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Exploring Young People's Perspectives of Fixed Orthodontic Treatment

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Contents

Acknowledgements	5
Abstract	6
Chapter 1: Introduction	8
1.1 Background	8
1.1.1 Orthodontic Treatment.....	8
1.1.2 Why is it Important to Understand Young People’s Perspectives?.....	9
1.1.3 My Approach	11
1.2 Aim and Objectives of the Study	11
1.3 Structure of the Thesis	13
1.3.1 Analysis Chapters	15
Chapter 2: Literature Review	18
2.1 Introduction	18
2.2 The History of Orthodontics.....	18
2.3 Research Methods.....	23
2.4 The Position of Children in Society	26
2.5 Approaches used in Research with Children.....	29
2.7 Orthodontic Literature	33
2.7.1 Sociology of Orthodontics.....	42
2.8 Further Literature	43
2.9 Conclusion	45
Chapter 3: Methods	48
3.1 Introduction	48
3.2 My Training as a Researcher	49
3.3 Data Collection.....	51
3.3.1 Methods of Data Collection	51
3.3.2 Addressing the Power Imbalance.....	52
3.3.3 Longitudinal Data Collection	56
3.3.4 Interviews	58
3.3.5 Video	63
3.3.6 Alternative Approaches.....	70
3.3.7 Chronology of Collecting Data.....	71
3.3.8 Research Setting	75
3.3.9 Safety	76
3.3.10 Data Recording and Management	76
3.4 Ethics and Approval.....	77
3.5 Access and Recruiting the Sample	78
3.5.1 Inclusion criteria	79
3.5.2 Exclusion criteria.....	80
3.5.3 Chronology of Events in Recruitment.....	81
3.5.4 Incentives	83
3.5.5 My Role	84

3.5.6 Challenges to Recruitment	87
3.5.7 Access to Participants in Practice	91
3.5.8 Consent	91
3.5.9 Sample	93
3.6 Data Analysis	94
3.6.1 Thematic Analysis	95
3.6.2 Case Study Analysis	98
3.6.3 Narrative Analysis	100
3.7 Dropouts	101
3.8 Details about Participants	104
Chapter 4: Being a Little Kid, to a Teenager and an Adult	105
4.1 Introduction	105
4.2 Literature	105
4.3 Jasmin	110
4.3.1 Case Study Conclusion	130
4.4 Other Young People	132
4.4.1 The Brace as a Rite of Passage.....	132
4.4.2 Ambivalence About the Future	139
4.4.3 Fateful Moments	143
4.5 Conclusion	147
Chapter 5: I Just Want to See What I Look Like with Straight Teeth....	149
5.1 Introduction	149
5.2 Literature	149
5.2.1 The Importance of Appearance.....	149
5.2.2 The Significance of the Appearance to a Child.....	150
5.2.3 The Body as a Flexible Entity	151
5.2.4 Appearance of the Mouth	153
5.2.5 Influences on our Opinions About our Appearance.....	156
5.2.6 Summary of Literature	163
5.3 Case Studies.....	164
5.4 Ashley.....	165
5.4.1 Dissatisfaction with the Appearance	165
5.4.2 The Focus of the Dislike	170
5.4.3 Wanting Perfection.....	171
5.4.4 Appearance of the Brace.....	174
5.5 Matthew.....	177
5.5.1 Motivation for Treatment.....	177
5.5.2 Not Wanting Perfection.....	180
5.5.3 Appearance of the Brace.....	183
5.6 Madison.....	185
5.6.1 Dissatisfaction with the Appearance	185
5.6.2 Motivation for Treatment.....	187

5.6.3 Appearance of the Brace	191
5.7 Conclusion	193
Chapter 6: How Braces Feel.....	195
6.1 Introduction	195
6.2 Literature	195
6.2.1 Orthodontic Pain	195
6.2.2 Different Approaches to Examining Pain Narratives	196
6.2.3 Cultural Influences on Pain Accounts	200
6.2.4 Relationship with a Medical Device.....	201
6.2.3 Summary of Literature	203
6.3 Sensation of the Braces	203
6.4 Reassigning the Feeling of Normal	210
6.5 Acceptance that Braces Cause Pain	221
6.6 Pain is not Normal and does Affect Life.....	227
6.7 How Young People Narrated their Pain Experiences	236
6.8 Conclusion	243
Chapter 7: Sharing the Treatment Experience	245
7.1 Introduction	245
7.2 Literature	246
7.2.1 Summary of Literature	249
7.3 Eleanor	249
7.3.1 Mum’s Feelings about Dentistry	251
7.3.2 Eleanor’s Resilience and Independence.....	253
7.3.3 Eleanor’s Views on the Process of Treatment.....	257
7.3.4 Changes Longitudinally	264
7.4 The Relational Aspect of Treatment	269
7.4.1 Treatment Experience Shared with Friends	277
7.5 Conclusion	281
Chapter 8: Conclusion	283
8.1 Introduction	283
8.2. Summary of my Contribution.....	284
8.2.1 The Importance of the Brace	284
8.2.2 How Young People Interpret Appearance	287
8.2.3 How Young People are Embedded in Relationships.....	290
8.2.4 Physical Feeling of the Brace	293
8.2.5 The Significance of Gender	295
8.2.6 Moving the Orthodontic Literature Forward	297
8.3 Practical Considerations – What Clinicians can Learn.....	298
8.3.1 The Significance of Having a Brace	299
8.3.2 Appearance.....	301
8.3.3 The Sensation of the Brace and Pain	301
8.3.4 Advice Provided	303

8.3.5 Power Imbalance	305
8.4. Reflections on the Study.....	305
8.4.1 Reflections on the methodology	306
8.4.2 Reflecting on my Role.....	310
8.5 Summary of Conclusion	313
8.6 Further work.....	314
8.6.1 The Young People’s Level of Involvement.....	314
8.6.2 Data Collection.....	315
8.6.3 Areas of Interest.....	316
References.....	318
Appendix 1 Parent/ Guardian Information Sheet	330
Appendix 2 Participant Assent Form.....	334
Appendix 3 Consent Form	337
Appendix 4 Participant Information Sheet	340
Appendix 5 Topic Guide for First Interviews	343
Appendix 6 Topic Guide for Final Interviews	344
Appendix 7 Topic Guide for Mid-Treatment Interviews.....	345

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Abstract

Introduction

This thesis describes a qualitative study which explored young people's perspectives of having a brace throughout their fixed orthodontic treatment. Fifteen young people were recruited from the Orthodontic Department at Charles Clifford Dental Hospital and a specialist orthodontic practice in Sheffield.

Methods

Qualitative in-depth interviews were carried out with each of the young people before they had their brace fitted, throughout their orthodontic treatment, and after they had had their brace removed. In addition to collecting data using in-depth interviews, participants had the option to use a video camera to record video diaries. This was to enable the young people to describe their experiences of having a brace at times that were relevant to them. The interview data and video data were analysed together using thematic analysis, case study analysis and narrative analysis.

Results

The findings of this study contribute to the existing knowledge base by providing an understanding of the temporal experiences of having a brace. Some of the young people regarded having a brace as a rite of passage through adolescence. In addition, having the brace removed, together with the educational transition was a symbolic event in their youth transition. The

appearance of the teeth was the primary motivating factor for the young people undergoing orthodontic treatment, and it carried more significance than simply improving the appearance; it reflected their identity. Opinions about appearance were influenced by gender, peers, and images seen in the media. The sensation of the brace changed during treatment. All young people became used to the brace, although some built a bond with the appliance. Some young people shared their experience of having a brace with people around them and the relationships they were embedded in, influenced how they experienced treatment.

Chapter 1: Introduction

1.1 Background

In this thesis I explore young people's perspectives of fixed orthodontic treatment. I have used qualitative methodology because I wanted to understand young people's views. In this Introduction I will start by explaining what orthodontic treatment is. I will then outline why I think it is important to understand young people's perspectives of orthodontic treatment, and the ontological position, from which I approached this study. Following this, I will describe the aim of the thesis and research questions I felt needed to be addressed. Finally, I will outline the structure of the thesis.

1.1.1 Orthodontic Treatment

Orthodontics is a branch of dentistry, which specialises in improving the position of the teeth using a brace. Braces are fitted for several reasons, for example to correct the bite, to accommodate unerupted or impacted teeth or to improve the alignment by resolving crowding or closing spaces. Treatment is carried out to improve the function of the dentition, the aesthetics, or the long-term prognosis of the teeth. There are several different types of brace although the majority of patients are treated with a fixed appliance because it allows the greatest control of tooth movement. The fixed appliance is a brace that is attached to the teeth, it needs adjusting by the orthodontist every six to eight weeks and treatment usually takes around two years.

In England and Wales, every year, over 200,000 children and teenagers undergo orthodontic treatment on the National Health Service (NHS) (British Orthodontic Society, 2016). These are patients who were assessed, and based on the severity of their malocclusion, were judged to qualify for treatment funded by the NHS. In addition to these patients, some young people, and adults undergo orthodontic treatment on a private basis. Despite so many young people undergoing fixed orthodontic treatment, research has not been carried out exploring their lived experiences. It is thought that the demand for orthodontic treatment is rising among both adults and children. Data from the decennial national children's dental health surveys reflect this; from the first survey in 1983, there has been a gradual rise in the number of children undergoing orthodontic treatment. For example, in 2003, fourteen percent of fifteen year olds were wearing an orthodontic appliance, whereas, in 2013, this figure rose to eighteen percent (Chestnutt et al., 2006, HSCIC, 2015 Table 4.35). The reason for this increase in the demand for, and uptake of orthodontic treatment has not been examined.

1.1.2 Why is it Important to Understand Young People's Perspectives?

In orthodontics, the majority of research is quantitative in nature, i.e. collecting data that is amenable to statistical analysis, for example, comparing different types of orthodontic treatment. The focus of orthodontic research being on the modes of treatment, has allowed clinicians to practice an evidence-based approach, to ensure we are providing the most efficient

and effective care for our patients. In the past, patients' perspectives were somewhat neglected, although it has now been recognized, that in order for us to provide the highest quality of care, it is also important to understand patients' points of view, and what their experiences of treatment are. Previous research having only examined treatment mechanics means that we do not know how young people experience orthodontic treatment. In order to do this, a qualitative methodology is required. This approach seeks people's own words to understand their perspectives and opinions.

As orthodontic treatment is most commonly carried out on children and teenagers, I decided to carry out this research project focussing on young people only. In addition to the fixed appliance, there are other types of brace, for example, aesthetic fixed appliances and clear aligners are also available, although these are not routinely provided on the NHS, and are more commonly used in adults. Removable appliances and functional appliances are also used in children, although I think young people's experiences of these appliances are likely to be different to those undergoing fixed appliance treatment. Primarily this is because the appliances are removable; so patients are able to take them out at any time if they wish, the duration of treatment is much shorter, usually in the region of six to nine months, and the appliances look and feel very different to fixed appliances. As fixed appliances are used most frequently, I decided to focus my research on young people's experiences of fixed appliances only.

1.1.3 My Approach

Central to this research, is the premise that children's voices matter. I have a clinical background, although, due to the paucity of qualitative research in dentistry, I had to look outside of my discipline to gain a better understanding of how children can be involved in the research process. Having explored the sociology literature, I realised the depth of understanding that can be gained from participants, when a qualitative methodology is used. I also learnt, through understanding the paradigm of childhood sociology, that in the past, children and young people's opinions were ignored, because they were not thought of as important as adults. As a result, their position in the research process was as objects that were studied. I believe, children are experts in their own lives, and deserve to be listened to (Christensen and James, 2008a). Therefore, I have approached this research from the position of a researcher, rather than a clinician, i.e. the participants are the experts with all the knowledge, which I have tried to seek out and understand. We do not know how children and young people think and feel about orthodontic treatment, and so exploring their perspectives has been the focus of this study.

1.2 Aim and Objectives of the Study

The overall aim of this study is to give a voice to young people to provide their own perspectives and insights of fixed orthodontic treatment. The research questions are as follows:

1. How do young people perceive and experience having a brace?

It is presumed by clinicians, that young people's primary motivation is to get straight teeth. However, due to the paucity of research in this area, we do not know if there are any other reasons for wanting a brace, or if the brace carries any more significance than a means of straightening the teeth. Moreover, we do not know why young people want straight teeth, or what influences their opinions about appearance. It may simply be that they think the appearance of straight teeth is more attractive, but is there any more depth to their understanding of having straight teeth? It has been identified that more children and young people are undergoing orthodontic treatment, although we do not know the reasons for this. Presumably, it is primarily attributed to the increase in concern of the aesthetic impairment of the dentition. However, the reason why more people want straight teeth is unclear. There is also a paucity of literature exploring young people's experiences of having fixed orthodontic treatment. For example, what are the positive and negative aspects of having a brace? And, what affects these experiences?

2. How do young people's experiences of orthodontic treatment change over time?

Fixed orthodontic treatment usually takes between eighteen months and two years. Childhood, and more particularly adolescence, is a transitional period, so I would anticipate young people's experiences to change over the two

year timeframe in which they undergo fixed orthodontic treatment. Therefore, in order to fully understand young people's perspectives of treatment, the study needs to be carried out longitudinally. It will allow me to get to know the young people far better, so I will have a greater depth of understanding of the context of their position. This will facilitate me understanding their perspectives and experiences.

1.3 Structure of the Thesis

I have decided to structure this thesis using a slightly different format to a conventional scientific or sociology arrangement. As is usual, following the Introduction, the second chapter is the Literature Review. In the Literature Review, I have explored the history of orthodontics as a speciality within dentistry, describing the changes and advances that have taken place, since it was developed at the turn of the twentieth century. Second, I discuss the involvement of children in research and how this has changed as a result of the 1990s paradigm of childhood sociology. Previously, children were viewed as precursors for adulthood, and their involvement in research was very limited. The childhood sociology paradigm positioned children as active members of society and recognised that they are experts in their own lives. As a result of this, there has been a move to involve children throughout the research process. Lastly, I appraise the qualitative research that related to orthodontic treatment. The qualitative research base in orthodontics is limited, and at present, there is nothing in the literature that has explored young people's perspectives of fixed orthodontic treatment longitudinally.

The third chapter details the methods; I start by describing how I gained access and recruited patients and how I carried out data collection. I chose to use in-depth qualitative interviews and video diaries to collect data from the young people, and I have explained the pros and cons of these methods. I carried out the research longitudinally, so I have also explained why I thought this was appropriate and necessary in order to fully understand the young people's experiences of fixed orthodontic treatment. I analysed the data using thematic analysis and case study analysis. Thematic analysis involved looking for patterns across all the data, seeing where links between these patterns, or themes occurred and interpreting the meaning behind these themes. I also used case study analysis, so I studied the data for one individual longitudinally, again, looking for patterns or themes and comparing how and why their perspectives changed over time. I conclude the methods chapter by discussing the limitations of the study.

From analysing the data, four overarching themes emerged, which have formed the basis of the four analysis chapters. Despite there being links between these chapters, each analysis chapter is on a distinct and different theme. Therefore, the literature relating to the analysis is very different for each analysis chapter. For this reason, I have begun each of the four analysis chapters with a review of the literature that is specific to the theme of the chapter. Case studies were central to the analysis and to the writing, in order to reflect the changes over time.

1.3.1 Analysis Chapters

The first analysis chapter is titled “Being a Little Kid, to a Teenager and an Adult”, the title is a quote from one of the participants and I think characterizes the topic area of growing up. I start the chapter with an overview of the relevant literature relating to young people growing up in Western culture. In this chapter, I chose to use a case study analysis of one participant, Jasmin. For Jasmin, the brace had a far more significant role than simply straightening her teeth. Three themes were evident in the analysis; so following the case study on Jasmin’s perspectives of orthodontic treatment, I use the three themes I identified, to structure the remainder of the chapter, and I explore if the other young people experienced their orthodontic treatment in the same way.

The title of the second analysis chapter (chapter 5) is “I Just Want to See What I Look Like with Straight Teeth”. Again, this is a quote from a participant, and I think is an appropriate title for the chapter in which I explore the young people’s perspectives of appearance, and their motivations for treatment. I begin with a review of the relevant literature relating to the importance of the appearance, and what factors influence people’s opinions about appearance. I have presented the data analysis in this chapter using case study analysis of three participants; Ashley, Matthew and Madison. I chose these three participants because I felt they demonstrated the range of different views young people held about their appearance. Ashley’s feelings about her appearance were strongly influenced by her peers, whereas Madison was strongly influenced by

images she saw in the media. Matthew's views about appearance were typical for the boys and he demonstrated a more internal motivation for wanting straight teeth.

The third analysis chapter (the sixth chapter in the thesis) is titled "How Braces Feel" and explores aspects of the sensation of the brace. In the literature section of this chapter, I describe the orthodontic literature and the medical sociology literature relating to pain. In my data analysis, I explore in detail how the young people reacted to the sensation of the brace, and how this, and the pain experienced, became normal over time.

