling as well as the ability to cycle have been discussed in other literature (Buehler, Pucher, Gerike, & Götschi, 2016; Handy et al., 2013; Pucher et al., 2010), the discussion will mainly focus on the meanings attributed to cycling.

Within the analyses several themes were found to be of prominence when considering cycling, and this was the role of Islam, culture and domestic relations within the household. These themes played an attributing factor on why cycling was low, especially amongst the female participants. Displaying how some teachings of Islam is misconstrued and mixed into culture causing a barrier for females to cycle. For males it was more of a domestic

responsibility to be educated rather spend time in leisurely activity thus withdrawing themselves away from the practice of cycling and into other modes of transport such as the car to fit in the class structure of society.

The research has provided an opening of how culture and religion can affect the practice of cycling, how cycling is viewed, and some of the barriers involved that may be unrecognized is cycling literature. The participants have provided their perceptions of cycling, cultural, and religious practices along with the competences (ability to cycle) and materials (Facilities and the cost of cycling) in providing a version of how Indians in the North West feel about cycling.

Chapter 6 Discussion

Outline of chapter

Chapter 5 presented the findings from the interview analysis. This chapter will discuss those findings that were outlined by the Muslim Indians living in the North West of UK. The themes discovered through analyses and placed under the three elements Meanings, Materials, and Competences were cycling as a childish activity, participants as cyclists, conforming males and females in culture and society, domestic responsibilities, effects of intergenerational relationships, facilities, cost of cycling, and the ability to cycle.

These themes will formulate the discussion of some of the more unrecognised barriers to cycling practices within the Muslim Indian minority and how it adds to the understanding of cycling within the UK. The chapter is formulated to answer the research objectives:

- To evaluate the factors and barriers towards the different cycling behaviours of Indian ethnic groups
- To identify the materials, competences, and meanings associated with cycling in Indian ethnic groups focusing on using practice theory to conceptualise factors to determine which elements explain attitudes and barriers to cycling
- To develop a set of recommendations in overcoming barriers found within the Indian ethnic minority

Using the three elements analytical framework demonstrates that Practice theory helps understand cycling not just from a user, barrier and motivation perspective but ensures a deeper understanding of why certain practices such as cycling is less favourable within the Muslim Indian minority.

As mentioned in Chapter 3 of the systematic review the involvement in sport not just cycling from South Asian minorities including, Indian, Bangladeshi and Pakistani are low. The statistics from DfT (2018) have shown that Asians cycle the least on bike at 7%. Further reports and studies from (Bowles & Green, 2008; Steinbach et al., 2011) have outlined a need to study the barriers involved in cycling amongst ethnic minorities.

Using practice theory as an analytical framework using the three elements *meanings, materials* and *competencies* helps explore the different behaviours involved for one to take up such practices like cycling and especially from a Muslim cultural standpoint why cycling is not an option for some individuals. As found in the results, safety, lack of facilities and infrastructure is a common barrier not only for Indian minorities to cycle, but also for the wider population. Authors like Pucher and Buehler (2007) have noted that separate facilities is not the only solution for the increase in cyclists but rather cities of German, Dutch and Danish have policies that are strengthen and improve the attractiveness, safety and convince of cycling with measures of bike parking, integrated public transport systems, and educational training. Further Pucher et al. (2010) who has stated that culture, custom and habit play a role in cycling practices. The participants have outlined these customs, from what cycling was to how cycling is, relationships in the home and community and how religious rulings of modesty and cultural practices have meant that Indian minorities are reluctant to cycle or will find other means of transport and physical activities.

Participants talked about what it meant to be a cyclist or cycling, drawing from experiences to when they were younger, the importance of religion and how it affected certain decisions especially for women and how culture and status issues reflected on sporting practices. Playing with friends cycling was or all the participants, a recreational practice that all the kids did within the communities whilst parents were working or looking after younger siblings, however as the participants grew older, matured and stepped outside the community barriers

the bicycle was abandoned. As Underwood et al. (2014) also found in their study, youths found bicycles as fun toys up until high school, thereafter cars became the image of being fun and cool. However, for women that did not cycling was stigmatised, not just cycling but other physical activities where the body is displayed. Although however, some female participants were involved in cycling and running practices displaying a form of rebellion or the mere fact that these participants did not care what the community thought of their actions as in their minds they were practicing Islam by and at the same time keeping fit.

The practice of cycling amongst Muslim Indians

The behaviours of individuals in society are expressions of social experiences, from cultural agreements, common understanding, learned competences and the access of resources (Spurling et al., 2013). The author's further state that practices are noticeable whether an individual will perform a practice or not, however practices can be disguised as two distinctions, practice as entity and practice as performance. An example given by Spurling et al. (2013) is that practice as an entity is experienced through the course of past history such as cycling being popular in early 19'40's Britain to the present. The correlation of sporting, health and sustainability, equipment and the different types of bikes available, these entities are socially shared meanings and understanding of cycling and what knowledge, skills, materials and infrastructure is needed to perform the practice. Similarly shown in the results, participants who were not frequent cyclists were afraid of cycling on the road due to fears of safety and were reluctant to commute to work due to time and work facility constraints.