The final analysis chapter is titled "Sharing the Treatment Experience". I begin the chapter exploring the literature on relationships, and the importance of these relationships in young people's lives. The way in which the young people share their experience of orthodontic treatment with either a parent or friends forms the basis of this chapter. I use case study analysis of one participant, Eleanor to explore the different facets that can play a part when treatment experiences are shared. I then go on to explore how other young people in the study shared their treatment experiences, and how this changed over time.

1.3.2 Conclusion Chapter

The final chapter is the Conclusion. Here, I summarise the contribution I have made to the existing literature. I believe this thesis has added to the knowledge base by provided an understanding of how young people

experience fixed orthodontic treatment. I then discuss the practical considerations, i.e. how this research has contributed to clinicians' knowledge, and how this can benefit patients. Following this, are my reflections. I explain what I feel were the positive and negative aspects of the study, reflecting on the methodology, and my role as a clinician and researcher.

My final thoughts are looking forward. Having gained the knowledge that I have during this study, I outline some of my ideas that I am interesting in exploring in the future. I also discuss how research may be carried out with young people in the future.

Chapter 2: Literature Review

2.1 Introduction

The aim of this literature review is to provide a background for my qualitative study in orthodontics. First, I will provide a brief history of the evolution of orthodontics, including how, and why it developed as a dental specialty. I will then explain why qualitative methodology is essential in orthodontic research, despite it having been neglected in the past. I will move on to describe how the position of children in society has changed over time, and how this has contributed to children historically being excluded from participating in the research process. Finally, I will examine the qualitative orthodontic literature, including the social sciences literature on orthodontics, concluding with the reason I think this research study is needed.

2.2 The History of Orthodontics

Orthodontics was previously known as orthodontia and was derived from the Greek ortho “correct or straight” and dontia “dentistry”. Orthodontic treatment can achieve dental health benefits, although the majority of patients seek orthodontic treatment to improve the appearance of their teeth (Benson et al., 2015). It is logical to presume, different dental specialties evolved to alleviate pain or restore function, so patients could eat and survive, however, this is unlikely to be the case with orthodontics and it is unclear why the specialty began.

Improving the appearance of the teeth has not always been the primary motivation for orthodontic treatment. The ancient Greek physician Hippocrates, born 460_{BC}, was the first to describe irregularities of the teeth, explaining this leads to patients being “molested by headaches and ottorrhea” (Asbell, 1990). We now know, medical ailments are not related to the alignment of the dentition, although this belief may explain why correction of a malocclusion or ‘irregularities’ of the teeth was first introduced. Celcus (25_{BC} – AD50) advised extraction of retained deciduous teeth and the use of finger pressure to align the permanent successor (Wahl 2005). In the fifteenth and sixteenth centuries, Leonardo da Vinci and Andreas Vesalius were responsible for naming and describing the function of the teeth, this has formed the basis of terminology used today (Asbell, 1990). Dentistry, as a subject, did not advance significantly through the Middle Ages; however, it was during this period that the first reference to teeth in relation to appearance was made. Paul of Agina (625-690), an Arabic physician, stated that irregular teeth were “displeasing in women” (Asbell, 1990). This could be another reason why the practice of orthodontics evolved. Indeed, this view may be upheld today, as more girls choose to undergo orthodontic treatment than boys (Chestnutt et al., 2006). The two-fold benefit of straight teeth being for aesthetic and medical health reasons continued into the nineteenth century, an American clinician, Josiah Flagg, advertised that he “regulates teeth from their first teeth, to prevent pain and fevers in children ... [and] for a beautiful arrangement of a second set of teeth” (Asbell, 1990).

France was the leading country in the field of dentistry in the eighteenth century, primarily due to the work of Fauchard (1678-1761). Fauchard was responsible for developing dentistry as a profession and described the first orthodontic appliance, the bandolet, which was designed to expand the maxillary arch (Asbell, 1990). Etienne Bourdet (1722-1789) developed Fauchard's method further by recommending extraction of first premolars, and tying gold strips to the labial surface of the upper teeth and the lingual surface of the lower teeth. These strips were tightened twice a week to align the arches and correct a reverse overjet (when the incisor teeth bite the wrong way round). For patients with a protruding chin, he also advocated extraction of lower first molars soon after eruption (Asbell, 1990). In the nineteenth century, there was a move towards removable appliances and headgear being used to manage skeletal and dental deviations (Asbell, 1990).

Edward Hartley Angle (1855-1930) is the most "dominant, dynamic and influential figure" in the orthodontic specialty and is widely recognised as the father of modern orthodontics (Asbell, 1990). In 1889, "Extracts of Notes on Orthodontia with a New System by Regulation and Retention" was published as an appendix to text on laboratory procedures. Angle considered this to be the first edition of what became a classic textbook in the treatment of malocclusion (Peck, 2009a). Angle established orthodontics as a specialty by limiting his practice exclusively to orthodontics and setting up the Angle School of Orthodontia, which aimed to teach students about the various surgical techniques and appliances he had designed (Peck, 2009b). In 1899,

he published a landmark paper describing a classification system which is used universally around the world today (Angle, 1899).

Major changes took place in orthodontics in the twentieth century. At the turn of the century metal bands were placed around each tooth so forces could be applied to move the teeth. This practice continued until the 1970s when adhesives were developed so brackets could be attached directly to the enamel of teeth, significantly improving the appearance, and simplifying the placement of fixed appliances (Newman et al., 1968). Shortly after this, Andrews invented the 'Straight Wire Appliance' which revolutionised orthodontics by designing brackets customised for each tooth (Andrews, 1979). Wire bending was minimised, which in turn reduced the chair-side time and the overall treatment time (*ibid*), and resulted in improved reliability and quality of treatment outcomes. The second notable advance in material science, which benefited orthodontics, was the application of nickel titanium, a material developed during the US space programme, which is now used in archwires. This alloy displays the unusual properties of super elasticity and shape memory, the use of which significantly simplified the alignment stage of orthodontic treatment. During orthodontic treatment, the orthodontist will change the archwires. Initially, this is to align the teeth, it then facilitates moving the teeth around to achieve optimal aesthetics and a functioning bite. The duration of fixed appliance treatment varies, although usually lasts for eighteen months – two years.

The advances in materials and appliances have made orthodontic treatment more widely available in the Western world, and have influenced the direction in which the orthodontic specialty is progressing. Lingual appliances, which are fitted to the tongue-side of the teeth, have the potential to achieve the same orthodontic outcomes as traditional appliances, although are almost invisible from the front. These appliances were developed in the 1970s, however, it is only in the last decade that they have advanced and have been promoted. Similarly, there have been technological advances in tooth coloured fixed appliances and clear removable aligners, which have encouraged orthodontists to offer them more widely. Because of their favourable aesthetics, there has been a surge in popularity of these appliances in recent years. These aesthetic aligners and ceramic fixed appliances carry an additional financial burden, and from the orthodontist's point of view, arguably, have inferior characteristics.

Although patients may prefer the appearance of the more aesthetic appliances, the NHS is not able to fund treatment using these types of brace, because they are more expensive and they do not offer any practical benefit over stainless steel fixed appliances. The Index of Orthodontic Treatment Need (IOTN) was first developed to indicate treatment priority (Brook and Shaw, 1989). However, in the late 90s, expenditure in orthodontics by the NHS was increasing at such a rate, the Department of Health called for resources to target the patients most in need of treatment (Waring and Jones, 2003). As a result, the IOTN is now used to determine whether or not a patient qualifies for NHS orthodontic treatment. The IOTN is made up of

two components, the first component is the Dental Health Component (DHC) which quantifies the functional and dental health indications for treatment (Brook and Shaw, 1989). The ill-effects of malocclusion are primarily social (Benson et al., 2015), so in an attempt to quantify the social impact of the dentition, the second component of the IOTN was developed, which assesses the aesthetic impairment of the malocclusion (Evans and Shaw, 1987). The Aesthetic Component of the IOTN consists of ten images of teeth exhibiting a range of dental attractiveness. Patients are asked which image they think matches their teeth most closely.

2.3 Research Methods

The Aesthetic Component of the IOTN is a crude measure for the social well-being of a patient. Although, it is important to try to assess social well-being because malocclusion is not a disease and health encompasses all aspects of patient well-being (Benson et al., 2015). Different definitions of health have been suggested, although I think the most widely recognised one is by the World Health Organisation.

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”

(World Health Organisation, 1948)

Of importance in this statement is the reference to complete “mental and social well-being” (World Health Organisation, 1948). Similarly, one of the most accepted definitions for oral health, details that an individual can

“continue in their desired social role” (Dolan, 1993). One of the aims of orthodontic treatment is to restore the social well-being of patients, and for the appearance of their teeth to not interfere with their everyday life.

In order to understand a patient’s level of social well-being, research methods must be recruited that seek the patients’ perspectives. In the past, research methods in medicine and dentistry were exclusively quantitative in nature; patients were treated as objects who were tested to determine the most effective treatment.

Undoubtedly, this research is worthwhile; however, a thorough understanding of patients’ perspectives also needs to be taken into consideration because “few research topics in clinical decision making and patient care can be sufficiently understood through quantitative research alone” (Greenhalgh et al., 2016).

Bendelow (1993) carried out a mixed methods study about peoples’ perceptions of pain. Participants completed a questionnaire before having an in-depth interview. The interviews gave the informants the opportunity to think in more depth about their thoughts and feelings, and some participants changed their minds about the classification of their pain experiences (Bendelow, 1993). The author attributed this to the depth of understanding that can be gleaned from qualitative interviews.

“The informal and supportive nature of the interviews appears to have elicited these intensely personal accounts

and extended definitions of pain, which were unable to be accessed by questionnaire format”

(Bendelow, 1993)

This was possible because qualitative interviewing is far more flexible, and as such, it is also known as unstructured or in-depth interviews. It has been referred to as “conversation with a purpose” (Hemming, 2008) because the aim of the researcher is to build rapport and discern what is important to the informants and in so doing, learn what questions to ask and how to ask them (Taylor and Bogdan, 1998). Qualitative research methods are more able to explore “the full richness” of children’s experiences than quantitative methods (Greene and Hill, 2005).

It is the research questions that determine which research methods are best suited to answering those questions, rather than the preferences of the researchers. However, quantitative research is still immensely more common than qualitative research (Greenhalgh et al., 2016). This is either because publishers are choosing not to publish qualitative research in medical and dental journals (Greenhalgh et al., 2016), or because clinicians are choosing more clinician-centred outcomes (Fleming et al., 2016). Patients’ opinions about a treatment not being sought, runs the risk of the benefits and drawbacks of the intervention not being fully explored (Fleming et al., 2016). The reason patient centred orthodontic research questions are not being examined could also be because the majority of patients are children. It is likely that the position of children in society, framed as being future adults (James and Prout, 1997), has led to children’s views being perceived as less

important than those of adults or of clinical definitions of 'effectiveness' of treatment. I will now explore the position of children in society and discuss how this has changed over time.

2.4 The Position of Children in Society

The legacy of the Victorian proverb 'children should be seen but not heard' positioned the child within a location of powerlessness where they should only speak when spoken to (Marshman et al., 2007). In 1909, this maxim was challenged by Ellen Key, a Swedish reformer who declared that the twentieth century would be the "century of the child", predicting children would become equal and respected participants in society (Montgomery et al., 2003). This was followed by The Geneva Declaration (United Nations, 1924) which established that children have rights, and adults have responsibilities to provide an environment in which children can thrive and are protected from exploitation.

Childhood is socially constructed, and physical immaturity is the only universal feature throughout the world (James and Prout, 1997). The authors describe how an institution of childhood exists in some form all over the world, although the position of children in the community, and the extent to which they are listened to and respected varies depending on the society (James and Prout, 1997). The cultural perception in Western society is that children are inherently vulnerable, although adults being dominant, places children in a position of further vulnerability, widening the unequal power

relations between adults and children. As a result, children are used to being treated inequitably (Punch, 2002, Morrow and Richards, 1996) and are relegated to the position of passive recipients of their world, rather than active participants (O'Kane, 2008). Children have the right to grow up in a safe environment, however, the extent to which they are protected or sheltered, must be taken into consideration to ensure adults are not inadvertently denying children a voice.

Despite Key's vision for the twentieth century being the time when children would become equals and respected (Montgomery et al., 2003), for the majority of it, children were seen as marginal and unimportant in comparison to adults (Alanen, 1988). Rather, children were viewed as "becoming" future adults, but because they had not reached adulthood, their opinions and perspectives were not valued or listened to. This was reflected in social science research relating to children, as it focussed on the process of them growing up and how this affected the adults they became (Moran-Ellis, 2010). However, from 1970s onwards, within sociology and feminist research, the error in this approach was beginning to be realised (Moran-Ellis, 2010). This led to the 1990s paradigm of childhood sociology. This recognized childhood as being part of society and culture; children participate as social actors in their own right, rather than simply being precursors for adulthood. Children form a critical role in the formation of their society, their lives, and the lives of the people around them. Although the childhood sociology paradigm goes further, explaining that, as children are experts on their own lives, we should seek their views and consult with them

(Christensen and James, 2008a). In turn, the focus in sociology research moved to advocating the adoption of ethnographic approaches, and other qualitative methods to better understand children's experiences, as social actors, as opposed to simply in relation to their becoming adults (James and Prout, 1997).

Unfortunately, the focus of medical and dental research did not make the same sea change. Until recently, research in dentistry continued to focus on quantitative evaluation of clinical outcomes, disregarding the views of young patients, so we do not know how they experience the treatment clinicians provide. Alongside the paradigm of childhood sociology, The Convention on the Rights for the Child (1989) endorsed respect for the views and worth of each child. Article 12 of the Convention states that a child has the right to express their views freely in any matters that may affect them (United Nations, 1989)

There are echoes of the Convention within the Department of Health's policy 'Getting the right start: national service framework for children, young people and maternity services' (2003) which set out national standards for hospital services to improve the quality of care. The report emphasises the importance of empowering children, encouraging them to be actively involved in their healthcare, and ensuring services are designed and delivered around the needs of young people (Department of Health, 2003).

Similarly, 'Healthier Lives, Brighter Futures' is a government-led strategy designed to improve children and young people's health and wellbeing (Department of Health, 2009). It details a commitment to listen to young people "to ensure children and young people's views are given prominence in future assessments of healthcare organisations" (Department of Health, 2009). In addition to the move to involve patients in their medical healthcare, the value of involving service users in health research has also been realised. INVOLVE is an organisation promoting active public involvement in NHS research (NIHR, 2004). The group was established on the premise that research, which reflects the views and wishes of the public leads to the formation and delivery of services that are more flexible and responsive to people's needs and concerns (NIHR, 2004). The ethos of INVOLVE is to "embrace the rich diversity of people in our multicultural society" and the term 'public' is all encompassing including minority groups and those marginalised by age (NIHR, 2004).

Despite the calls for children to be involved in medical and health research, this is only slowly materialising, so we do not know their views. I will now describe the different ways in which children can be involved in the research process.

2.5 Approaches used in Research with Children

Christensen and Prout (2002) describe four different approaches to carrying out research with children, each approach seeing the child in a different way;

the child as the object, the child as the subject, the child as a social actor and the child as a co-researcher. I will now describe each of these approaches, and to provide some context, where possible, I will link this to oral health research. The first approach, which is used most commonly in health research, involves children's perspectives being explored by seeking the views of their adult carers or paediatric health professionals. Children are thought of as objects which adults talk about; the children's personal views being ignored (Irwin and Johnson, 2005, Christensen and James, 2008a). Some believe it is unethical not to involve children in research that affects them (Neill, 2005). However, this research approach is still used in health research; 82% of oral health research involving children, carried out in the last ten years, placed children as objects of the report, or used a clinician or caregiver as a proxy (Marshman et al., 2015). Although this is an improvement from the previous five years; of the research carried out between 2000-2005, 93% of articles placed children as objects or used proxies to access their views (Marshman et al., 2007).

The second approach Christensen and Prout (2002) describe, acknowledges children as subjects and uses 'child-centred' or 'child-friendly' methods which are based on age appropriate competencies, for example, using drawings (Punch, 2002, Fraser, 2004). While this represents an advance on the traditional methods, using entirely different research methods to those used with adults, may disregard the wide range of interests and abilities within a group of children of the same chronological age (Greene and Hill, 2005). Furthermore, the methods recruited may not be appropriate for the

participants' level of development or personal interests. Adopting 'child-centred' methods, therefore, has the potential to come across as patronising to the child (Marshman and Hall, 2008).

Christensen and Prout's (2002) third and fourth approaches are not entirely separate entities and can be used alongside each other. They both recognise children as individuals in their own right and so involve children actively in research; they are therefore referred to as participatory research methods. In the third approach, children are seen as experts in their own lives and are respected for their knowledge and abilities. The research is carried out with the children as active participants; their involvement is critical to gain their perspectives (Marshman and Hall, 2008). Researchers should not take for granted an adult-child distinction (Greene and Hill, 2005), and the research methods adopted do not necessarily need to be different just because the research is being carried out with children (Christensen and James, 2008a). Instead the research methods employed, are appropriate for the individuals involved, in order to answer the research question posed (Christensen and James, 2008a, Greene and Hill, 2005). Indeed, given that nineteen per cent of the population in the UK are under 16 years of age (UK National Statistics, 2016), children are a significant minority of the population and therefore need to be involved in issues that affect them and must be represented appropriately.

The final approach involves children being active participants and co-researchers in the research process (Christensen and Prout, 2002). The

methods of data collection may be broader resulting in a more in-depth understanding of the data (Alderson, 2008). This approach also reflects new social sciences methodologies which promote research being a “co-production” of the researcher and the informant (Christensen and Prout, 2002). These final two approaches make up a very small proportion of the oral health research that has been carried out with children, 0.6% sees children as active participants, and only 0.2% actively engaged children throughout the research process (Marshman et al., 2015).

The picture is similar when looking at the orthodontic research in isolation, 85% of research treated children as objects of the study, 0.9% of papers carried out research with children as active participants (Marshman et al., 2015). Again, this is an improvement compared to the previous five years when 94% of orthodontic research treated children as objects and no papers involved children as active participants (Marshman et al., 2007). In oral health research, children are treated as objects in some clinical trials when the clinical effectiveness of an intervention is being assessed. This research approach is justified to some extent, because clinicians need to know which treatment mechanics are most effective. However, clinical decision making is not only made, based on clinical research; patient values also need to be taken into consideration (Straus, 2011). It is for this reason that Tsihaki and O'Brien argue more orthodontic research is needed measuring patient perceptions and the impact of treatment, which have remained largely unexplored (Tsihaki and O'Brien, 2014). I will now explore some of the

orthodontic literature that has involved patients as active participants, seeking their views.

2.7 Orthodontic Literature

In the orthodontic literature, a significant proportion of qualitative research is related to patients undergoing surgical orthodontics. This treatment involves a combination of orthodontic treatment with fixed appliances, and orthognathic surgery on the jaws. Patient satisfaction following this treatment is very high, although it has been established, that a technically good outcome (as judged by clinicians) does not necessarily result in satisfied patients (Cunningham and Shute, 2009). Therefore, to gain a better understanding of the orthognathic patients' perspectives, much of the qualitative research in orthodontics has been carried out in this area. For example, research has explored the impact dentofacial deformity has on patients and their motivation and expectations of treatment (Ryan et al., 2012a, Ryan et al., 2012b, Stanford et al., 2014).

Orthodontic research that uses qualitative methods, frequently has a mixed methods approach. So often, the overall aim of the research is to gain quantitative results, so a small qualitative component is used to inform a questionnaire. For example, Travess and colleagues used focus groups to formulate a questionnaire to measure the process and outcome of orthodontic and orthognathic treatment (Travess et al., 2004, Williams et al., 2005). Another study used qualitative interviews with patients and clinicians

to develop a questionnaire to establish patients' perceptions of referral to a mental health professional (Ryan et al., 2009). In this study, it was not clear why an equal number of patients and clinicians were interviewed, when the research was being carried out to establish patients' perceptions.

More recently, a qualitative study was carried out examining adult patients' perspectives of dento-facial normality (Stanford et al., 2014). Interestingly, the participant group reflected a range of views, some were undergoing straightforward fixed orthodontic treatment, others, orthognathic surgery, and two had declined treatment. Participants explained that variations in the appearance of the jaw or the teeth were acceptable if they were common, but a normal appearance was more attractive. Abnormality was described as biological, psychological or social, so could affect many aspects of people's lives. Participants were influenced to some extent by friends and family, but this did not change their innate belief about their abnormality. Furthermore, there was some awareness that they were motivated to undergo treatment to achieve the media's depiction of ideal, which in fact, was not normal (Stanford et al., 2014).

As demonstrated above, some aspects of care have been explored in-depth using qualitative methods, but, these are primarily with orthognathic patients. Patients can only undergo orthognathic surgery when they have stopped growing, so this research has been carried out with adult patients. In addition, they are undergoing surgery on their jaws to correct a facial deformity, so I expect their motivations and experiences are very different to

young people undergoing fixed orthodontic treatment alone. I will now explore the qualitative research that has been carried with young people in relation to fixed appliance treatment.

Qualitative methods being used to inform a questionnaire, has also been used in orthodontic research with young people. For example, Mandall and colleagues (2006) developed a measure of the impact of fixed orthodontic appliances on patients' daily life. They reported using qualitative interviews with 10-18 year old patients undergoing treatment, the findings from the interviews were used to devise a questionnaire (Mandall et al., 2006). The qualitative component consisted of participants being asked a series of pre-determined open-ended questions during an orthodontic appointment. No information was provided on the qualitative interviewing process, for example if there were any attempts to build rapport or address the power imbalance given the research was carried out by clinicians in the hospital setting. The findings from the interviews were presented as a list of topics, indicating numerically how many responses corresponded to each topic. The quantitative presentation of the results indicated issues of importance to the young people were not explored in-depth, so the study did not really provide an understanding of the impact fixed appliances have on young people.

A similar approach was used by Sayers and Newton (2006), a small scale qualitative component, consisting of qualitative interviews were carried out initially. The findings from the interviews were used to formulate the larger part of the study - a questionnaire on patients' expectations of orthodontic

treatment (Sayers and Newton, 2007). Despite the title suggesting the research was seeking patients' expectations, an equal number of parents were involved in the research, this suggests the adults' opinions (as proxies) were of equal value as the patients themselves. The results from the interviews were presented numerically, so again, the depth of understanding of the patients' expectations was not clear, and the findings should be interpreted with caution.

In the dental literature there can be confusion about studies using interviewing and claiming to be qualitative, The above study (Sayers and Newton, 2006), and Mandall and colleagues' study (2006) may be examples of this. Qualitative research does not have the monopoly on interviews and interviewing may be used in quantitative studies. In these situations, individuals are asked pre-determined questions, in a standardised way, to ensure findings are comparable and to maximise the validity of the data (Taylor and Bogdan, 1998). Participants are given less opportunity to qualify their responses, and therefore, are more likely to choose to answer with more socially desirable responses (Green and Thorogood, 2009). It is the overall aim of the study that dictates whether a qualitative or quantitative approach is more appropriate, this is then tightly bound to the theoretical approach which informs the research question. For example, the research questions in qualitative studies tend to be asking the 'how' or 'why' of a phenomenon as opposed to 'how many' or 'how much' in quantitative studies (Green and Thorogood, 2009). I used qualitative methods because I wanted to explore patients' experiences of fixed orthodontic treatment.

McNair and colleagues (2006) reported using qualitative methods (telephone interviews and group discussions) to develop a questionnaire to elicit 12-18 year old patients' perceptions of NHS orthodontic treatment. Telephone interviews were not planned, although the researchers changed the protocol due to disappointing recruitment numbers. This is not a commonly used qualitative research method, because it would be difficult to build rapport and explore in-depth issues of importance to participants on the phone. However, with regards to the quality of the research, of greater concern, was that the analysis was carried out quantitatively. The results were simple descriptions of each topic, the frequency of occurrence of a topic being used to establish its importance. As there does not appear to be a qualitative analysis, the results should be interpreted with caution, because I do not think the study truly established patients' perceptions. The findings were grouped into 'reasons for undergoing treatment', 'experiences of wearing braces' and 'benefits of treatment'. Within 'experiences of wearing braces' the main themes identified were 'the process of treatment', 'the acceptance of appearance among peers' and 'the disregard of clinicians' advice' (McNair et al., 2006).

Bennett and Tulloch (1999) used focus groups with young people to inform a questionnaire about orthodontic treatment satisfaction. The authors queried satisfaction scales, which they felt did not explore the different dimensions of satisfaction in sufficient detail. They aimed to find the aspects of treatment that do not achieve high levels of satisfaction and, in turn, compliance. By

addressing these areas, the authors theorised that they could improve the overall treatment outcome. The focus groups were carried out with young people up to two years after they had had their brace removed. This could explain why one of the most important themes was dislike of retainers. I think people are likely to prioritise issues that are affecting them, at that moment in time, rather than recall experiences from the past. Participants also discussed how they disregarded orthodontists' advice on diet and oral hygiene. All participants were pleased with the result and would undergo orthodontic treatment again if their teeth were at the pre-treatment condition (Bennett and Tulloch, 1999).

Research in orthodontics frequently uses a mixed methods approach. In theory, this is an excellent approach and involves using qualitative methods to generate new knowledge by exploring patients' perspectives. Through analysis of the qualitative data, issues of importance to the patients can be identified, and used to formulate a questionnaire. The questionnaire can then be piloted, and used to provide quantitative data. However, for this approach to be successful in formulating an appropriate questionnaire, the qualitative methodology must be rigorous. In all of the above studies, I think there are serious concerns in the quality of the qualitative component, be it the data collection or the analysis, so patients' perspectives were not fully explored. There is a limited amount of qualitative research that has been conducted as a study in its own right, as opposed to being carried out to inform a questionnaire. One example is Trulsson and colleagues study (2002); they used grounded theory to explore the factors that influenced teenagers'

decision to undergoing orthodontic treatment. As clinicians would hope, the teenagers felt, it was their decision to have a brace, although they were influenced by their dentist, friends and family. They expressed a desire to fit in with friends, and conform to the appearance ideals seen in the media. The authors reported gender differences too; the most important factor for the boys was the functional aspect, either correcting the function of the malocclusion, or to prevent problems in the future. For the girls, the aesthetics were the primary motivating factor. The length of treatment, the pain, and the appearance of the appliance were sources of worry; participants speculating it would be better to undergo treatment as an adult, because they felt an adult's appearance was less important (Trulsson et al., 2002).

Young people's opinions about the appearance of the brace may have changed because Trulsson and colleagues study was carried out in 2002. More recent qualitative research looked at orthodontic related Twitter posts in New Zealand to explore patients' experiences of having a brace (Henzell et al., 2014). In this study, the only time the appearance of the brace was discussed, was when the young people were excited about choosing the colours on the brace. The authors described a theme titled 'Negative Comments About Braces', although within this theme, the appearance of the brace was not mentioned by the young people (Henzell et al., 2014).

Collecting data from Twitter is a novel, although not well-documented method of collecting data for qualitative analysis (Henzell et al., 2014).

Twitter use is rising, and the highest proportion of users, are the younger population (Greenwood et al., 2016). Therefore, collecting data from this site is appropriate, because the majority of patients undergoing orthodontic treatment are teenagers. In some respects this approach could be likened to participant observation. This method carries distinct advantages over other methods of data collection, for example data were recorded in real time, when the event was most relevant to the patients. Participants were not aware their comments were being used as data in research, so they were not influenced by the researchers or the research process, although they may have constructed their comments to fit within their “online persona” (Brady et al., 2016), or they may have been influenced by their fellow “followers”. The authors described some of the limitations of the study, for example, posts were only collected over five days, the authors did not follow any individual’s Twitter threads, so could not evaluate changes over time. Another limitation, which the authors do not mention, is the inability to probe to gain a greater depth of understanding of the comments, they had to be taken at face value. The context of the post was also unknown and could have a significant bearing on what the people posted. The authors described four main themes of the Tweets.

The first theme was ‘Excitement About Getting the Brace Removed’, this included Twitter users supporting and reassuring their followers that braces were worthwhile. The second theme was ‘Problems with Braces’, this theme focussed on pain caused by the brace, interference with the diet and the inconvenience of returning to have the brace repaired. The third theme was

'Positive Comments about Braces' and described how patients were excited about getting the brace, having the opportunity to choose colours, and about getting straight teeth. Contrasting this, the fourth theme was 'Negative Comments about Braces' because some Twitter users expressed a strong desire to have their brace removed (Henzell et al., 2014).

Al Jawad and colleagues (2012) used the more traditional approach of semi-structured interviewing to understand how a fixed brace affects young people's diet and behaviour in the initial stages of their treatment. The first theme identified was relating to pain. Pain lasted from one day to two weeks, it mostly affected the teeth, although was also felt in the soft tissues, and some participants reported it was worse in the mornings or when eating hard food. The second theme identified was relating to dietary changes. All participants reported their diet had been affected in some way, either changing the quantity of food, what they ate, or the way the food was prepared. Many patients also reported improving their diet and oral hygiene because of the advice the orthodontist had provided (Al Jawad et al., 2012). Data were collected at a single time point, four to six weeks into treatment, so it is not known if these behaviours were maintained. The findings opposed those of research carried out with patients after they had completed their treatment; Bennett and Tulloch reported patients did not comply with oral hygiene recommendations (Bennett and Tulloch, 1999). This would suggest young people's experiences and behaviours change during their orthodontic treatment, although in the absence of any longitudinal research, we do not know how, or when this takes place.

2.7.1 Sociology of Orthodontics

Orthodontic research is frequently carried out by clinicians, although as the importance of a qualitative methodology is being realised, in order to recruit the expertise of professionals in this area, qualitative research is often carried out by a multidisciplinary team. In 2009, Exley highlighted the lack of understanding of sociology of oral healthcare. She described this as 'research in the field of oral health', i.e. it is conducted by sociologists, primarily for a social science audience. She differentiated this from a sociology *in* oral healthcare, which is carried out by a multidisciplinary team, often led by a clinician, and is aiming to improve oral health or healthcare delivery (Exley, 2009). The author called for future research to bridge the gap in the sociology of oral healthcare, and specifically, she suggested research be carried out in cosmetic dentistry and orthodontics (Exley, 2009). Finally, the tides may be turning; research in the sociology of orthodontics is emerging, in particular, exploring the extent to which orthodontists are responsible for the increase in the demand for treatment, but also, whether the rise of social media also plays a role.

Social networking sites have become increasingly popular, and with it, a craze has developed of taking selfies, which has had the resulting effect of increasing narcissism among young people (Halpern et al., 2016). Social media, at least in part, is responsible for the increase in young people's awareness of their appearance, and their desire to improve the way they look

(Kim and Chock, 2015). This has led to sociology and anthropology research exploring why having straight teeth has become the beauty ideal (Khalid and Quiñonez, 2015). It has been argued, the process of orthodontists examining and diagnosing patients' dental deviations, changes how people view themselves (Wickstrom, 2016). Young people may want straight teeth to improve their appearance, although orthodontists legitimise their desire, by labelling and categorising their malocclusion, and clarifying that treatment will also improve the function of their teeth (Wickstrom, 2016). Dentists, as experts in the field, and credible professionals, are in the position of power, so endorsing a brace, can influence people's decision to proceed with orthodontic treatment (Khalid and Quiñonez, 2015).

2.8 Further Literature

As outlined in chapter 1, "Introduction", I have structured this thesis differently to the traditional structure usually seen in scientific or social sciences theses. This is because the literature relating to the theme in each analysis chapter is distinct and different to each of the other analysis chapters. Therefore, I have begun each of the analysis chapters with a summary of the literature relating to the theme of that chapter.

The first analysis chapter is titled "Being a Little Kid, to a Teenager and an Adult". This chapter is a case study analysis of a girl called Jasmin and explores how the brace acts as an indicator for growing up. The literature explains why children in Western culture look forward to their progression

through childhood and adolescence. Interestingly, although young people's transition to adulthood varies, more often nowadays, when young people reach post-adolescence, there is ambivalence about the future. I also explore the literature on turning points in adolescents' lives, these are called 'fateful moments', and can have significant long term consequences for the young people (Giddens, 1991).

The second analysis chapter, "I Just Want to See What I Look Like with Straight Teeth" explores what motivates young people to want straight teeth, and what influences their view on appearance. The literature I discuss, describes how a person's appearance, the appearance of the mouth in particular, has always been of huge importance. This is in part because it is flexible and can be changed, but more importantly, because it is believed to reflect the personal attributes of an individual. I also explore the literature relating to the significance of the appearance for children. Finally, I summarise the literature describing what factors influence our opinions about appearance; these include gender, culture, mass media, including social media and peers.

Chapter 6, "How Braces Feel" explores how the young people experience the physical presence of the brace. I start chapter describing the orthodontic literature relating to pain. I thought the young people in the study discussed the feeling of the brace, and their experiences of pain, on a deeper level than is alluded to in the orthodontic literature. Therefore, in order to compare my findings, I turned to the medical sociology literature to explore how people

narrate their pain experiences, and how culture and gender influence this. Lastly, I look at the literature on the relationships young people develop with their medical devices.

The final analysis chapter (7), "Sharing the Treatment Experience" explores how relationships with family and friends can influence young people's experiences of fixed orthodontic treatment. Therefore, the literature I describe, centres around *connectedness*; this is the term used to describe the connection adolescents have with the people around them, be it their friends, peers, parents and society (Grotevant and Cooper, 1986). Connectedness is of critical importance to young people because it forms the basis of their feeling of belonging, and can form a protective role, improving adolescent health. Individuals are embedded in relationships, and these relationships influence their thoughts, feelings and experiences (*ibid*).