Whereas practice as performance is the recognisable actions performed by individuals, this is often the behaviour individuals will hold whilst enacting a practice, meaning that although practices are made through individual choice actions are preformed through the context of social environments, and understanding these actions both the performance and entity have to be studied together (Spurling et al., 2013). However, this is not to say the Indian ethnic

minority, or the Muslim ethnic minority did not cycle, as seen by some of the participants *Sabiha, Sabir, Safwan and Sufiyan,* cycling was embedded in their daily routines. Although for some, work, home, educational, and weather constraints played a role, cycling was still deemed appropriate no matter what the community or societal norms thought of the practice. Both men and women also talked about their busy lives in attending work and having the lack of time to consider cycling, some noted that their kids were attending mosque after school Monday to Friday, so cycling was not an option, and weekends were used for homework and family gathering.

Using practice theory as a framework it helped analyse cycling away from a single practice towards a broader practice identifying the meanings behind cycling, materials needed for cycling, and competences involved in cycling conveying how different attitudes on culture, religion and household structures are organised and how this can affect cycling. Social, household and community pressure play a role in the decision to start cycling, jogging or any other activities that may be deemed inappropriate within the community. Using *Mehfuza*, *Yara* and *Rainah* as case in point to them going out preforming activities within the Indian community was frowned upon and resulted in them stopping cycling. As for *Rainah* although she took up jogging at a later age, she still got commented on how she dressed and what was deemed *'Muslim'* or not. Cultural capital is conveyed through family and education and is the principal cause of status and positioning's within a field (Walther, 2014a).

These educational positioning within the community although culturally embedded through generations of routinized behaviour may stem from religious teachings taken out of context and withholding females to perform certain activities that would disrupt their modesty, hence why within these cultural fields men are more free to do what they can whilst women from the first and second generation have conformed to preforming menial tasks. Culture shapes the value, belief and attitudes, which in turn determines behaviour and life choices, the culture

each individual is living in is a means of understanding the world and is instilled with cultural importance through which practices are both conveyed and altered to fit certain cultural or religious lifestyles (Benn et al., 2011). British Muslims are largely from the post 1960's economic labour migration from several South Asian countries, and whilst in Britain they attempt to find a way to not lose their cultural heritage as well as religious practices within British society, to find a sense of belonging in British culture however ensuring to maintain Islamic practices such as the requirements of modest dress and behaviour whilst also challenging systems that may hinder their struggle for respect (Dagkas & Benn, 2006).

Social, cultural, and religious pressures clearly show that they play a role in cycling behaviours. Whether this pressure is from individuals, social circles or the wider community has an impact on the individual's agency, power and habitus, instinctively affecting individual structure and how they mould into society and what individuals deem fit for travel or physical activity purposes. What it means to cycle or the meanings of mobility and to move through spaces is also important. The participants in the study made mention of various aspects of meanings of the bicycle and these themes are important if policies on cycling are to change. To increase cycling within the Indian Muslim population in Britain is to implement multiple interventions adhering to Islamic dress codes, gendered cycling groups and training and supporting or introducing more educational programmes within these groups to promote sustainable behaviour.

Meanings associated with transport can vary depending on the individual, however a common thread the participants mentioned were religious and cultural upbringings that conflicted with the practice of cycling. The next section will discuss why the meanings are important and how it could help change transport policies.

The Meanings of cycling amongst Muslims

Whilst it is evident that physical activity and the importance of keeping fit and healthy is important for the participants of this study it is clear however cycling is least practiced. The present study exemplified those Muslim female participants that did not partake in cycling had reasons that was connoted to religious beliefs on modesty and mixed sex activities, although there are some specific gender constraints imposed by religious text in the Quran it does not mean these are the specific barriers to why Muslim Indian females or males do not cycle. Some females like _Fatima_ and _Rainah_ ran rather than cycle for health purposes or for the sole purpose of the enjoyment they got out of running. _Rainah_ did mention that she would cycle if there were some cycling lessons available and a group to cycle with. This was apparent with other participants within the study both males and females who mentioned that cycling within groups or friends would be more appealing than cycling on their own with one participant _Hussain_ mentioning that if cycling was competitive it would be more appealing, which was also found by (Bowles & Green, 2008). Bowles and Green (2008) concluded that the women would enjoy group cycling but it would be an infrequent activity, whereas for the younger males a competition or cycling event should be set up, with a focus group in the report stating that a mountain bike competition should be set up with the bikes already provided. Males in the study who did not cycle took part in other activities such as football or attended the gym, as it was something, they were comfortable with and could socialize in a confined space. Complementing these findings, a study by Johnson (2000) found that physical activity would be popular if it was found to be fun and enjoyable, and something that was communal within the community for them to take part in.

A news article by Chertok (2016) outlined five reasons why exercising with friends was better than exercising alone. The article pointed out that group exercise provides accountability and social support, increased motivations, connected to the act of exercising thus enjoying it more,

happier and the ability to push further. Similarly Lytle et al. (2009) although a study of adolescent girls found that social support and peer influence and can help in adolescent girls taking part in out of school activities. The results from the two studies mentioned and the findings from the current study acknowledges that preforming cycling within groups would be helpful both in boosting cycling within Indian communities and boosting mental and physical health overall. Although some participants talk about running and football and not cycling, however as all three are physical activity practices the discussion of group activity is still relevant when strategies are implemented. Policies focusing on group events, competitions, or group social rides could help increase cycling with Indian ethnic neighborhoods rather than targeting individual behaviors such as building cycling lanes and storage in the hopes of it increasing cycling.

Aldred and Jungnickel (2012) found that riders in groups can explore places without the fear of ever getting lost, whilst at the same time the supplementary benefit of discovering and heightened sense of meaning of sociability. Cyclists can adjust the pace enabling to engage in conversation moving with the rhythm of the road. In another study by Beecham and Wood (2014) group cycling, especially for women helped to introduce people to London cycling hire, with close and immediate friendships motivate the usage of cycling hire. Group cycling can enable and instil the joys that were felt when participants were younger and also experience the thrill of riding, racing and the competitiveness of cycling in speed, something Cox (2015) had found, cycling in groups is a shared experience for both children and adults (McIlvenny, 2013).

The participants within this study choosing not to cycle were influenced by the structures of society, culture, religion and gender roles of how to act, what to feel, which give rise of certain characteristics on what commuting patterns people chose. The participants in this study did not see cycling as an activity for the everyday but for purposes of leisure. There

were those however were willing to cycle if they see a friend, partner or another person within their visibility to A cycle or B feel safe and comfortable whilst riding a bike, social influences along with infrastructure and work facility measures intertwined would help increase cycling within the Indian ethnic minority communities. Along with these interventions, cycle clubs, programmes that adhere to Muslims with same sex clubs and normalising cycling without having to conform to lycra/sporting bicycle cultures. This is a physiological barrier that needs to be addressed in normalising cycling within the Indian ethnic community and the wider population particularly for non-cyclists where cycling is not an option. The findings within this study also suggests that cycling is a stop and start activity for some participants therefore it is important to address these issues as to why this is the case. This would help sustain bicycle lifestyles as well as promoting cycling to their social circles. A person who is cycling continuously has the potential in promoting cycling at more advanced rate thus increasing cycling within communities making cycling as a normalised practice for all Sherwin, Chatterjee, and Jain (2014). Interventions suggested by Pucher et al. (2010) who reviewed 139 studies have had positive impacts in the increase of cycling, some interventions including, bicycle lanes, cycle tracks, lane markings, shorter cycling routes bike parking and car free zones to name a few have had a positive impact. These interventions may help those part time cyclist found within this study or ones that are afraid of traffic, thus normalising the practice as an everyday activity. Further bicycling cultures, customs and habits help in the promotion in cycling, as Gatersleben and Appleton (2007) state non cyclists who are surrounded by cyclists will contemplate in implementing cycling within their daily routine. Cycling within a community can also help increase safety issues, the safety in numbers argument found that bicycling safety is greater in countries and cities with higher levels of cycling (Pucher et al., 2010). If cycling is to increase it is necessary to make various changes to the infrastructure, social change such as work hours and change to individual behavior and

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attitudes towards cycling as well as transport planners and key stake holders to take cycling seriously (Gatersleben & Appleton, 2007).

More importantly the most common theme that emerged from the participants was bicycle companionship, the aspect of comradery and as one participant said the aspect of peer pressure witnessing the nearest and dearest cycling then he would cycle. Drawing from Bourdieu (1990b) the *habitus* at any moment can structure new experiences in accordance to past experience, any earlier experience will define whether a new experience is to be pursued as the *habitus* tends to warrant its own dependability defending the *habitus* against any change within new information, protecting itself from crisis and critical challenges by persuading itself with an atmosphere to which it is adapted to. Thus, participants in this study were reluctant to change travel modes as the routine behaviours and the adaptive car culture was more prevalent and ordinary than commuting or performing leisurely activities by bike. Attitudes, social norms and habits influence a person's decision to cycle, if there is a tendency of a positive culture towards cycling then the probability a participant would cycle would be high writes Heinen, van Wee, and Maat (2010), however as (Heinen et al., 2010; Holttinen, 2010) note that commuting behaviours or changing behaviours in general will be that an individual will look at all the evaluated outcomes, since value is equated to practice, cycling will be looked with a sense of value worth the time and effort involved.

Policies and strategies should also target the meanings of cycling as the image or perception of cycling differed for each participant, which meant cycling was not just a practice to commute from A to B but a complex system that had numerous meanings. It was evident that appearance and self-representation of how an individual displayed himself in the in the workplace was key as to why cycling was not an option. This was the case for even when facilities were available in the workplaces to accompany those that cycled to work. In countries where cycling is higher the self-representations of cyclists is least important writes

Pucher and Buehler (2008), as both men and women are likely to cycle in normal attire cycling at a comfortable pace. This form of cycling is more adjusted to that of walking rather than a sprint where excessive perspiration may occur meaning that showering, hair and makeup is not needed and unnecessary. In the efforts to increase cycling amongst Indian minorities and the wider population, cycling should be accustomed more to a casual practice rather than a practice that is perceived as a sporting practice, in this way it would alleviate the pressures of buying custom cycling apparel, and less time on appearance and grooming.

For some although the facilities were there, they were inadequate so not used, as both males and females who mentioned that at work it was better to look professional and presentable. Having access to work facilities has been shown to increase the chances of employees cycling, from storage, changing facilities and public transport stops that are located near workplaces (Heinen, Maat, & van Wee, 2013). Contradicting this is Stinson and Bhat (2004) suggested that the presence of showering facilities and clothing lockers did not increase bicycle commute by cyclists, as the commuter cyclists were not uncomfortable sweating, and were comfortable in getting changed in restrooms. However in the study by Stinson and Bhat (2004) showering facilities did not make a difference to those who already cycled making no mention whether it would change or increase perceptions for those who do not cycle. Regarding this study employees need to do more in increasing cycling by providing adequate travel time for those cycling a longer distance with the addition of incentives for commuting by bike. As participants in this study had access to facilities that could help promote cycling such as storage and showering and changing facilities cycling was not practiced.