2.9 Conclusion

Orthodontics has developed from being an alternative therapy to cure medical ailments, to a dental specialty of sociological interest. Historically, children were seen as precursors for adulthood, so their involvement in research was limited to being objects under investigation. It is now understood that children are experts in their own lives, and they deserve to be engaged as active participants in the research process.

Furthermore, in order to provide the best quality of care, clinicians must understand patients' experiences and perspectives of the treatment they are providing. There are limited examples of good quality qualitative research with young people in orthodontics. Often, this is because the research has been carried out by clinicians, who do not appear to have grasped the depth of understanding that can be gleaned from qualitative research, and a thorough analysis has not been carried out. As a result, we, as clinicians, do not know how children experience orthodontic treatment, or their perspectives of having a brace.

However, another issue arises with regards to the time scale involved with orthodontic treatment. People usually have a brace for eighteen months to two years, so it is impossible to gain a thorough understanding of patients' perspectives if data are collected at a snap shot in time. From researchers' point of view, it is far easier logistically to carry out data collection over a short time frame. However, this approach can result in a skewed picture because we do not know what young people's experiences are in the longer term, throughout the treatment. All of the orthodontic literature in this chapter reports the findings of data collected at one point in time, so we do not know how patients experiences of orthodontic treatment change. When exploring the few orthodontic qualitative publications, some had contradictory findings, which could be accounted for, by them being carried out at different time points in the patients' treatment journeys. This suggests young people's experiences change during their course of treatment. I think this is inevitable over a two year time period, given adolescence is understood to be a

transitional period (Henderson et al., 2013). The gap in clinicians' knowledge of young people's experiences of fixed orthodontic treatment, and the lack of understanding of how young people's experiences change, can only be addressed with a qualitative longitudinal study, and this is why I conducted this study.

Chapter 3: Methods

3.1 Introduction

Having examined the qualitative literature in orthodontics, I identified a void in our understanding of young people's perspectives and experiences of orthodontic treatment. In order to fill this void we need to access young people's views using qualitative research methods. Having explored the sociological literature, I believe the best way to approach this study was to situate the young people as the experts at the centre. With this in mind, I designed the study around them, with the primary aim being, to facilitate young people expressing their views. I chose to use in-depth qualitative interviewing and video diaries, the reasons for which I will explain below. In order to understand young people's perspectives and experiences over a two-year period, it was essential for me to collect data longitudinally throughout their treatment. I recruited patients from a specialist orthodontic practice and the Dental Hospital in Sheffield.

I start this chapter by describing how I gained the skills in qualitative research to carry out this study. I will then describe the different aspects of data collection. First, I will explain the methods of data collection and how I addressed the power imbalance, as the focus of this study was to enable the young people to express themselves. I will then detail how, and why I chose to use video diaries and in-depth interviewing. Next, I will explain the procedures I underwent to gain ethical approval and access to patients for

recruitment. Following this, I will describe the different methods I used to analyse the data. To conclude the chapter, I will discuss the participants who dropped out of the study. I reflect on the methodology I used in chapter 8, Conclusion.

3.2 My Training as a Researcher

Prior to starting this study, I read textbooks which formed the basis of my understanding of qualitative research methods (Taylor and Bogdan, 1998, Bryman, 2004). I also read around the new paradigm of childhood sociology (James and Prout, 1997) and how research can be carried out with children (Christensen and James, 2008b). Subsequently, I read many journal articles in the social sciences literature examining the advantages and disadvantages of different research methods, when carrying out qualitative research with children. This informed my decision to use in-depth interviewing and video diaries to collect data in my study. Having explored the literature surrounding research with children, I focussed on the field of medicine and nursing, I did this because there is a paucity of good quality qualitative research carried out with children in orthodontics. With the guidance and support from my supervisors, I felt I had a good basis from which to plan this study.

I am a member of the Person-centred and Population Oral Health Research Group, School of Clinical Dentistry, University of Sheffield. Attending the regular group meetings was very useful in the initial stages when I was

planning the study. I was able to seek advice from experienced researchers about methods of data collection and guidance through the ethics process. When I had decided on the methods I would use for data collection; in-depth interviewing and video diaries; I joined the Visual Methods Research Group that was running at the time, in the Faculty of Social Sciences, University of Sheffield. Through attending regular meetings with the group, I learnt more about the use of visual methods. I also discussed my planned approach with other researchers in the group who had experience using visual methods. I attended the NatCen Social Research Depth Interviewing course which gave me the opportunity to practice interviewing and gain feedback. After the first interview, with the first participant in my study, I evaluated the transcript with the help of one of my supervisors. We discussed the weaknesses in my interviewing technique and how I could improve my interviewing skills in future interviews. I continued to reflect on my interviewing skills throughout data collection.

Appraising the literature, as outlined above, gave me some understanding about qualitative data analysis. Again, my supervisors helped me with this, particularly in the initial stages. We had regular meetings when we discussed the codes and possible themes I had identified, and they provided feedback on my written work. I also attended a Data Solutions Services course on the use of NVivo which was invaluable for knowing how to organise the data I had collected using this software programme.

3.3 Data Collection

3.3.1 Methods of Data Collection

I collected data using two methods, in-depth qualitative interviewing and video diaries. I also recorded field notes throughout the data collection process; these provided depth to the setting, acted as a reference point for analysis and allowed me to record my thoughts and reflections. I recorded how well I built a rapport with the participant, what I thought the carers' impressions were about me, and the study, and how the family got on with each other. I also documented my interpretation of the participant's attitude, and how comfortable they seemed at home with me there.

When carrying out research with children, Punch (2002) advocated using a combination of traditional and innovative methods to collect data. This is advantageous from the research participants' point of view because individuals have different preferences and competencies, and using a combination of methods is more likely to maintain engagement and interest. Another benefit of collecting data by two different methods was that it enabled me to evaluate the innovative method of using video diaries and compare it to the interviews (Punch, 2002). In practice, interviewing was more successful at collecting data longitudinally. Twelve young people recorded video diaries; three young people chose not to record any. Of the participants who did make video diaries, the recordings were usually quite short, explaining one topic of importance to them at that time. All twelve participants stopped recording video data at different stages during their

orthodontic treatment, no one recorded videos in the final six months of their treatment. I reflect on the methods of data collection, and why I think the young people stopped recording video diaries in chapter 8, Conclusion. The video diaries offered a very valuable contribution to the data set on some topics, although, I had far more data from the interviews than the video diaries, and the interviews provided a broader knowledge base. Therefore, the data analysis used the interview data far more than the video data.

3.3.2 Addressing the Power Imbalance

In research there is always the issue of a power imbalance between the researcher and the participant and this imbalance becomes greater when carrying out research with children (Punch, 2002, Christensen and James, 2008a). This is because children feel that a central characteristic of adults, is that they have power over children (Mayall, 2008). As a result, the power imbalance between adults and children is thought to pose the biggest challenge to carrying out research with young people (Morrow and Richards, 1996, O'Kane, 2008). Children can be intimidated talking to an adult they do not know in a one-to-one interview (Buchwald et al., 2009, Mayall, 2008); if the disparity in power and status is not addressed, participants may say what they think the researcher wants to hear and not necessarily what they believe (Taylor and Bogdan, 1998). It is the researchers' responsibility to address this differential power relationship and to minimise it where possible (Punch, 2002, Greene and Hill, 2005). I wanted to give voice to young people and understand their perspectives; therefore, in order to collect meaningful

and accurate data, I tried very hard to use methods to address the power imbalance, which I will now describe.

It is accepted that building rapport is the best way to address the power imbalance (Morrow and Richards, 1996). I felt this would be easier to do one-to-one, rather than in a focus group setting, which is one of the reasons why I chose to use interviews as one of the methods of data collection. It is crucial to build rapport prior to the beginning of an interview, because participants will then be more likely to express their personal views or thoughts, which will lead to more in-depth data being collected (Irwin and Johnson, 2005). I tried to build rapport before each one of the interviews by talking to the young person informally about topics unrelated to braces, as a means of us getting to know each other, so they were more comfortable talking to me. I did this before all the interviews, even if they had met me on several occasions in the past; I felt it was a useful process to rebuild our relationship. I think my ability as a researcher to establish rapport was particularly pertinent in this study, because I collected data longitudinally throughout the young person's treatment, so was able to build on the relationship we had established previously. As I was the only researcher collecting data, I also believed, if we built a strong trusting relationship, the young people would be less likely to drop out of the study. In retrospect, it is difficult to say if this was true or not, I discuss this further in the Limitations section below.

Taking guidance from the literature, I also tried to address the disparity in power by giving control over to the young person whenever possible (Faux et

al., 1988). I explained to the participants that the purpose of the study was to understand what it was like for young people having a brace. Therefore, they were the ones with all the knowledge, there were no right and wrong answers, and it was fine if they were not sure, they could say this too (Faux et al., 1988, Mayall, 2008). I also explained that we could talk about anything else they wanted; we did not need to only talk about braces. I said this to make the interview process seem more informal and more like a conversation, so they felt like they had more control. I always suggested meeting at the young person's home, because this was a more familiar environment for them than the clinical setting, and it has been proposed, more rich data may be collected in this environment, because the participant is more likely to feel comfortable there (Kotzer, 1990, Bray, 2007). I wanted the participants to feel in control, not only of their participation, but also of the data, so I gave the young person complete autonomy to record video data as often as they chose on whatever topic they wanted. From the participant's point of view, this gave them more freedom, so they could choose the timing, duration, frequency and content of the data collected (Buchwald et al., 2009, Bray, 2007). They were also able to record data, reflect on it, and delete it if they do not wish to share it with me, so they had complete control over the researcher's gaze (Muir, 2008). Whenever possible I left decisions up to the young person to echo the feeling that they were in control, for example, they could choose when the interview took place, where in the house we would hold for the interview and if a parent was present or not.

Children and adolescents have been described as “powerless” because they are not given the opportunity to voice their opinions and are completely dependent on adults to interpret their needs (Rich, 2004, Alderson, 2008). Consequently, being able to demonstrate an interest in what participants say is thought to help address the power imbalance between the adult researcher and child participant. For example, Kortessuoma and Nikkonen (2004) sought to research children’s pain experiences, and found that the children were “extremely grateful when they realised that an adult took them seriously and let them follow their own line of thinking”. The researchers felt they gained very rich data from the interviews and reached several conclusions about the pain experienced by children (Kortessuoma and Nikkonen, 2004). Demonstrating an interest in what the young people said was easy for me, perhaps because I am an orthodontist I found it genuinely interesting talking to the young people about their experiences and trying to understand their perspectives. In addition, all interviews were recorded, so I was not distracted trying to write notes to record data, I was able to focus on the participant.

It has also been proposed in the literature that; the disparity in power can be better addressed by collecting data using new, alternative methods compared to the traditional methods used in qualitative research. Rich and colleagues’ (2006) used video diaries with nineteen participants age 8-19 years with moderate or severe asthma. Key themes that emerged were that the video component helped participants reflect on their illness experience and gave them confidence to manage their disease (Rich et al., 2006). In

another study by the same group, the author described how “giving voice to young patients by providing them with camcorders respects the wisdom and strength that patients bring and allows them to become true partners with their health care providers” (Rich, 2004). Given the power imbalance that always exists between a healthcare professional and their patient, I do not think it is possible to say any method of data collection for research purposes can completely address the power imbalance. Although, it is possible, the use of video diaries could lessen the influence of the adult researcher compared to the interview setting and any method that facilitates participants expressing themselves will help address the power imbalance.

3.3.3 Longitudinal Data Collection

There were several reasons why I collected data longitudinally in this study. Longitudinal methods enable researchers to understand phenomena that change over time (Thomson, 2009). Given the time frame involved with orthodontic treatment (of around two years), and because adolescence is a transitional period (Henderson et al., 2013), I expected the young people’s feelings to change over time. I wanted to gain an insight into their whole experience of undergoing fixed orthodontic treatment and gain “a movie rather than a snapshot” of their experiences (Neale and Flowerdew, 2003).

Research exploring biographies retrospectively has the inherent problem of memory lapses and recall bias, which has affected the findings of research being carried out after young people have had their fixed appliances

removed (Bennett and Tulloch, 1999). Memory lapses and recall bias can be overcome when research is carried out longitudinally (Finn, 2014). The qualitative longitudinal method has emerged, with the aim being, the researcher is “walking alongside participants” (Neale and Flowerdew, 2003), so they can understand “what is happening” rather than “what has happened” (Thomson, 2009). The depth of understanding that is gleaned from longitudinal research can also be far richer than one-off interviews because, by getting to know the participants as individuals, the researcher is able to better understand the complexities of their behaviours and perspectives (Finn, 2014), and analyse how and why their motivations changed over time (Neale and Flowerdew, 2003). This explains why I collected data longitudinally from each participant, rather than recruiting patients who were at all different stages in their treatment.

I will now give some background information on interviews and explore why I chose to use interviews and video diaries as methods of data collection, and the strengths and drawbacks of these methods. There is a paucity of research carried out with young people in orthodontics, so when examining the use of interviews and video in qualitative research with children, I turned to the literature on seeking children’s perspectives of medical treatment and health.

3.3.4 Interviews

Qualitative interviewing is the most widely used method of data collection in qualitative health research (Green and Thorogood, 2009), and is also known as in-depth or unstructured interviewing (Taylor and Bogdan, 1998). The researcher may have a topic they wish to discuss, although the conversation is very flexible and will follow the participant's areas of interest, questions being formulated and asked, so the researcher can achieve a thorough understanding of the participant's point of view. Topic guides may be used as an *aide memoir* for the researcher and are devised using prior knowledge and available literature. Due to the paucity of qualitative research with young people in orthodontics, there were few resources from which I could formulate topic guides (Trulsson et al., 2002). Therefore, I primarily used the clinical experience within the research team; the topic guides I used comprised a short list of possible topics that I thought may be of interest to the young people, although the list was by no means exhaustive (Appendices 5-7). I had three separate topic guides, one for the first interviews (before the brace had been placed - Appendix 5), one for the mid-treatment interviews (Appendix 7), and one for the interviews after the brace had been removed (Appendix 6). Despite having these, I encouraged participants to direct the interview; often I did not use the topic guide at all. As I interviewed the participants, I made changes to each of the topic guides, incorporating topics that had arisen that I had not thought of (see "additions" in Appendices 5-7). I also included some questions that were specific for individuals, following up on conversations we had had at the previous interview. As expected, during the interviews, we discussed some topics on

the topic guide in detail and other topics, we did not discuss at all, depending on what was of interest to the young people. I will now explain the reasons why I chose to use in-depth interviewing as a method of data collection.

3.3.4.1 Reasons why I used interviewing

As discussed above, I felt interviewing would be the best way of building rapport with the young people, in turn this would address the power imbalance and enable me to generate rich data. To further improve the accuracy, and depth of the data I collected, I wanted to be able to probe topics of interest, which I could only do through interviewing (Taylor and Bogdan, 1998). I did this by asking a general open question on a subject in the first instance. If I found a topic the participant found important or interesting, I probed to achieve a deeper level of understanding of their perspectives (Bryman, 2004). The technique by which general questions proceed more specific questions on a particular topic is known as the funnelling sequence; it is useful for finding the topics that are meaningful to the young person, but also allows time for trust to be built by asking non-threatening questions before broaching more in-depth questions (Faux et al., 1988). Tekola et al. (2009) used various methods to explore 10-14 year old Ethiopian children's understanding of wellbeing. One issue in particular was depicted in the drawing exercise that had not emerged through the other methods of data collection; it was a drawing of the school toilet. Following this, the children were involved in qualitative interviews, and through careful probing, one girl described how the toilet was a possible location for rape and other sexual abuse. Although this important topic was highlighted from a

drawing, it demonstrates the advantage of using interviews, where the researcher was able to build up a relationship with the participants, probe and explore issues of importance. In a similar manner, interviewing allowed me the opportunity to probe to achieve a great depth of understanding.

Another reason I used interviewing was because large amounts of data can be collected during each meeting, which results in efficient use of the researcher's time (Taylor and Bogdan, 1998), although I did also have to incorporate time travelling to meet the young people at their homes. As is common for qualitative research, I recorded the interviews, which saved time and allowed the interview process to become more of a discussion than a question and answer session (Tekola et al., 2009). It has been reported that because children are familiar with electronic equipment, they forget about the presence of the recorder very quickly (Kortessluoma and Nikkonen, 2004). I found this to be true and I did not feel the presence of the dictaphone inhibited the young people communicating with me. Quite the opposite, the interviews being recorded allowed me to concentrate on what the participant was saying, which I think was apparent to the young person. This became evident in one interview in particular, when I was not able to turn on the dictaphone, so I had to record everything by hand. I felt this interrupted the flow of the conversation and I was less able to show an interest in what the boy was saying, because I was trying to write down what was said.