To support policy change in increasing sustainable travel in the UK a greater understanding is needed on the different meanings cycling holds, not that cycling can be used as certain activities but what cycling can mean to a person cycling or an observer of a cyclist. Cox (2005) argues that policies on cycling and cyclists have failed to regard the importance of

social constructivism, knowledge that is gained through interactions with others on a social scale, and instead have focussed on abstract ideas as solutions that have no context or meaning to the social environment. It was not that participants did not or had not cycled but as time went on the bike did not hold the same meaning as it once did when participants were younger, for some of the males and females barriers towards cycling or the perception held two totally different ideas, where for women after maturity it was seemed to be frowned upon and for men a lifestyle they grew out of. Female participants did not want to be seen cycling as it would cause unease or unrest within the community, something that was frowned upon however the issues did not seem to be apparent to all females as some still went out cycling whilst still adhering to Islamic dress codes. For males' certain locations where it was not feasible and paying less importance to the practice due to a dominated car culture were some of the things also talked about. For both males and females cycling held an unsafe method choice of travel on the roads for those who cycled less often or not all.

Understanding the meaning of what cycling meant to participants is helpful if policies are going to concentrate more on the social structures and less time on infrastructure. Cox (2005) writes understanding the difference aspects of cycling, from leisurely to sporting to commuting and bringing these groups together to discuss ways in which cycling could be improved for the many rather than the few. Regarding this cycling should be understood as a socially constructed practice, involving different meanings with the differing forms cycling could be used for, not just sport, leisure or commuting but a practice to be healthy and active, and form of enjoyment a tool to escape reality. Cycling cultures should involve all its different users to change cycling stigmas and increase cycling. This study drew upon the different cyclists that are present, from casual and one-off cyclists who stay away from busy streets, to cyclists who feel more comfortable in groups, to the more experienced cyclist who are comfortable in cycling in whatever terrain. Strategies that harness the influences and

variances of what it means for such groups to cycle then UK could see a much better cycling society, especially within the Indian ethnic minority.

Islamic Barriers

The study identified cultural and religious norms that deterred some participants from cycling. These norms were particularly more prevalent amongst the women rather than the men, which included as mentioned before dress codes, restrictions on movement after marriage and cultural respect and honour from within the community being destroyed. Breaking the rules so to say that the outside community condemn the actions taken on by women. Individuals found that meeting expectations of cycling was difficult as traditions and gender roles held them back. The identity of the women recognised in the study were dictated by cultural norms and family obligations, such as house chores, school runs for those with younger kids and looking after the day to day of the household had fallen onto the duties of a women whilst the men were either out earning or doing nothing in terms of house chores.

The scarcity of any references towards household chores in male participants was different to the accounts of Muslim women. The accounts of the Indian Muslim women showed that they had to act according to cultural customs of reproducing parental cultures which was enforced through honour and respect. As Hopkins (2006) notes the lack of interest in men conforming to household chores and cultural practices that are more feminised allows men to imitate a more hegemonic masculinity which encourages men to avoid work and routine behaviour that they see as being feminised. However as mentioned in (section conforming males) women doing the house chores did not directly mean that it was the reason why women did not cycle, as women like *Rainah*, *Sabiha*, and *Fatima* all had time to preform physical activities, but it does shed some light into the perceived barriers for women.

Parents, friends, genders and different cultural and religious practices create the possibilities and challenges of cycling for Muslims in the UK. *Rainah* who was judged on what she wore by a neighbour in her area to what deemed to be Muslim or not, or the fact that *yara* would rebel against her husband if certain ailments forced her to start an active lifestyle or the fact that once women reached a certain age it was no longer appropriate to mix with the opposite gender are some of the reasons why practices such as cycling is scares amongst Indian ethnic women. For men it is easy to distinguish that community and religious backlash was a lot less lenient, although they still had to conform to modesty codes such as covering the *satr (covered from navel to knees)* it was less likely that they would ruin the respect of their family or community if they wore tight lycra shorts or body tops, or were to go out cycling within the community. Excerpts below show passages taken from the Quran that talks about both men and women and the importance of modesty

"Tell the believing men that they must lower their gazes and guard their private parts; it is more decent for them" (Quran, 24:30)

"And tell the believing women that they must lower their gazes and guard their private parts and must not expose their adornments except that which appears thereof" (Quran, 24:31)

Although there are further teachings through hadiths (sayings of the prophet Muhammad) the quotes give a general guideline not just on modesty, but the importance of visual contact for both men and women and the importance of gender restrictions. However Islam is not the only Abrahamic religion that teaches the importance of modesty, Judaism and Christianity have had similar findings towards modesty, found in Hasidic Jews and certain denominations of Christianity which also require certain limits on leisure Stodolska and Livengood (2006). Further McLane, Lox, Butki, and Stern (2003) found that modest exercising apparel was important for Christian participants to take up fitness classes.

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Within Islam the prophet Muhammad advocated physical activities expressing the importance of health and fitness for men and women through the Hadiths, which promote swimming, horseback riding, archery, and running (Pfister, 2010; Sunnah.com, 2018). For policies that want to increase cycling, especially in Muslim minorities, strategies need to be placed that help these groups conform to both religious and health conscious practices. The promotion of gendered cycling groups to avoid contact with the opposite sex, advertise on, and work with fashion retailers in creating modest cycle wear that is also tactile and comfortable much like the Nike hijab. Government and local councils should hold discussions of what is needed in Indian communities, work with local mosques, scholars and Imams in promoting a better cycling environment.

There are multiple interpretations of modesty that is presented within Islamic society. Women have reflected how the interpretations can be reflected on how one feels about doing any form of physical activity. Given women the ability to be mobile whilst transferring the multiple interpretations as they deem fit. For instance, *Sabiha* stated she wore loose garments whilst she cycled and that after taking care of her kids and other house duties she would still go out to cycle thus finding apparel that is suited to both modesty and comfort.

It is important to note however that this is the one case out of the many females interviewed, as other participants *Rainah, Sabiha* and *Fatima* all had husbands who 'allowed them' to take up physically active lifestyles. In some instances, *safwan* had tried to teach his wife to cycle but stopped, as she could not get the hang of it. From the analyses it is not evidently true to say that due to religious belief cycling is not practiced amongst Muslims however it may hinder people to take up cycling depending how conservative one's belief is, or how strict the male dominance is in the household. The females in this study that do cycle or take part in physical activity demonstrate opportunities in creating spaces for practices that allows them to be active and at the same time personify their religion.

The act of modesty and being celibate is a divine aspect of an individual's belonging personality and character, taking references and adhering to the rulings from the Quran is essential for both sex to maintain modesty and refrain when possible mixed gender relations for both sexes, however there is a particular emphasis on females and the importance of modesty and gender roles (Siraj, 2011). Although modesty in Islam finds some justification in the Quran and is the inspiration for both men and women to be pious and subservient these practices do not only come from religious text but can also be linked with cultural codes of honour, family and cultural values that motivates and pressurises women on what and what not to do (Siraj, 2011). Thus, as religious customs and values were held strongly by the participants it did not stop some female women to take up some sort of physical activity.

What does Islam say?

Along with the verses above about modesty the Quran also talks about roles of women on regards to covering and gender roles.

'O prophet, tell your wives and your daughters and the women of the believers that they should draw down their shawls over them. That will make it more likely that they are recognised hence not teased' (Quran, 33:59)

The tafsir (exegesis) of the above verse shows that some women in medina used to be teased by women. The verse ordered women to wear the hijab by drawing their shawls over their faces, so that they might be recognised as noble and honest women and that hypocrites may not abuse them (Explorer, 2005)

'men are caretakers of women, since Allah has made some of them excel the others, and because of the wealth they have spent, so the righteous women are obedient, (and) guard (the property and honour of their husbands) in their absence' (Quran, 4:34)

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The Arabic the word qawam means for a person who is responsible for the right conduct, safeguard, and maintenance of the affairs of an individual and institution or an organisation. Thus, then is governor, director, protector and manager of the affairs of women. Men are superior to women in such sense that they have been endowed with certain natural qualities and powers that have not been given to women of have been given less degree, and not in a sense that they are above them in honour and excellence. Man has been made governor because of his natural qualities and women have been made his dependant for her own safety and protection because of her natural drawbacks (Explorer, 2005)

According to some Muslim feminists such as Asma Barlas, and Fatima Mernisssi state that these verses were revealed at a time when the Islamic world was in turmoil and should not be held as guidelines for modern day society. Anyone reading must understand the uncertain and vulnerable time Muslims were facing, most importantly the hypocrites targeting the prophets female family members (Aslan, 2013). Asma Barlas has argued that the command given in verse 33:59 for all women to cover their body was an instruction given to the social norms prevalent at the time of the prophet in order for protection, suggesting the same instruction would serve no purpose in today's society (Aslan, 2013).

As Barlas (2006) writes, the readers throughout history have read the Quran in a patriarchal concept, from a father rule to a sexual differentiation that gives precedent to male privileges however such Quranic readings have to abide by who is reading it and in what context. The problem is not in the initial text of the Quran but how the text is interpreted from the knowledge gathered and produced. Similarly Wadud (1996) states that after the death of the prophet Muhammad Islam and the way it had been practiced since favoured men and has been objective to women, the value attributed to women, their role and place in society is relegated and differed to the role and status given to men, further stating that the responsibility to

maintain and distribute justice intended by the teachings of the prophet has fallen like most social groups to men who have not acted upon gender justice.

However Khattab (2010) writes regarding 4:34 the word qawam or qawwamoon has been translated into various forms, being imam, judge, prophet may suggest man is superior however through the teachings and texts from the Quran this is not true as the Quran states nobody can be superior to another apart from the form of taqwa (conscious and cognizant of Allah). She also goes to state that scholars have differentiated the roles by suggesting that as a women's role is motherhood the male role is then to be the provider in order to free the burden of having to earn a living so that she the women can devote her time energy and intellect in raising healthy intellectual Muslim offspring (Khattab, 2010).

Theoretically, in the early stages of Islam and Muslim society the notion of equality of men and women would have thought to have been easy, however considering the conditions before Islam where women were treated harshly, where men would be ashamed of having fathered a daughter and in some instances where they buried their daughters alive, given the long established customs and attitudes of pre Islamic Arabia the necessary rulings towards equality were sent down in stages (Al-alwani, 2005). Views of a woman's moral burden is a unambiguous contrast to the Quran, the command to lower ones gaze and guard ones modesty is given to men first, men are also supposed to behave and dress modestly and the command for them to do so was first for men than women (Khattab, 2010). The life of sexes in Medina during the times of the prophet were much more relaxed, whilst regarding Islamic bounds than the cultural norms that prevailed thereafter and free to attend the mosque, battles and speak to the prophet all within certain constraints (Khattab, 2010).