3.3.4.2 Drawbacks of using interviews

One drawback of qualitative interviews is that the interviewer must have many different skills to be able to conduct the interview, because data are constructed as a result of the relationship between the researcher and the participant (Hemming, 2008). Most importantly, they must have the appropriate experience and interpersonal skills to build rapport and gain trust. The researcher must calibrate social distances, and give something of himself or herself away to merit an open response, although they should not talk as if the interviewee is a friend (Hemming, 2008, Green and Thorogood, 2009). This requires flexibility and experience to achieve the correct balance and yield rich, meaningful data. In addition to the researcher's interpersonal skills, they must also be able to engage in active listening and participant observation to take on board another person's point of view and achieve an in-depth understanding of someone else's accounts. Undoubtedly, these are all skills I needed to develop as I conducted interviews with the young people, and they are skills I am still learning.

Taylor and Bogdan (1998) explain the importance of observing people in their everyday lives to better understand their perspectives, although this is often best achieved using participant observation. So one disadvantage of interviewing is that informants are speaking out of context, and will not describe and explain every important detail; so, the researcher may not gain a complete understanding of their social world and may make assumptions that are not correct. Similarly the informant may use language which is misinterpreted by the researcher, because they have not had the opportunity

to observe it being used routinely (Becker and Geer, 1957, referenced in Taylor and Bogdan, 1998). The researcher can clarify the meaning with the participant although this can have drawbacks in itself. Repeatedly interrupting the interview to clarify meanings can disrupt the flow and can highlight cultural differences which may breach communality, damaging the trust and rapport which has been built between the interviewer and interviewee (Green and Thorogood, 2009). The participants in this study used language I was familiar with, although there were a few occasions when I did not fully grasp the young person's explanation. On one occasion, in an interview with Jasmin, I chose not to ask her to clarify the point, because I felt it would disturb the flow of the conversation and highlight that she had just contradicted herself. On reflection, during the analysis of the data, I was able to establish the meaning behind what Jasmin was saying, this is discussed in the analysis chapter titled "Being a Little Kid to a Teenager and an Adult".

Another documented drawback of interviewing young people is that the researcher may find communicating effectively with some individuals more challenging than others, which can prove detrimental to data collection. One qualitative study with young people undergoing orthodontic treatment found boys in particular had difficulty expressing themselves (Trulsson et al., 2002). Kortessluoma and Nikkonen (2004) tried to address this by selecting participants based on the nurses' assessment of the children's ability to interact with an adult they did not know. This approach made data collection easier for the researchers, but further marginalised those young people who

appeared at first not to communicate effectively; it is the researcher's responsibility to enable participants to participate in the research process (Greene and Hill, 2005, Punch, 2002). I did this by asking the clinicians not to judge who they felt would be appropriate for participation, but to identify all patients who fulfilled the inclusion criteria. Similarly, I did not exclude anyone from participation based on their ability to communicate. Indeed, this did mean some participants were more difficult to engage with than others, however, I felt it was my responsibility to address this issue and establish their perspectives.

3.3.5 Video

In addition to collecting data from the young people using in-depth interviews, I also asked participants to record video diaries. As discussed above, one of the reasons I did this was to help address the power imbalance between me as an adult researcher, and them as child participants. I did not want the young people to feel under pressure to record video diaries, so I waited until the end of an interview, to ask if they had recorded any videos for me. On occasion, subjects they had recorded video diaries about, came up in the discussion during an interview. Video diaries have not been used widely in health research, and I considered several factors when deciding if it was an appropriate method for this study. I will now discuss the positive and negative factors that I considered and explain how I made my decision to use this method.

3.3.5.1 Reasons why I used Video Diaries

The notion that recording video diaries can reduce the impact of outside observers was described in the media unequivocally by one teenager. Becky, or Beckieo, as she is known on YouTube, suffered from trichotillomania and used social media to help her cope (BECKIEO, 2014). Trichotillomania is a condition where an individual is compelled to pull their hair out. Becky recorded a vlog (video blog) for the BBC, explaining how she had used YouTube for seven years to record video diaries of her experiences. She described how she had more confidence talking to a camera, "it is inanimate, there's no facial expressions, so I can just sit for half an hour, pour my heart out, express. It's something about eye contact" (BECKIEO, 2014). Recording the video diaries was something Becky chose to do, of her own accord, as a coping mechanism, so it does not necessarily correspond that the same will be true for research participants that have been asked to record data. However, it demonstrates how comfortable some British teenagers are with social media, and how talking to a camera can reduced the influence of an outside observer.

Minimising the effect of an observer has also been demonstrated when video cameras have been used in qualitative research. Noyes (2004) planned to use semi-structured interviewing and participant observation to explore learning dispositions of children at primary school prior to their transfer to secondary school. When the author transcribed the interviews, he felt his presence was limiting the potential contributions and therefore was not gaining data that was most pertinent to the children. The researcher changed

the research design to incorporate a video diary component. He set up a video camera in a room at the school that the participants had private access to over the course of several weeks. The author found the video data had far more depth compared to the interview data, and so although the analysis was more complex, it led to a far more comprehensive level of understanding of the young people's perspectives. Noyes (2004) concluded it was a very useful research tool with invaluable potential and would be even more flexible if used with adolescents, giving them more ownership of the camera. Rich et al. (2000) described using video diaries to collect data from young people with chronic medical conditions. The researchers felt this method eliminated the possibility of reactivity to an outside observer, was less invasive, and less judgemental than direct observation or questioning (Rich et al., 2000). I do not think any method of data collection can "eliminate" the influence of an outside observer, although a method that can allow young people the opportunity to explain their lives in their own terms without direction by a researcher or a parent is beneficial.

Pink (2007) stated that for visual methods to be used, they must be appropriate for the research objectives and they must fit with the local culture. The vast majority of young people in the UK are technology literate, often owning mobile phones and having access to computers on a daily basis at school. Mobile phones routinely have a camera and video function and with webcams frequently being incorporated into computers, websites such as YouTube with the slogan "broadcast yourself" (<http://www.youtube.com/>) have become increasingly popular. As a result,

the number of young people making video diaries or uploading vlogs is increasing. As advances in technology have reduced the cost of cameras, from a practical point of view, using video diaries was a financially economical way of collecting data. Video diaries bear a resemblance to both the traditional written diary, and video diaries commonly seen on reality television, such as 'Big Brother', therefore the theory behind the process of video diaries is familiar to young people (Buchwald et al., 2009). It has been reported that participants enjoy film making and it is a more fun method than a one-to-one interview (Muir, 2008). This method of data collection has been described as more participant-centred, young people demonstrating more ease and fluency in recording their personal narrative in an audio-visual, rather than solely by verbal means (Rich et al., 2000, Rich, 2004, Buchwald et al., 2009). For these reasons I felt using video diaries was an appropriate method for the culture of the young British population.

Another advantage of using videos to collect data was that data can be collected by the participants in contexts and situations which would be otherwise inaccessible by any other qualitative methods (Rich, 2004). This was one of the findings of Rich and colleagues (2000) who used patients' interviews, questionnaires and video diaries to inform clinicians of patients' daily experiences of living with asthma. Participants aged 8-25 years were encouraged to document their lives daily, for a period of four to eight weeks. Orthodontic treatment can take around two years, so it would not be reasonable to ask participants to record data on a daily basis throughout this time. Although in order to fully understand young people's perspectives, data

collection needs to be an ongoing process without being too onerous. I think asking young people to record video diaries did allow access to situations that I could not have achieved with any other qualitative method and it was relatively easy and time saving way of collecting data over an extended time period (Buchwald et al., 2009).

A further advantage of participants recording video diaries is that personal narratives recorded contemporaneously can be more informative than interviewing, and can result in a more accurate picture than is achieved by retrospective reporting (Rich et al., 2000, Buchbinder et al., 2005). Using written diaries has been reported to reduce recall bias, because participants can record data more often, and at time points that are more relevant or appropriate to them (Richardson, 1994), and I think this was true for the video diaries in this study too. It is thought a recall period of only 2-3 weeks can result in over- or under-reporting of minor health events due to memory lapse (Butz, 2004). For example, Richardson (1994) explained how short-term or low grade discomfort is under-reported when recorded retrospectively, and individuals tend to classify the seriousness according to the long-term effects which were incurred or the disruption of routine at the time, as opposed to the discomfort suffered. I found evidence of this in my study; there were inconsistencies in the pain data recorded by the two different methods, which I attribute to memory bias from retrospective reporting in the interviews. Therefore, employing a research method that allowed participants the freedom to record data at times that were relevant to them will have improved the accuracy of their memories.

3.3.5.2 Drawbacks of the Video Diary Method

As is the case with any research method, there were disadvantages of using video diaries as a means of collecting data. Fortunately, some of the drawbacks of the video diary method were addressed using interviews and vice versa. For example, it is reported in the literature that young people can feel burdened by the responsibility of collecting video-footage (Muir, 2008). I tried to overcome this by giving the young people complete control over the frequency and the content of the videos they recorded. So if the young people did feel burdened by collecting video data, they did not need to record any, and I collected data from these participants using interviews. Three participants chose not to record any video diaries.

Data recorded through diaries are also subject to “conditioning effects”, i.e. reporting behaviour or actual health behaviour changes because of the process of diary keeping. This could also be true with video diaries. Different conditioning effects can result; sensitization is when the respondent becomes more sensitive and over-report diary items or they become more aware of their poor health and respond more readily with curative or preventive actions (Butz and Alexander, 1991). However, when written diaries are used in research, participants are often asked to make daily entries (Ross et al., 1994), so this could contribute to sensitization occurring. I did not get the impression young people were affected by sensitisation, perhaps because I did not dictate to them the regularity of data collection. Another conditioning effect is fatigue. This is when participants tire with the

diary task which results in under-reporting (Butz, 2004). As the participants went through their orthodontic treatment, they stopped recording video diaries, which may have been caused by fatigue; I discuss this further in Reflections on the Methodology, 8.4.1.

Conditioning effects refers to how people report data to the researchers. Although another consequence of people volunteering to participate in research, is that involvement actually changes their behaviour. Rich and colleagues (2006, 2000) asked participants with asthma to record video diaries about their condition. Patients involved in the research had positive medical health outcomes relating to their asthma, and, an improvement in their quality of life. The authors hypothesized that this resulted from participants increasing their activity levels to symptom thresholds, and making the visual narratives led them to examine their medical self-management. This appears to be a working example of the Hawthorne effect where observational bias directly influenced behaviour and the outcome of the research (Hindle, 2008). This serves as a reminder of the impact I (as a researcher), and the study, can have on young people simply by asking them to participate. This may be true for any research study; although I think it is perhaps more applicable when participants' involvement affects their day to day lives significantly, for example if data recording is very time-consuming.

When participants are given sole responsibility to record data for research, for example to write a diary or record a personal narrative on video, the issue of compliance can be a significant limiting factor (Butz, 2004, Rich et al.,

2000). Rich, for example, describes how young male adolescents in his study prohibited parental involvement, struggled to stay motivated and recorded data that appeared “directionless, fragmented and incomplete” (Rich, 2004). However, a lack of compliance may not reflect rebellious teenagers, in Buchbinder and colleagues’ study, one 17 year old male participant explained at interview how he “was unable to express his feelings on tape” (Buchbinder et al., 2005). This indicates that collecting data audio-visually does not suit all young people.

Another drawback of the video diary method is that the researcher is not able to probe, at the time, for additional information or clarify any comments made to gain a deeper level of understanding of the participants’ views (Richardson, 1994). In practice, I did not feel it was necessary to clarify my understanding of the video data. In fact, occasionally, a video diary acted as a trigger or reminder to the young people and formed a starting point for a discussion we explored in more depth at interview.

3.3.6 Alternative Approaches

Participant observation is the gold standard from which to compare other methods of data collection. This is because of the depth of understanding that can be gleaned from observing and listening to informants in their own surroundings (Taylor and Bogdan, 1998). However, for this study, it would be impractical time wise and impossible logistically, to gain access to the

different settings and private situations necessary to explore young people's perspectives of orthodontic treatment.

Focus groups are often used in qualitative research to seek young people's views. In this environment, it is hoped, children will prompt each other by referencing things not known to the interviewer, and therefore more information is disclosed than would have been achieved at a one-to-one interview. This can result in a wider range of responses being discussed when compared to individual interviews (Lewis, 1992). A group discussion may be less stilted, because the non-response of one child does not stop the progress of the conversation; other children can take over and so the flow is maintained (Lewis, 1992). However, this can also result in reticent children's views not being voiced (Green and Thorogood, 2009), and only gaining the opinions of outspoken and confident participants (Bostock and Freeman, 2003). In addition, participants take on an appropriate social role when placed in a group setting and so individuals will be less likely to voice marginal or extreme opinions (Green and Thorogood, 2009). Focus groups may be ideal for establishing cultural norms, but they are less well suited to accessing individual's in-depth accounts, so I felt in-depth interviewing of individuals was more appropriate in this study.

3.3.7 Chronology of Collecting Data

I started data collection in October 2011 when I recruited the first participant. Due to the problems encountered with recruitment, I did not recruit the

fifteenth (and last) participant until December 2013. I completed data collection in August 2015.

When a patient verbally agreed to take part in the study, I arranged with the young person and their carer to visit them at a location of their choice, prior to having their brace fitted. With the exception of my clinical commitments, I gave the young person, and their family freedom to choose the day, time and location of the interviews.

It was the young person's choice if their caregiver stayed for the interview. Some young people wanted them to stay, others asked them to leave. The first in-depth interview with each participant explored his or her motivations and feelings about orthodontic treatment, and, what they thought their experiences of treatment would be like. All interviews were audio recorded using a dictaphone. This interview provided a baseline for each individual's perspectives and expectations of orthodontic treatment. At this visit, I lent each participant a mini video camera and provided basic information on how to operate and charge the device. I gave the young person complete control to choose the content of the videos, and the frequency they recorded them. This was so they could record video diaries telling me about their anticipations prior to treatment, and experiences during treatment.

During the interviews, if I did not fully understand a young person's explanation, I sought clarification and employed member checking. Member checking is a method by which I summarised or paraphrased what the young

person had said and ask if my interpretation was a fair account of their experiences (McBrien, 2008). This is thought to be a useful and effective method of ensuring credibility of the data collected (McBrien, 2008).

I terminated interviews when I felt all useful data had been collected, or when I noticed non-verbal cues that the young person had had enough. For example, if they appeared tired or bored and I was needing to probe excessively to clarify their point of view (Faux et al., 1988).

I contacted participants on the phone about a month after they had had their brace placed. This was to keep in touch and encourage them to record video diaries. For the participants who I recruited from the hospital, if it was mutually convenient, I arranged to meet the young person in the waiting room when they attended their next appointment. I did this to exchange video cameras with them, but also because I thought seeing each other face-to-face would help the young people become more familiar with me. In practice, this did not really work; participants changed their appointments and expected to see me at their new appointment time, although I was not aware of the changes, so I felt like I had let them down. When we did meet, it was nice to keep in touch and say "hello", although there were also drawbacks. On these occasions, I was always conscious that if the clinician called their patient (my participant) in for their appointment, and they saw us talking, it would disclose the young person's participation in the study. Where possible, I wanted to avoid clinicians knowing who had chosen to be involved, in case they spoke to the young person about me (and the participant realised I had

close links to the Department). Similarly, if the clinician spoke to me, I may lose the trust of the participant.

Two to three months into their treatment I contacted each participant again, if they were happy to continue with participation, I arranged a second interview. At the second interview, we exchanged video cameras (so their new camera had a fully charged battery and blank memory card). Following the request of one participant, I put a copy of their videos onto a CD, which I returned to them after each occasion that I received video data. I did this for all participants, so each participant had a copy of all the videos they had given to me. In the majority of cases, the second interview, and any future interviews were with the young person on their own.

Throughout participants' treatment, I contacted them to arrange another interview to explore their perspectives of treatment at that stage. All interviews were audio recorded. Most participants had four or five interviews in total. The final interview was after they had had their brace removed. I did not consult the clinical notes, or liaise with the clinician involved in the treatment, so I was reliant on the young person estimating when they were having their brace removed, which was not always accurate. As a result, the timing of the interviews after debond varied from being two weeks after, to about three months after. At the final interview we talked about how they felt about their appearance and their teeth after the treatment, and I sought to understand their reflections looking back on their treatment experience.

I wrote to the young people in the study thanking them for their participation and included a lay summary of the findings of my research. This was to follow ethical practice for participatory research (Morrow and Richards, 1996).

3.3.8 Research Setting

In the first instance I suggested the location of each interview be at the young person's home, this is promoted as being the most likely location to have a relaxed atmosphere (Bray, 2007), so the young person is more likely to be comfortable talking to me. One girl's mum asked for the interview to be at the Dental Hospital; the domestic situation precluding interviewing her at home. I suggested the interview be in a room out with the Orthodontic Department (but in the same building). The reason I did this was to avoid the clinical setting (Faux et al., 1988), although the parent declined; she thought it would be more convenient for the interview to be in the same place as the pending appointment. Unfortunately, Sam dropped out of the study before a second interview; I discuss this further in "Dropouts" and the end of this chapter, 3.6.