Regarding this, the cultural attitudes towards women taking part in activities such as cycling need to take heed to the teachings of the prophet and the verses of the Quran, further Muslim women need to unshackle themselves from the burden of spatial and visible discord outside

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their homes writes Davids (2014). Muslim women themselves use the excuse of moral dress codes, modesty, and house roles as a symbol for them to be social and physically inactive. By linking the views on modesty to home roles and staying silent on the fact Muslim women have renounced their rights of a voice says (Davids, 2014). Women who may hold modesty as a literal view would then see cycling, and cycle clothing such as, lycra or any other apparel where the body is on display as act of defiance. The rulings of modesty and mixed gender relation are also ruled for men, yet women are less likely to be physically active than men on the pretext of religion. As feminist critique suggests these verses were revealed at a time of unrest against women, and that wearing clothing that are revealing whilst cycling in today's society is perfectly acceptable as laws govern any misconduct of harassment.

Although it is evident through the teaching of Quran and hadiths modesty is both important for men and women it was apparent that there was less ridicule aimed at men. The males talked about the various forms of activity they participated in without any discussion on how the community may judge them. A few males pointed out that there was a greater emphasis on education rather than sport, whilst both males and females emphasised that intergenerational relationships were not common as some participants stated whilst growing up they were left alone playing whilst fathers worked and mothers looked after the house and younger siblings.

Further still, attitudes of ethnic minority parents towards their children attending or participating in sporting activities has been raised as one of the key reasons why sporting is low within ethnic minorities (Best, Lowden, & Macleod., 2001; McGuire & Collins, 1998). McGuire and Collins (1998) have also noted that parents do not recognise the value sporting activities can have on children and that emphasis on having a strong academic achievement was priority. These attitudes were evident on children with first and some second-generation parents, however for some participants such as *sufiyan* who was of mixed-race identity*,*

Faheem who was third generation, and the kids of *Hussain* participated in after school sport clubs suggesting that those parents who were born in the UK, who had an educated background were more incline in pushing their kids in sporting activities.

Accounts like these show that the involvement of more physical activities is changing throughout generations, as McGuire and Collins (1998) also suggest from their study that ethnic minority boys found greater parental influence have the most influence whether kids will participate in sporting activities, finding that importance for their sons was to achieve academic excellence in order to obtain good jobs later on in life and sporting activities held no academic credibility. This notion that men must achieve academic excellence may derive from the teachings from the Quran that state men should provide for their family, this is not to say all men within this study did not cycle or preform any sort of physical activity however cycling was still uncommon.

There is a multifaceted relationship between modesty, the different interpretations of Quran's verses, and cycling practices that is reflected amongst the findings. How one interprets the verse, may be different to what family and wider community members understand, mixing these verses with cultural practices creates difficultly for women and sometimes men to experience cycling. Although there is a need for further research on the hijab or modesty discourse and cycling, these findings suggest that whether one is to follow and practice Islam with certainty or adhere to the teachings according to today's society cycling can still be practiced. Further still the findings indicate that families of Indian ethnicity have cultural practices that has no correlation to religion. Practices such domestic responsibilities or relationship with parent and child are reason why cycling is low. Researching these barriers and then creating campaigns that tackle these barriers will help these cultural practices, whilst at the same time education Indian Muslims in the importance of active lifestyles and the benefits it holds. Research from Snape and Binks (2008) has also suggested that in order to

increase physical activity amongst South Asian Minorities, strategies that tackle personal

health is much more successful than one that is constructed around sport and competition.

Chapter 7 Conclusion

This thesis has shown how using practice theory as an analytical framework can help in realising the potential strengths and barriers in promoting cycling as an everyday activity amongst Indian ethnic minorities living in the UK. The three elements of meanings, materials and competences gave an abstract view of the potential problems embedded within the Indian ethnic minorities and thus removing the individual from investigation and instead focused on the practice of cycling. On viewing the practice of cycling through the three elements allowed for a broader investigation on the different cultural cues, religion, family structure and the meanings behind being actively mobile as an Indian Muslim in the UK. Practice theory has not yet been developed as a means of managing behavior change as the theory is abstract and has not been applied as a set of tools says Spotswood et al. (2015) and so exploration of practice theory is needed to be used for changing cycling polices.

This thesis has explored why and how cycling practices are seen amongst Indian ethnic minorities who are predominantly Muslim and how these practices involve a much-rooted barrier than cycling safety, funding on facilities, and infrastructure. Practice theory helped illustrate specific problems rooted within the participants, showing how cycling entailed specific meanings, competences and materials for one to start cycling. From the evidence produced in this study, social influence from friends, family and the wider community all interconnect with religion, culture, gender and being physically active. The women have reflected on the discourse of modesty and how it is reflected upon when considering cycling or any other sporting activity, and with its complex and multiple interpretations the narrative of modesty is complex and hinders towards the cycling experiences (Stride & Flintoff, 2017). This is not to say Modesty is the barrier, as some women took part in cycling whilst adhering to the rules of Islamic modesty however the meanings behind modesty needs much more exploration if cycling amongst South Asian females is to increase.

For male participants, although they had to adhere to modest ruling, it was evident that criticism was more lenient. Whilst it was easier for males to be more mobile than females, pressure for economic and societal success was held more of an importance pressurising them to stay away from physical activities which also included cycling. More importantly if parents break down the gendered roles in the household, from house chores and other menial tasks, and are more involved in the child's physical activity and sporting endeavours, then cycling or any other activity would become the norm in Indian communities. These findings similar to Benn et al. (2011) show that better more proactive approach through the collaboration of communities, cycling educators and religious leaders to work together in bringing about change to cycling levels benefiting both health and the environment.

To overcome the stigma or barriers associated with cycling within the Indian ethnic minority is to create a positive vision of cycling and its benefits to change cycling from the few to the many. To participants, walking, public transport or car use was normal whereas cycling was seen for those who were committed, for leisure purposes and some were classed as delinquent individuals, as the culture of cycling may be a barrier the stigma towards cycling seems to be more challenging, and to maintain an identity and increase cycling issues related to culture and religion need to be researched.

If cycling were a socially accepted and normalised mode of transport within the Indian ethnic community then more people would cycle. Even if cycling was enjoyed by participants whilst kids it was still abandoned and were unwilling to continue cycling as social norms and cultural practices discouraged them to do so, something Underwood et al. (2014) also found. The power of social norms holds over the attitudes of individuals in whether to start cycling can grasp important implications for policy change and even more lasting implications for an individual cycling through as an adult. Social norms or attitudes that discourage cycling whilst growing up can have a lasting affect throughout the life course (Underwood et al.,

2014). As mentioned above, the findings in this study revealed much more barriers than infrastructure and safety influencing behaviours for individuals to start cycling. Participants emphasised cycling would be more popular and a motivator if friends and family members were to cycle drawing on the social aspects of cycling rather than the health, environmental aspects of cycling. Heinen et al. (2010) points out social norms can be held by society or smaller groups that can influence behaviour adapting to what is seen normal in society to fit in with a certain group. Along with the religious and cultural restraints, the common barriers of safety and infrastructure to normalise cycling is to de-politicise cycling (Larsen, 2016).

These findings also suggest a need for further research in considering the diverse influences to help develop an understanding of religion, culture and South Asian Muslim experiences towards cycling.

Limitations

The study has several important limitations that could be addressed by further research. The study focused on Indians living in the North West of England and who were predominantly of Muslim faith, thus omitting Indians of other faiths and living across the country. As the intention was not to focus on how orthodox the participants were regarding religion, future research should separate the orthodox and heterodox as Islam is practiced and interpreted differently around the world.

- Adjust Snowball sampling with a sifting method gather a diverse participant inclusion criterion and from areas common participants
- Defining certain features of materials, competences, and meaning of practice theory overlapped with one another. To overcome this practice theory should be used as a general unit of enquiry instead of breaking data down into three categories.

- Different religious groups such as, Sikhs, Hindus, Christians and Jews should also be investigated to grasp their cycling habits and their religious beliefs on how it affects their choice in being physically active.

Appendices

Appendix A

Background information

What is your ethnic group?

White
- ▣ **English**
- ▣ **Welsh**
- ▣ **Scottish**
- ▣ **Irish**
- ▣ **British Irish**
- ▣ **Other/ please specify**

Black British
- ▣ **African**
- ▣ **Caribbean**
- ▣ **Other/please specify**

Asian British
- ▣ **Indian**
- ▣ **Pakistani**
- ▣ **Bangladeshi**
- ▣ **Chinese**
- ▣ **Other/ please specify**

Mixed/ multiple ethnic groups
- ▣ **Please specify**

Other ethnic group
- ▣ **Please specify**

What is your religion?
- ▣ **Christian (including all denominations)**
- ▣ **Muslim (including all denominations)**
- ▣ **Jewish**
- ▣ **Hindu**
- ▣ **Sikh**
- ▣ **Buddhist**
- ▣ **No religion**
- ▣ **Other/please specify**

What is your age?
- ▣ **Under 18**
- ▣ **18-24**
- ▣ **25-34**
- ▣ **35-44**
- ▣ **45-54**
- ▣ **55-64**
- ▣ **65-74**
- ▣ **75 and Over**

Which Gender do you most identify as?
- ▣ **Male**
- ▣ **Female**
- ▣ **Transgender Male**
- ▣ **Transgender Female**
- ▣ **Gender Variant**
- ▣ **Other/Please specify**

What is your Martial Status?
- ▣ **Single, never married**
- ▣ **Married**
- ▣ **Partnership**
- ▣ **Widowed**
- ▣ **Divorced**
- ▣ **Separated**

Depending on demographic questions and what answers were given

Where were you born?
If it is a Asian country ask where?
Did they cycle?
How was cycling in that country?
Why did you not cycle?

What's your preferred method of travel? And why?
If they cycle follow the question list
Any other ask for more information as to why

How often do you cycle?
Work?
Recreation?
Fitness?

How long have you been cycling for?
How did you get into cycling?

Have you ever joined a cycling group?
Have you ever thought about?
If you have what do you like dislike?
Are there any other ethnicities that are in this group?

How did you know about the cycling group?

How many members are in this group?
Age groups?

Can anyone join this group in terms of ethnicity?

Can females join this group?

Why do you think cycling is low within the ethnic community?
Ask to see if any of these circumstances are the issues
Money
Marriage
Religion
Other, find out

What do you think would motivate you or the ethnic minority to cycle?

What do you think of when you see youths cycling?
I have been told that youth look like drug dealers; do you think this is true?
Do you think the different generations have different opinions to cycling?
What generation are you?
If you asked you parents to cycle what would they say?
If you asked your kids to cycle what would say?
I have been told that some parents are to old fashioned to cycle and to see others cycle a form of backwards mentality, do you think this is also true?

Do you think people in your community put a barrier on people cycling?
If yes ask why
If no ask why some people may think this
Will this be the case in every ethnic community?

Depending on religion
Does your religion stop you from cycling?
If Muslim, ask if females modesty is a big issue for not cycling, could this be overcome somehow?

Ask questions according to religion?
Religious practices?
Ask about religious clothing?

How could cycling be popular within the Ethnic community?

Do you think culture has anything to do with cycling?
Depending on culture
Ask about cultural clothing?
Cultural practices?