One boy's parents arranged for his first interview to take place in a hotel. Joseph lived a considerable distance from Sheffield, however, on one occasion, he was staying with his parents in a hotel in Sheffield. For this reason, his parents thought it would be more convenient for me to interview him in the evening when they were in Sheffield. After the first interview, I

explained that I was happy to travel to see Joseph at home, so I carried out all further interviews with him there. The majority of the interviews with the participants took place on weekdays after school, although some interviews also took place in school holidays and on weekends. The duration of the interviews varied from twenty minutes to one hour.

3.3.9 Safety

Prior to attending an interview, I emailed my supervisors with the location of the interview and my contact telephone number. I always carried a charged mobile phone with me, which remained turned on throughout the interview. I wore my identification badge to every interview. When arranging an interview, I ensured another adult would be at home at the time of the interview.

3.3.10 Data Recording and Management

I collected data in the form of field notes, audio recordings of the interviews and audio-visual recordings of the videos. The interview and video data were transcribed verbatim. I received funding from the British Orthodontic Society Foundation shortly after I had started data collection, so the majority of the interviews were transcribed using a professional dictation service (dictate2us). When I received a transcript back from the dictation service, I listened to the audio of the interview again, correcting the transcript to ensure its accuracy, as has been described in the literature (Braun and Clarke,

2006). I transcribed the audio of the video data into Word documents and annotated them as appropriate.

I received training in the use of QSR NVivo (version 10) and imported all Word documents containing data into this software programme. NVivo is a database that can store large amounts of qualitative data; it simplifies organising the data into topics or themes and aids navigation through the data. NVivo does not analyse the data in any way. The NVivo software, data recordings, and transcripts were stored on a University password protected PC.

3.4 Ethics and Approval

This research involved recruiting patients undergoing NHS orthodontic treatment. In order to do this, I obtained ethical approval through proportionate review from the National Research Ethics Service, East Midlands Committee – Derby 2, this was granted on 2nd June 2011 (11/EM/0177). I obtained research governance approval from the Department of Research and Development, Sheffield Teaching Hospitals, NHS Foundation Trust (STH16004).

During the study, I submitted minor amendments for ethical approval for three changes to the protocol. These changes were with regards to the sites I recruited patients from, funding, and a change of one member of the research team. The National Research Ethics Service, East Midlands

Committee – Derby 2 granted ethical approval for these changes on 18th March 2013.

In addition, I wrote a letter to each of the orthodontic consultants at the Charles Clifford Dental Hospital, and the partners who owned the orthodontic practice, The Orthodontic Centre. In the letter, I outlined the research and asked for permission to recruit patients from their clinics.

3.5 Access and Recruiting the Sample

As a Clinical Lecturer in Orthodontics, I was undertaking this research project on a part-time basis. Alongside this, I was undertaking specialist orthodontic training so I had an honorary contract with Sheffield Teaching Hospitals NHS Foundation Trust to treat patients at the Charles Clifford Dental Hospital. This allowed me access onto the orthodontic clinic to liaise with orthodontic consultants in order to recruit participants. As part of my orthodontic specialist training, I worked with colleagues who owned and worked at, an orthodontic specialist practice in Sheffield (The Orthodontic Centre, Ecclesall Road). The orthodontists kindly invited me to recruit patients from their practice, so I attended their clinics at times that were convenient to them. All the patients I met (at the Charles Clifford Dental Hospital and The Orthodontic Centre) had already undergone an orthodontic assessment on a previous visit, and they had reached the decision, with the clinician, that they would be undergoing a course of fixed orthodontic treatment.

One problem of within-site sampling, when health professionals initially screen potential participants to a study, is that they can restrict the researcher's access by only including children they feel are psychologically strong and emotionally mature. Limiting the group in this way reduces the credibility of the data, because it only gives voice to a select group of patients (Faux et al., 1988). To avoid this, I asked the clinicians to introduce me to consecutive patients who fulfilled the inclusion criteria. Parents and guardians can also act as gatekeepers and prevent children's participation in research (Corsaro and Molinari, 2008). As is advocated in the literature, I overcame this as best I could by trying to build rapport with both the young person and the caregiver (*ibid*), although the legal guardians did ultimately have control over their child's participation.

3.5.1 Inclusion criteria

- Girls and boys aged 10 to 15 years of any ethnic origin, who were about to initiate fixed orthodontic treatment at Charles Clifford Dental Hospital or at the Orthodontic Centre, Ecclesall Road, Sheffield.

- Patients with a trans-palatal arch and or a lower lingual arch planned as part of their treatment were included.

- All participants and their parent/ guardian must have consented to them taking part in the study.

3.5.2 Exclusion criteria

- Patients who were not able to communicate fluently in English.

- Patients with a cleft lip or palate or complex medical condition.

- Patients with severe hypodontia or where orthognathic surgery was planned.

- Patients who were planning to undergo functional, removable or headgear treatment.

I decided only patients who could communicate fluently in English should be included in the study, because working through a translator may affect interpretation of the data. Patients who had a complex medical condition or cleft lip and palate were excluded from the study. These patients may have had different issues relating to their orthodontic treatment compared to the majority of the orthodontic population, because of the number of hospital visits they need to attend due to their condition. Patients with severe hypodontia or those who were planning to undergo orthognathic surgery were also excluded from the study. Orthodontic treatment for these patients can result in deterioration in the aesthetics of their dentition in preparation for their surgical or restorative phases of treatment. Therefore, these patients may have different experiences compared to the rest of the orthodontic adolescent population. Similarly, patients who were planning to undergo functional appliance therapy or headgear treatment were excluded, because

wearing different appliances was likely to result in different experiences compared to those with fixed appliances alone.

3.5.3 Chronology of Events in Recruitment

If a patient fulfilled the inclusion criteria, the clinician who was responsible for their care on that visit, asked the patient if they would mind meeting a researcher who would tell them about a study with which they may like to be involved. If the patient and carer verbally consented to this discussion, at the end of the patient's appointment, the clinician introduced me (as Chief Investigator) to the patient and their carer and I outlined the study to them. At this stage, I explained that their participation was completely independent of their treatment, they were free to withdraw from the study at any time, and if they did withdraw, it would not affect the care they received. I also explained, anything they said was private and due to the rules of the study, I was not allowed to tell any of the dentists or nurses involved in their brace treatment, or their parents about what they said. I also provided information sheets to potential participants and their parent/ guardian. The information sheets differed slightly to ensure appropriate language was used for each (Appendices 1 and 4).

The parent of one boy voiced concern about how much time participation would take up, and if this would eat into time when her son should be studying. I reassured her that recording video diaries was entirely voluntary and could be done as frequently as he wished, and that all interviews would

be at a mutually convenient time and could be in school holidays. This seemed to put her mind at rest, although the boy declined to participate. This was the only young person who made the decision not to participate on the spot; he did not give a reason for this.

If the patient and carer were agreeable, I met them at their next appointment to answer any questions they had and confirm whether they would like to participate in the study. In most cases, the patients did not have another appointment arranged before they had their brace placed, so I asked permission to phone them. When I called, I always asked to speak to the young person, rather than talking to the parent about the child's participation. I did this to try to establish that it was the young person's views that I was seeking, and participation was their choice. If they were hesitant or undecided, I offered to explain what was involved again, I reiterated that it was their decision, and that participating was not a pre-requisite to having a brace. It is possible caregivers either coerced them into participating, or prevented them from participating, although this was unavoidable. If the young person was willing to take part, and their caregiver agreed, I arranged a time to visit them that was mutually convenient. I was not aware of any instances where the young person wished to participate and their caregiver prevented it.

The written information sheets provided to the patients and the carers had email addresses and telephone numbers, so they could contact me or another member of the research team if they wished. Three patients' parents

emailed me explaining their children did not wish to participate; one child did not think they would enjoy it, one thought it would be a burden with school commitments and one did not give a reason. I was not able to contact all patients on the phone, despite having agreed when a convenient time to call was. I frequently left voicemail messages asking them to contact me and did not hear back from them. If I was not able to contact them on the phone on another occasion, I did not leave more than one message because I did not want patients to feel hassled by me, or obliged to participate. I think my reluctance to repeatedly phone patients did adversely affect recruitment although I was concerned that if patients felt coerced into participating, they would drop out of the study prematurely, and this would be detrimental as it was a longitudinal study.

3.5.4 Incentives

I did not offer financial incentives for the young people participating in this study. Research exploring the reasons young people participate in clinical research found there were two primary motivating factors (Luchtenberg et al., 2015). The first was to receive personal benefit, such as access to better treatment options or closer monitoring from professionals. The second was to help others, be it other patients, parents or doctors. A financial reward for participation was not a strong motivating factor, although it did demonstrate the researcher's appreciation (Luchtenberg et al., 2015). I thought a financial incentive might encourage participation for the wrong reasons, i.e. young people may choose to participate for financial reward, quickly become

disinterested and drop out of the study early. I was anxious to recruit young people who liked the idea of telling me their story, because I thought they would be more likely to participate for a longer duration. I also wondered if paying participants may influence what they said; that they may feel obliged to speak favourably of their treatment experiences. After an interview, or after a participant gave me video recordings, I reiterated how grateful I was that they had taken part and that everything they said was useful to me, although they may not realise it.

3.5.5 My Role

The researcher's academic knowledge and personal culture is important in the research process because it influences how an individual communicates and acts with participants and how they will analyse the data (Davis et al., 2008). As well as being a researcher, I was, and still am, a qualified dentist (and trainee orthodontist), treating patients within the Orthodontic Department of Charles Clifford Dental Hospital. However, in addition to this, my background, and my role can also affect the participants' actions. In order to understand young people's perspectives of fixed orthodontic treatment, young people would need to trust me, for us to build a rapport and for them to feel comfortable disclosing issues of importance to them. I was worried, if the young people, and their parents knew I was a dentist, they could regard me as "one of them" and would not divulge certain aspects of their treatment experience. However, I did not want to lie to the young people, which left me with a difficult decision to make about whether I should disclose my

background. The study was not specifically looking at the young people's perspectives of the clinicians, or the physical treatment provided, although I wanted participants to feel comfortable sharing any aspect of their experiences with me to maximise the validity of the data.

The issue of whether or not nurse researchers should identify that they are nurses has been discussed in the literature (Faux et al., 1988). The authors concluded, as nurses are usually viewed fondly by children and adolescents, their role should be disclosed, because young people may be more likely to participate in the research and it could help clarify why the study is being conducted (Faux et al., 1988).

I think dentists are not stereotypically viewed as fondly as nurses, so in addition to wanting the young people to feel they could speak freely to me as a researcher, I decided not to introduce myself as a dentist. Instead, I introduced myself using my first name and explained I was doing a project to understand what it was like having a brace. On one occasion, a participant's father asked more about my role and I explained I was an orthodontist and was carrying out this study part-time. I reiterated that although I worked in the Orthodontic Department, I was restricted by the rules of the study, so I was not allowed to talk to any of the clinicians about anything the participant said and she could never be identified. Both the parent and the participant seemed comfortable with this.

On another occasion, a clinician introduced me to a patient and his parents as “an orthodontist doing a project”. This boy, Joseph, went on to participate in the study. At the first interview, Joseph’s parents asked me many questions about the brace and about Joseph’s treatment. Joseph was very quiet, and so when his mum was present, she frequently contributed to the discussions, and would often start the sentence with something along the lines of “Well you know better than we do but...” This repeated mention of me being in a position of knowledge, I think, further inhibited Joseph from describing his point of view. Joseph, and his parents, always spoke very highly of the care they received, although I did wonder whether they would disclose any negative aspects of the treatment if they had arisen, because they talked to me, as if I was one of the team providing his care. As far as I am aware, only two participants knew I was a dentist.

It was in my capacity as an orthodontist, rather than as a researcher, that affected my experiences of carrying out this research. At times, the young people criticised the care they received, and recounted stories of their general dentists criticising the orthodontic staff (my colleagues). I believe my colleagues act to put the patients’ interests first; and as a clinician, I was often able to understand why the orthodontist had acted as they did, they just had not explained the reason to the patient. So at times, it was difficult for me to take on board what the young people complained about, and remain neutral, when I understood the justification for the orthodontist’s actions. This was particularly so, when I knew the clinician they were criticising, and I believed they had the wrong impression of the individual, for example when

the participant told me their orthodontist did not care. I overcame this by reminding myself that I wanted to understand the young people's point of view, and it was the orthodontist's poor communication, which had caused the misunderstanding.

3.5.6 Challenges to Recruitment

Initially I had planned to recruit patients from a single site – Charles Clifford Dental Hospital, Sheffield. All new patients referred to the Orthodontic Department are seen by an orthodontic consultant on a new patient clinic. I had initially planned to recruit participants from new patient clinics, however, I had not thought through the practicalities of this approach. These are clinics where patients attend the hospital for the first time for an orthodontic assessment, having been referred by their general dentist. However, patients and carers can be given a huge amount of new information about their dentition and possible treatment options during this visit. Providing additional information (about the study) could introduce confusion and influence their decision to proceed with treatment. In addition, patients may decide not to proceed with orthodontic treatment, so I would be providing information about the study when it was not relevant. Furthermore, patients are seen on a new patient clinic when their dentist refers them, and this does not necessarily coincide with when the patient or the clinicians are ready to initiate orthodontic treatment. Therefore, if I provided information about the study to new patients, it would not be relevant to those who were not commencing orthodontic treatment for several months. For these reasons, I

decided that I should approach patients after their first visit to the hospital, and, when they had decided if they wished to proceed with fixed orthodontic treatment.

Identifying patients when they were deemed to be at a suitable stage to start orthodontic treatment, but before they had their braces fitted, proved difficult. One disadvantage of choosing to see patients at this stage was that they were not booked into specific clinics for this purpose (like new patients who are all seen on a New Patient Clinic). Patients were booked in for records to be taken (photographs, study models and sometimes radiographs) during normal clinics, so it was difficult to identify when these patients would be attending.

The second disadvantage of this approach was that, patients were often seen for records one week prior to the brace being fitted. This is because a fixed brace is fitted in phases; the first appointment is a short appointment where “separators” are placed, this creates small spaces between the posterior teeth. The second appointment is one week after this; the spaces created between the teeth allows the clinician to fit the fixed brace. As the first appointment is a very short appointment, clinicians frequently take records at the same time (to avoid the patient needing to come in for an additional visit). It was not possible for me to recruit patients who were having records taken and separators placed on the same visit because I needed to give potential participants at least one week to consider whether they wished to participate. This would coincide with the time they were

having their brace placed and I wanted to interview participants before they had had their brace fitted.

Another problem throughout recruitment was that my clinical commitments and training commitments limited the opportunities I had to go onto the clinic to recruit patients. I tried to overcome this by outlining the study and the inclusion and exclusion criteria to the orthodontic clinicians in the department and I asked them to give out information sheets to eligible participants in my absence. I left copies of information sheets and patient data collection forms on the clinic although this method did not prove fruitful, I only recruited one participant by this method and I still had to arrange a convenient time to meet the young person to tell them more about the study.

Charles Clifford Dental Hospital is a teaching hospital and several of the clinicians working in the Orthodontic Department are dentists carrying out further training to become orthodontists. For the most part, new postgraduate trainees start treatment on new patients. The postgraduate training programme starts in October each year, and as a result, there is a flurry of patients having their braces fitted in autumn and winter and far fewer patients having a brace fitted in spring and summer. This complicated recruitment of patients into the study further because of the seasonal nature of potential patients I could invite to participate in the study.

In the UK, more girls than boys undergo orthodontic treatment, it is thought approximately sixty percent of adolescent orthodontic patients are female

(Chestnutt et al., 2006). So the pool from which I was selecting patients was biased towards females, but in addition to this, boys were more reluctant to participant than girls were. This could be because I was a female researcher, or because the methods of data collection I chose were more appealing to girls than to boys. Davies (2011) encountered difficulties recruiting men into her study about family resemblances. The men frequently deferred to their female partner; the author proposed that this was because the men perceived the subject to be a 'soft' topic (Davies, 2011). I think my study exploring experiences, thoughts and feelings could also have been perceived as a 'soft' topic and may have resonated more with girls than boys. Trulsson and colleagues also found girls were more willing to participate in thee interviews in their qualitative study on teenagers' decisions to undergo fixed orthodontic treatment (Trulsson et al., 2002).

3.5.6.1 *Changes to the Protocol*

Because of the difficulties encountered recruiting patients from Charles Clifford Dental Hospital, I sought ethical approval to use a second site to recruit participants from a specialist orthodontic practice as well. The orthodontic practice in question had a high through-flow of patients, and, patients initiated their treatment throughout the year so it was easier to recruit patients in the summer months. I submitted minor amendments, and ethical approval was granted for a second site to be used for recruitment. I also obtained approval from the Department of Research and Development, Sheffield Teaching Hospitals Foundation Trust to involve a second site for recruitment.