How do you feel about cycling infrastructure such as cycle paths, lanes cycle hubs help cyclists?
Ask how they feel about cyclists?
Ask how they feel when driving on the road with cyclists?
How do they feel about traffic when cycling?
How things could be improved for both cyclists and car drivers?

Do you think cycling equipment/clothing/prices are an issue to cycling?
How?
What could be changed?

Do you think cycling is dangerous?
Have you ever been involved or seen an accident with cyclists?

Any other questions
Weather
Effort
Laziness
Medical

Appendix B

Title of Project: Performing cycling: cultural dimensions of cycling practices
Name of Researcher: Junaid Janvaria

(Circle as appropriate)

➢ I confirm that I have read and understood the information sheet for the above study and what my contribution will be	**Yes**	**No**

➢ I have been given the opportunity to ask questions (face to face, via telephone and/or e-mail)	**Yes**	**No**

➢ I agree to take part in the research project by being interviewd	**Yes**	**No**

➢ I agree to being tape recorded during the interview	**Yes**	**No**

➢ I understand that my participation is voluntary and that I can withdraw from the research at any time **without giving any reason**	**Yes**	**No**

➢ I understand how the researcher will use my responses, who will see them and how the data will be stored	**Yes**	**No**

➢ I understand that my name will not be used but that what I have said or written as part of this study will be used in reports, publications and other research outputs	**Yes**	**No**

Finally:

➢ **I agree to take part in the above study**	**Yes**	**No**
➢ **I am willing to be contacted about further research on this topic but understand that this forms no obligation on my part to participate in further research**	**Yes**	**No**

Signatures:

Participant Name:	Signature
Researcher taking consent: Junaid Janvaria j.janvaria@edu.salford.ac.uk	Signature Junaid Janvaria
Date	

Appendix C

<div align="center">

Information Sheet
Performing cycling: cultural dimensions of cycling practices
Supervised by The University of Salford

</div>

Before you decide whether you want to take part, it is important for you to understand why the research is being carried out and what your participation will involve. Please take time to read the following information carefully. Just ask if anything is unclear or if you would like more information.

What is the purpose of this study?
This research aims to understand more about why there is a lack of active travel amongst the Indian ethnic community in the UK. Primarily this research is expected to uncover why cycling for commuting or leisure purposes is intermittent within the Indian ethnic minority compared to the white majority groups. It will also explore the boundaries of culture, religion and environment to understand if any of these factors play a role in cycling/commuting practices. This research is designed to help create or modify existing polices that are centred on transport and sustainability.

The research aims are:
- To recognise the favoured transport choices within the Indian minority around the North West, identifying why certain practices are more prevalent than others.
- To judge the effectiveness of practice theory examining the different cycling behaviours of the Indian ethnic groups outlining how cycling practices can be changed.
- To identify the materials, competences, and meanings associated with cycling for different ethnic group
- To identify the barriers of cycling in helping to develop a set of recommendations for how these barriers might be overcome.

I would be very grateful if you could help in this significant research project aimed at finding more about the relationship of cycling practices and the Indian Community.

What am I being asked to do?
The project focuses on the different commuting and leisure practices within the Indian ethnic minority to see whether cycling is part of the daily routine. The researcher desires to uncover individual behavioural routines towards travel and the influences that help encourage these routines, daily practices and the mundane habits that may seem normal in our day-to-day travels.
You are requested to: **Participate in a semi-structured interview-** You will be invited to partake in an informal interview where upon you will be asked about your daily routines, habits and practices when it comes to travel either for work or leisure.

What about confidentiality?
In any published materials your identity will be anonymised – you will be given a pseudonym rather than using your real name. However, your actual words may be used in text form. All data will be stored in a manner compliant with the Data Protection Act, on a password-protected computer, and locked in a secure office. You may request a copy of this data if you are interested.

It must be noted however that people in your community or social circle maybe aware of your involvement in this research as participants maybe asked for any potential contributors who may like to be involved.
Your responses will be treated with great discretion and will not be shared with third parties. To ensure safety and correct procedures are followed, auditors from the university are given permission to access the data without defying confidentiality.

How will the data be used?
The research will be written up and used to provide valuable primary data content to support my Masters dissertation. If the work is deemed to be suitable, it may be adapted for publication in peer-reviewed academic journals, and used for teaching purposes. Individuals will not be identifiable in the report or in any later publications.

Please note that:
- You can decide to withdraw from the research at any point
- You need not answer questions that you do not wish to
- If you withdraw from the study all data will be withdrawn and destroyed if you so wish
- This research has obtained ethical approval from The University of Salford ethics committee. If you have a complaint about the way in which the researcher has carried out the research you are welcome to contact my programme supervisor:

Dr Mags Adams
Lecturer in Human Geography,
Room 307, Peel Building,
University of Salford,
The Crescent,
Greater Manchester,
M5 4WT.
m.adams@salford.ac.uk

Thank You
Junaid Janvaria
Email: j.janvaria@edu.salford.ac.uk

Research, Innovation and Academic Engagement Ethical Approval Panel

Research Centres Support Team
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University of Salford
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22 August 2017

Junaid Janvaria

Dear Junaid,

RE: ETHICS APPLICATION STR1617-101: Performing cycling: cultural dimensions of cycling practices

Based on the information you provided, I am pleased to inform you that your application STR1617-101 has been approved.

If there are any changes to the project and/ or its methodology, please inform the Panel as soon as possible by contacting S&T-ResearchEthics@salford.ac.uk

Yours sincerely,

Dr Anthony Higham
Chair of the Science & Technology Research Ethics Panel

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