In addition to the second site for recruitment, at the same time, I submitted ethical approval for two other minor amendments. The first was to amend the research team because of changes to my PhD supervisors. The third amendment was informing the ethics service that I had been successful in gaining financial support from the British Orthodontic Society Foundation, with a grant of £23,667. Ethical approval for these changes was granted from the National Research Ethics Service, East Midlands Committee – Derby 2 on 18th March 2013.

3.5.7 Access to Participants in Practice

In the practice setting, recruiting patients from a new patient clinic was equally unsuitable, because there was a waiting list for treatment of around two and a half years. Instead, the clinicians at the practice informed me when patients were attending who would be initiating fixed orthodontic treatment in the near future. I attended the practice on these occasions to provide information to prospective participants about the study in the same way as I did in the hospital setting.

3.5.8 Consent

Ethical approval dictates that the parent or guardian must consent for individuals under the age of sixteen to participate in research. Indeed, consent was obtained from a parent or guardian of all participants. I obtained written consent prior to the first interviews; this was usually when I met them

for the first interview, although in one case I gained consent in the clinical setting when they agreed to participate.

During the consent/ assent process, I explained to the young people and their carers that they were free to withdraw from the study at any time and their participation would not affect the orthodontic treatment they received. I explained, anything they said was private and due to the rules of the study I was not allowed to tell any of the dentists or nurses involved in their brace treatment, or their parents about what they said. I described how, at the end of the study, I would present the results to people, but I could only talk about the young people in such a way that they, as individuals, could not be identified. The only exceptions to this were if they gave me permission to show their videos in presentations I gave about my project, or, if they said something that made me worry about their wellbeing.

The legal guardian, the young person and I, as Chief Investigator, signed copies of consent forms and assent forms respectively (appendices 2 and 3). I gave copies of the assent form and consent form to the participant and their guardian to retain. Consent was an ongoing process, and each time I contacted the young person, I checked that they were still happy to participate.

3.5.9 Sample

Participants were aged between 10 to 15 years. I chose this age range because this is the age that the majority of young people have orthodontic treatment. Some young people may not initiate their fixed appliance treatment until they are sixteen, however, as treatment usually takes around two years, sixteen year olds may not finish their treatment until they are eighteen. I decided young people completing their treatment when they were eighteen, could have different experiences to the younger participants in the study (who may only be twelve). As I was exploring young people's experiences, I thought it would be sensible to restrict the upper age limit of participants to be fifteen years at the time of recruitment (and the start of treatment).

Qualitative research aims to gain an in-depth understanding of a phenomenon within a group, rather than being statistically representative of the population (Lee et al., 2011). For this reason, sample size calculations are not appropriate; we decided purposive sampling of patients who were undergoing NHS orthodontic treatment was sufficiently varied to achieve the aims of the study. This involved identifying and selecting individuals purposefully to ensure the group can provide information to answer the research questions (Palinkas et al., 2015). Therefore, for this study, I ensured the participant group included girls and boys, and were of different ages. Previous qualitative research carried out with young people in dentistry (Hall, 2009) achieved data saturation with seventeen participants, so in this study I estimated I would need to recruit between fifteen and twenty

participants to achieve data saturation. 'Data saturation' is the point at which little new data are gained and findings are becoming repetitive (Taylor and Bogdan, 1998, Glaser and Strauss, 1967). I felt I reached this point when I had collected data from fifteen participants, and so I stopped recruitment. The sample comprised fifteen young people, aged 10 to 15 years, ten girls and five boys. I recruited twelve participants from Charles Clifford Dental Hospital, and three participants from orthodontic specialist practice. The sample contained a broad range of socio-economic backgrounds, some individuals experiencing social deprivation. One girl, Jasmin, was from an ethnic minority background. For further information on the individual participants, please see the table in 3.8.

3.6 Data Analysis

I used the Word documents of the transcribed interviews, video data and field notes to carry out the data analysis. I did not carry out visual analysis of the video data, although I had annotated the transcripts with my comments. For example, one participant recorded most of her video diaries looking directly into the camera, but on one video, she turned the camera away, videoed her bedroom, and used the device as a dictaphone. I think this was a reflection of her mood at the time, because the content of the video was describing the discomfort she was suffering from the brace.

I had initially planned to carry out thematic analysis as the sole method of data analysis. However, when I was collecting the data, it became apparent,

that the social context of each participant was different, and in some cases, it was noticeably influencing the young people's narrative. I was aware from the literature that youth transitions for young people in the UK vary considerably for individuals (Henderson et al., 2013). In addition, I realised the volume of data I was gathering was vast. Therefore, in order to explore some of the young people's narratives in greater depth, I decided to use case study analysis, as well as thematic analysis. I used thematic analysis and case study analysis as the primary forms of analysis throughout the thesis, although, I also used narrative analysis to a lesser extent when I thought this was valuable. The literature describes how, individuals' personal narratives can be influenced by an illness that is affecting their experiences in everyday life (Bury, 2001). Therefore, when exploring the young people's experiences of pain, I also used narrative analysis, to understand the importance of how they told their stories. In the following sections, I describe these methods of data analysis.

3.6.1 Thematic Analysis

I used thematic analysis as the primary method, and the starting point for all of the data analysis. Using this approach, the content of the narrative is the focus, so, for the most part, I concentrated on what was said, rather than how it was said (Reissman, 2008). Thematic analysis is a flexible method used to identify, analyse and report patterns, or themes within in the data (Braun and Clarke, 2006).

To conduct the thematic analysis, I followed the six stages of data analysis as described by Braun and Clarke (2006). The focus of the first stage was familiarising myself with the data. As I conducted all the interviews, and transcribed all the video data, I was familiar with it to some extent, however, it is necessary to “immerse” myself in the data to fully understand the depth and breadth of the content (Braun and Clarke, 2006). After receiving the dictated Word documents back from the dictation service, I proof read the transcripts against the audio recordings to ensure accuracy. I supplemented the transcripts with social context, for example, I recorded explanations of the setting and my initial impressions and thoughts (Bird, 2005). I read and re-read the data to further familiarise myself with it, and noted down ideas about potential patterns and codes.

In the second phase, I uploaded all data transcripts (from the interviews and videos) into NVivo. I created codes within NVivo, each code as one folder in NVivo. Codes identify a particular feature of the data, for example, I made a code titled “School”. I used this code to collect data excerpts when the young person talked about school. I systematically went through each transcript and selected a piece of data that fitted into a code. This piece of data could be a conversation, a single sentence or just a phrase. I placed the piece of data, or data extract, into as many codes as it fitted into; some data were not coded at all if I did not think it was relevant. As I was carrying out a longitudinal study, I read and coded data as I collected it. One difficulty with carrying out the data collection and analysis longitudinally was that if I developed a new code, I had to go back to previous data, to re-code it into

the newly formulated code. For example, during the second interview with Anna, she indicated she had formed some kind of relationship with the brace, it was not simply an device in her mouth. At that point, I created a code titled "Relationship with the brace". I then had to return to the transcripts of the second interviews I had carried out with other participants, to see if they regarded the brace as anything more than an inanimate object too. At the end of this phase, I had many codes, which were each made up of collections of data extracts.

Phase three and four involved searching for, and reviewing themes. I read the codes, to see where there were links between them. I also went through the data from each participant (within a code) to see what similarities or changes took place longitudinally. Once I had formed groups of codes, which I felt had links between them, I reviewed these groups, to see if they formed a coherent pattern and I could interpret an overall meaning, thus forming a theme. It was also important to ensure the themes reflected the data set a whole, so on occasion I returned to the transcripts to check they reflected the themes I had developed and that I had not misunderstood the context of the data extracts. Phase five involved naming the themes, understanding what is important in each theme and interpreting a meaning. The final phase was telling the story of each theme which I have done in the analysis chapters of this thesis. As is recommended in the literature, I have written an analytic narrative using data extracts to evidence the theme and help to illustrate points and patterns (Reissman, 2008).

3.6.2 Case Study Analysis

In addition to thematic analysis, which involved looking across all the participants' narratives, I used case study analysis. However, the case studies only came about having carried out the phases of thematic analysis outlined above (Braun and Clarke, 2006). Having interpreted meaning behind some themes, I decided, the best way to illustrate that theme was using a case study of one or more participants. I have described below, the stage at which I chose each participant, and why I did this. Within the sociological literature, probably the most well know qualitative longitudinal study was by carried out by Henderson and colleagues (2013) who followed adolescents into adulthood over a period of ten years. One of the authors carried out secondary analysis using case study analysis, the reason being, she wanted to "do justice to the complexity and scale of the individual data sets" (Thomson, 2009). Longitudinal case study analysis can provide a far richer and in-depth understanding of an individual by allowing exploration of their social and relational contexts (Thomson, 2009). Case study analysis involved following one individual longitudinally, therefore enabling exploration of how an individual's experiences change over time. This is what I aimed to do when I carried out case study analysis.

I chose the participants to use for case study analyses in different ways. For example, the first participant I selected was Eleanor (chapter 7). I chose her because, having completed the fifth phase of thematic analysis, as described by Braun and Clarke (2006), I had identified one theme, I had called "Relationships". Each of the codes that linked together to form this theme,

had many more data extracts from Eleanor's transcripts than from other participants' transcripts. In addition, it was apparent during interviews with Eleanor, and when writing the field notes, that the relationship Eleanor had with her mum, and her mum's perspectives, were influencing Eleanor's experiences and narrative. I felt, in order to explore this in-depth, I needed to concentrate on her case specifically and analyse Eleanor's social setting, what her mother said, and the influence this was having on her perspectives. In conducting the analysis, I found Eleanor shared her experiences with her mother, and these experiences changed over time. Within this chapter, I compared Eleanor's narratives with the other young people. Although there were similarities, Eleanor incorporated the relationship with her mum into her treatment experience far more than any of the other young people did.

The other case studies evolved in a different manner, and I chose those individuals because they tended to typify the theme or the issues of importance. For example, having carried out the six phases of thematic analysis (Braun and Clarke, 2006), I had developed a theme called "Growing Up" using many participants' narratives. However, I was finding it difficult to describe the significance of the brace at different stages of adolescence, as well as describing, how changes took place over time, for each individual. Therefore, I decided to change the way in which I described this theme, to writing a case study of Jasmin, exploring the full richness of her story over time. This became chapter 4, "Being a Little Kid, to a Teenager and an Adult". I chose Jasmin because she had thought in great depth about her experience of having a brace. Furthermore, I think her views were

representative of the young people, and she articulated her reflections more clearly than the other participants did.

Having followed the steps for thematic analysis, as explained above (Braun and Clarke, 2006), I established an overarching theme called “Appearance”, which later became chapter 5, “I Just Want to See What I Look Like with Straight Teeth”. Initially, I used all the participants’ narratives to describe the three main themes within the chapter. Although I felt, to some extent, this diluted the depth of understanding, and I would be able to explain the themes more clearly, by focussing on fewer participants. Within this chapter, the influence of peers, the media, and gender were particularly significant. I did not carry out a full case study analysis on one individual; rather I chose three participants who I felt typified the most important themes in this chapter. Using this method, I feel, my analysis maintained breadth, by describing the most important themes, although also achieved depth by only looking at the cases of three participants.

3.6.3 Narrative Analysis

Spoken narratives can be analysed in two ways; the analysis can focus on what is talked about; or alternatively, researchers can analyse how patients share their narrative of living with an illness (Kelly, 1994, referenced in Bury, 2001). These two approaches are possible because “narratives are always edited versions of reality, not objective and impartial descriptions” (Riessman, 1990, referenced in Bury, 2001); they are influenced by the

context in which they are told, and the self-identity, the individual is projecting to the world (Bury, 2001). Therefore, narrative analysis involves exploring how an individual chooses to tell their story, as a whole, rather than examining the content of individual excerpts. Using thematic analysis and case study analysis, I have focussed on what the young people say. However, at times, in particular, when exploring the young people's experiences of pain, I used narrative analysis to understand the way they chose to tell their stories.

3.7 Dropouts

One limitation of the study was participants dropping out of the study prior to its completion. Six participants dropped out in total, I conducted mid treatment interviews with five of them, I just failed to carry out a post treatment interview with them after they had had their brace removed. One participant, Sam, dropped out in the early stages, the reasons I discuss below. Of the six participants who dropped out, three were boys (out of five recruited) and three (out of ten recruited) were girls, so proportionally, the dropout rate was higher for boys.

It is impossible to generalise the dropouts in my study (of fifteen participants), however, I think it is possible to generalise the results of a study with over 100 participants spanning ten years (Henderson et al., 2013). The authors of the ten year study commented on the dropouts explaining "predictably, the sample has become more middle class and more female

over time” (Henderson et al., 2013). They attributed the trend in gender to be a reflection of the research team, all of whom were female. I, being female, could account for why proportionally, more of the boys dropped out of my study than the girls.

On reflection, I think the girls in the study had built a stronger relationship with me than the boys had, so the dropouts could correspond to my ability to build better rapport with the girls. It has been reported in the literature that it can be difficult for female researchers to build rapport with adolescent boys (Faux et al., 1988).

Sam was the girl who dropped out of the study after I had carried out one interview, and collected one set of video-data. Sam was the only individual who I did not visit at home; her mum asked for the interview to be in the Orthodontic Department. She was the youngest participant I recruited, and perhaps because of this, her mum took on responsibility as my point of contact. On a few occasions, I called and asked to speak to Sam, although her mum told me this was not possible because she was playing. Sam seemed keen to participate in the study and record video diaries for me, her mother however, seemed sceptical of what I was doing and at every point of contact; I got the impression Sam’s participation was an inconvenience. It is recognised that when carrying out research with children, however much they wish to participate, the parents serve as gatekeepers (Faux et al., 1988). I do not think I ever got the mother fully on board to facilitate her daughter’s participation. When I spoke on the phone to Sam’s mum, we were

cut off very frequently which I suspect was intentional. It proved very difficult to arrange a second interview and although her mum agreed for the second interview to be at their home on the following day, when I arrived, they were out. Sam's mum gave me no indication that their home was very difficult to find; I only found it with help from passers-by. It was at this stage that I felt that any further contact on my part would be harassing them. The mother, acting as the gatekeeper, undoubtedly played a part in Sam dropping out, although because I did not have the opportunity to speak to Sam, I could not assess her motivation to participate. Indices of deprivation in England are published based on several different domains, for example, income, employment and living environment. Sam was the only participant in the study to live in the lowest ten percent on the deprivation scale for England, i.e. the most deprived area (Sheffield City Council, 2015). Sam's mum was a single parent with more than one child. So perhaps, the social setting contributed to her dropping out as has been described in the literature (Henderson et al., 2013).

3.8 Details about Participants

Name	Age at first interview	Gender	Time in Study	Number of interviews	Number of video diaries
Emma	12yrs 2m	female	1yr 11m	4	7
Leighton	14yrs 4m	male	1yr 7m	4*	6
Sam	10yrs 11m	female	6 months	1*	4
Anna	12yrs 8m	female	2yrs 2m	5	24
Eleanor	14yrs 0m	female	2yrs 7m	4*	9
Ashley	12yrs 9m	female	2yrs	5	25
Joseph	12yrs 0m	male	2yrs 7m	4	7
Kaitlyn	13yrs 8m	female	3yrs	5	21
Jasmin	13yrs 9m	female	3yrs 3m	4*	9
Matthew	15yrs	male	2yrs 1m	4*	6
Tyler	13yrs 1m	male	2yrs 2m	4	none
Josh	11yrs 6m	male	1yr 5m	4*	2
Elizabeth	14yrs 6m	female	2yrs	4	none
Emily	14yrs 7m	female	1yr 3m	4	none
Madison	15yrs 2m	female	1yr 6m	4*	4

* indicates that I did not complete an interview with the participant after the brace was removed.

The “time in study” I measured from the first interview to the final interview, or, when I ceased contacting the participant to try to arrange a final interview.

Chapter 4: Being a Little Kid, to a Teenager and an Adult

4.1 Introduction

The theme of this chapter is growing up and I will start by describing the literature relating to this. In this chapter I have carried out a case study analysis of one participant, so I will follow Jasmin's journey through her orthodontic treatment. Under the NHS, the majority of patients undergo orthodontic treatment when they are growing up. As a course of fixed orthodontic treatment usually takes eighteen months to two years, the young people can do a lot of growing up in this time. One advantage of carrying out longitudinal qualitative research is that it gave me the opportunity to collect data as the young people grew up and their experiences changed. I will explore how growing up influenced Jasmin's experiences of having a brace. Having explored Jasmin's experiences over time, I will use the analysis to explore how other participants' experiences of having a brace linked to them growing up and how their feelings compare to the findings in the literature.

4.2 Literature

As the title suggests, this chapter explores changes that take place as the young people grow up. As they mature, their experiences of their orthodontic treatment change, and this is the focus of the chapter. In Western culture, childhood is a transitional period, through which children's successful

progression, to achieve social status and adulthood is defined by their physical bodies (Hockey, 1993). James (1993) described different features of the body which are of particular significance to young people, one of which is appearance. In addition to appearance, children also think of height as a significant characteristic of the body (James, 1993). One of the reasons height is important to children is because it is a sign of them growing up. Smaller bodies are associated with infancy, while larger bodies demonstrate reassuring progression to adulthood (James, 2000).

Throughout the life course, “individuals move between marginal and central social positions” (Hockey, 1993). As a child grows up, they get closer to having the social status and the power of an adult. James and Prout (1997) describe how childhood is socially constructed, i.e. the position of children in society is different in different cultures. In Western society, children are marginalised into a position of socially constructed subordination and dependence and “each year passed is a step towards full personhood” (Hockey, 1993). Personhood is the term used to describe the autonomy, rights and independence adults possess at the peak of their social position. Hockey (1993) goes on to explain, as people progress into old age, they become marginalised once again into a position of dependence and lower social position.

A child’s age is of great importance to them; young children are proud when they have had another birthday and are able to say they are another year older. This is because they have achieved something positive, culturally,

being older carries superior status. Chronological age changes the personhood an individual possesses, and in turn, this affects the power they wield (Hockey, 1993). Maturity bringing personhood and autonomy can explain why young people are longing to progress through childhood and adolescence. This is the overriding theme that becomes evident in this chapter.

Young people's path to adulthood, or as it is referred to in sociological literature, the 'youth transition' is very varied in the UK (Henderson et al., 2013). This is because the UK has such a diverse society, young people's lives are shaped by their exposure to very different social and cultural practices and resources (Henderson et al., 2013). Historically, gender differences impacted how young people viewed, planned or spent their youth transition, however, this is no longer the case, and the most significant factor that influences how young people spend their post-adolescent transition to adulthood, is their social class (Gordon et al., 2005, Du Bois-Reymond, 1998). There is no longer a standard youth transition and the ways in which adolescents feel grown up "reflects the resources that are available to them and the kind of recognition that they receive from others" (Thomson, 2009).

A further change that has taken place in modern times is the addition of 'post-adolescence', this is a subdivision of the youth transition and describes the time after adolescence before adulthood (Du Bois-Reymond, 1998). Interestingly, often post-adolescents are keen to leave their childhood behind, but at the same time, they do not want to enter adulthood (Gordon

and Lahelma, 2004). They are ambivalent about changes to their situation, and associate adulthood as boring because it brings responsibilities and work commitments (Du Bois-Reymond, 1998, Gordon and Lahelma, 2004). Du Bois-Reymond (1998) carried out longitudinal intergenerational interviews with Dutch young people and their parents exploring changes that have taken place in the life course since the 1950s. The author described the notion of two defined adolescents' pathways; in the first one, an individual will have a 'normal biography' where they aspire to gain employment to facilitate early financial independence from their parents, find a long term relationship and start a family. However, in today's generation, this traditional biography is "dissolving" favouring a more flexible life course, or the 'choice biography' (Du Bois-Reymond, 1998). On this pathway, there are more options for young people to choose from, and as a result, at the end of adolescence, they may not feel ready to make the right life choices (Du Bois-Reymond, 1998).

Gordon and colleagues (2005) collated the findings from longitudinal qualitative research studies carried out in the UK and in Finland. The research was exploring the youth transition and found young men and women, although young women's transition in particular, was characterised by "anxiety, ambivalence, avoidance and anticipation of imagined futures" (Gordon et al., 2005). This may appear to contradict children and adolescents' feelings that they want to grow up, although actually, and perhaps not surprisingly, young people often change their mind during their transition to adulthood (Gordon et al., 2005). The authors found that young

people can be eager to grow up while they are still at secondary school, but as they approach the end of secondary education, they want to be young again. This was because their imagined futures consisted of high career aspirations, marriage, children and owning their own homes. These commitments demanded responsibilities and being level-headed mature individuals, which they felt would bring an end to their young, free and fun lives (Gordon et al., 2005). Consequently, young women wanted to distance themselves from their childhood, but also from their future adulthood (Gordon and Lahelma, 2004).

Despite social class influencing the opportunities and experiences of young people, there are fundamental changes that can take place for all young people in the process of growing up. Giddens (1991) coined the term 'fateful moments' to describe events where an individual stands at a crossroads in their life and makes decisions which are consequential in their future lives. Other authors have also described turning points in young people's lives, for example, Thomson (2002) created the term 'critical moments' to describe an event a young person experienced, which had "important consequences for their lives and identities". A 'fateful moment' is when individuals engage in assessment of risk, appreciating the consequences of their decision (Giddens, 1991). This can be differentiated from a 'critical moment' where the young people may not recognise the significance of the event at the time, although in retrospect, it has had a significant bearing on their identity (Henderson et al., 2013).

4.3 Jasmin

I chose to do a case study on Jasmin because at times she said things that were very insightful and she openly discussed her philosophical musings about her orthodontic treatment and how it linked to other parts of her life. Besides this, there were similarities with her experiences and reflections, and those of the other young people, the girls in particular. Unlike the other girls, Jasmin was born abroad where she spent her early childhood; she moved to Sheffield with her family when she was of primary school age. Jasmin lived with her parents and her older sibling. At home, the family did not communicate with each other in English. Unlike her parents, Jasmin spoke with a Sheffield accent.

Jasmin had her brace placed shortly before she turned fourteen so I carried out the first interview when she was 13 years old. Jasmin was desperate to have a brace to improve the appearance of her teeth; when asked what she thought of how her teeth look before she had the brace she described them as “horrendous”. When I met Jasmin for the first interview, she explained that she loved going to school because she enjoyed studying so much and did not like the long summer holidays because she was not able to learn, this is perhaps not so typical for all teenagers! Jasmin had aspirations to work in the dental profession, although by the second interview she had decided to be a doctor. At the first interview (when Jasmin was planning to be a dentist) she knew she was having a brace fitted in the near future.

“Jasmin: I think it’s helped me like, for the long run, with my career and that, not just for my teeth

Sarah: You think having braces will help your career?
Jasmin: Yeah. Coz I know, I mean, you're, you're doing this research. Scarlett! (Reprimanding the dog). You're doing this research to help like dentists and that, to see the difference, like what kids feel and see, and I would have gone through it and I'd know what it is like. So like, when I'm putting braces on for the kid, I'd be like, gentle and know what it's like"

Interview 1

Jasmin wanted a brace to improve her smile although she had also thought carefully about what the other possible benefits could be. She thought undergoing treatment would help her empathise with patients and better understand their experiences. This demonstrates how Jasmin had taken a mature approach to evaluating the skills required for her to be a dentist, and how carefully she had considered what she could bring to her future career. At the first interview Jasmin explained that she had wanted a brace from a young age.

"I don't know, ever since I was a little girl, I kind of always wanted braces, just to like see how they were"

Interview 1

Jasmin describing the appeal of the brace being to "see how they were" suggests she wanted to experience the feel of the appliance although the appearance of the brace may also have held some attraction. I did not establish with Jasmin at the interview at what age she was meaning when she said "little girl". However, she made it clear that she had been desperately waiting for years to have a brace and she was relieved the time had finally come.

“Jasmin: I used to remember everything that they tell me coz I wanted them so badly and I used [to] like jot down little notes in my brain

Sarah: Yeah?

Jasmin: Like everything. Everything I needed to do I research online like stuff

... I’m proper intrigued”

Interview 1

Jasmin was highly motivated to get a brace, doing everything in her power to ensure she ticked all the required boxes. Like the other young people, Jasmin did not dislike the appearance of fixed appliances, but what was interesting in her case, was the blinkered focus she had on getting a brace.

“I’m having four teeth pulled out tomorrow, and I’m really worried about it”

...

“I’m having my brace on in June and I’m really excited about it”

Video 9

Jasmin recorded a video the day before she had her teeth extracted, which was required to facilitate orthodontic alignment of the teeth. Despite being worried about having the teeth taken out, what it would look like having gaps, and whether she would get food caught in the spaces, she was still very cheerful at the prospect of getting the brace. She was able to disregard any possible negative implications associated with the orthodontic treatment, because she was so keen to have a brace.

“I don’t really mind how they look as long as I have them on”

Interview 1

Jasmin pointed out the misaligned teeth that she wanted to be improved with the brace, although she spoke very little about the appearance of her teeth and her jaw and was not self-conscious at all when she talked about her appearance. I got the impression the desire to have a brace was somewhat disproportionate to how she felt about the alignment of her teeth. This led me to think she associated having a brace with growing up, and this contributed significantly to its appeal. I went back for the second interview when Jasmin had had her brace on for a few months. She was a little more positive than most of the young people about having the brace.

“Sarah: What is it like having a brace then?
Jasmin: I think it’s cool”

Interview 2

I noticed immediately that the brace had improved the alignment of Jasmin’s teeth, and despite it being the reason she was having orthodontic treatment, she did not mention this, but she did describe how a brace changes a person’s overall appearance.

“You know like when you first have them, I feel like they changed the way your jaw shape is, like the way they make your mouth look”

Interview 2

Jasmin was talking about braces changing everyone’s appearance not just her own because she went on to explain how one of her friends looked “completely different” with a brace on. This change was independent of how the brace was changing the position of the teeth; she felt it changed her appearance as a whole, describing a change to the shape of her jaw. Jasmin

was a teenager and although she was still growing, it is unlikely that a small amount of jaw growth would have made a noticeable change to her appearance in such a short time; orthodontic treatment alone does not change the shape of the jaw. I think because Jasmin coupled having a brace with the next stage in adolescence, she anticipated the brace would make physical changes to her face that would make it apparent to others that she was growing up. I think this is why she thought the brace had changed the shape of her jaw, because she felt different, having moved onto the next stage of adolescence. She spoke of this change in a positive way, pleased that the brace had made a physical change demonstrating that she was growing up.

From what Jasmin said in the second interview about how the brace changed her appearance, and how much she liked having a brace, led me to believe she felt the brace was forming a visible marker that she was growing up; however, this was only my interpretation. At the third interview Jasmin was explicit about this. She eloquently described how she embraced having a brace and linked this to a stage of childhood:

“I think, you know because when people change from being a little kid to a teenager and adult, and they have these stages where they change, if they start to wear makeup and they wear their hair differently and stuff like that. And I actually enjoy having braces because I think it’s going to be another step [to becoming an adult]”

Interview 3

Jasmin explains that as children grow up, chronologically, individuals present themselves differently, which forms visible markers indicating their

progression through adolescence. This subject is discussed in the literature, coincidentally, using exactly the same example referring to when girls starting to wear makeup (Hockey, 1993).

In modern Western culture, there are few rituals or markers differentiating an individual's stage in life (Van Geneep, 1960, referenced in Hockey, 1993). For example, in inter-war Britain, there was a discernible marker for boys and girls when, at age 14, they changed from being 'children' to becoming 'adults'; girls would start to wear makeup and style their hair, and boys would change from wearing shorts to wearing trousers (Hockey, 1993). This custom has died out so clothes and other visible rites of passage can rarely be used to definitively determine a person's age. However, despite it not being possible to define someone's exact age, Jasmin explains how outward physical changes do still take place, for example changing the hairstyle; it's just the age at which they occur has become more flexible.

Jasmin goes on to tell me that people have noticed an improvement in the alignment of her teeth, she really appreciated this and that she was looking forward to the final result. This led me to question if she was anxious to have the brace taken off.

“Sarah: Are you quite keen to get them [the braces] off?
Jasmin: Yeah. I'm going to miss them though. It's like there's no rush to take them off but there kind of is in a way. You know what I mean? But I don't really want to have them off. If I could have like invisible ones or something and keep them on I would (laughter). Like, just to keep that feeling of braces on my teeth.”

Interview 3

When asked if she wanted them off she said yes but followed this up by saying she did not want them off. She also stated there was no rush, but then decided there was a rush. At this point I was quite confused; when she finished her sentence with “you know what I mean?”, I assumed that rather than being a question, this was a way of pausing and masking the insecurities engendered by the inadequate explanation (Dazzla - Urban Dictionary, 2003). Declaring that I did not understand what she meant would have interrupted the flow of conversation, this has been described as one of the drawbacks of the interview technique (Green and Thorogood, 2009). What was clear was her ambivalence about what she wanted. Dingwall (1976) postulated, in interviews, the addition of the word “just” and the use of “you know”, by the speaker is done in their attempt to construct a “normal everyday identity”. It indicates the speaker is not special or different in any way, they are talking about themselves, but they are relating it to people in general (Dingwall, 1976, Radley and Billig, 1996). As Jasmin had previously described having the brace as being “another step” demonstrating she is progressing through the teenage years, I think she was talking about the orthodontic treatment being an indicator for stages of growing up. Jasmin was the first person to point this out to me, I am not aware of any literature pertaining to a link between fixed appliances and growing up. I recruited member checking at this stage, I wanted to seek confirmation that I understood what she meant; I did this by stopping mid-sentence, encouraging her to finish our shared train of thought.

“Sarah: So do you want them off not because you’re fed up with them, just because it means that you’re on to like, the next stage of (pause)

Jasmin: Yeah, growing up

Sarah: life and stuff

Jasmin: Yeah, I really don’t want them off, I could have them on all the time [forever]”

Interview 3

I think Jasmin was torn between what she wanted because she had inextricably linked having a brace with a stage in adolescence, the brace served as a physical gauge or marker for the stage she was at in her adolescence and she did not seem able to differentiate the two. So, on the one hand, she was looking forward to having the brace removed because she was curious to see what her teeth would look like, and was looking forward to growing up. However, having the brace removed would mean she would need to enter into the next stage of adolescence and she was not sure if she was ready to do this yet. Asking Jasmin to be involved in this research could have amplified the amount she thought about her orthodontic treatment and the associations the brace held for her in relation to growing up, however, as explored below, other young people also made this link, although perhaps not to the same degree. The longitudinal nature of the study may have encouraged Jasmin to focus on temporality; seeing me at regular intervals and reflecting on her experiences since my last visit may have led her to think more about the future and what lay ahead. It was clear in this interview (3), that Jasmin was experiencing a stage of adolescence where she was contemplating the progression onto the next step although was comfortable with where she was at.

Jasmin described how she liked the brace and she would miss it when it was removed. When she says she “could have them on all the time”, she meant forever, because, as they are fixed to the teeth, she did have them on all the time. Several young people explained that after they had had the brace for a while, the sensation and the appearance of the brace became normal, as discussed in chapter 6. “How Braces Feel”. Sometimes change, of any sort, can be unwelcome, so perhaps this was why Jasmin did not want the brace to be removed. However, for her to say “I really don’t want them off” seems like a strong feeling to have about a brace. This led me to think, again, Jasmin was linking the presence of the brace with her stage of adolescence and she did not feel ready, nor did she want to grow up anymore at that point.

Jasmin expanded on why she did not want her brace taken off, although instead of describing any positives of having a brace, she nullified the negatives. For example, she explained the brace did not annoy her at all and that the pain had gone, even when she went to have it tightened. These appear to me as explanations of why she could be indifferent, rather than, in her case, reasons she wanted to keep the brace on. Later on in the interview, we did discuss other reasons that would explain why she would want to keep the brace on. In the past, missing school had always been an irritation because she loved school, now she was doing more stressful GCSE work she relished the break from the teachers. Earlier in the interview Jasmin talked about how her friends had not had their braces removed either, and that it felt like a security blanket for her so, these could also be reasons she

did not want the brace to be removed, even though she did not voice them as such. When I asked Jasmin if she was keen to get them off and she replied “Yeah”, I think she was anticipating a time when she would want to be more grown up and not have her braces anymore but she was not at that stage so did not want them off yet.

“I don’t want to start college or sixth form or something with braces on, that would be a bit weird. I don’t think I’d like that”

Interview 3

Like many young people, Jasmin thought having a brace was a stage in adolescence which should be undertaken at school, and should be finished before starting sixth form (age 16). In the state school system in the UK, children go to secondary school when they are eleven, and depending on the school, may need to change to a college or sixth form when they are sixteen (after finishing year 11). Jasmin went on to explain how school is a period through which change in young people’s bodies and appearance is accepted as normal. The adolescent growth spurt, puberty, and a significant amount of emotional maturity take place during their time at secondary school, which Jasmin recognised - changes to the physical body are inevitable while you are at school, so having a brace was an entirely acceptable process during this time.

By the fourth interview, Jasmin seemed to have grown up a lot and she wanted her brace off. The first topic she brought up was how she had been concerned that she did not think her treatment was progressing successfully and she had asked the orthodontist if she was able to have the brace off

before her prom (in the summer at the end of year 11). Jasmin told me she felt she had changed since the last time I had seen her and thought she had matured psychologically. There was a notable difference in her appearance to me too. In the past, she had been wearing very casual clothes, on one occasion I went to an interview in the middle of the day and she was wearing a onesie with a brightly coloured childish pattern on it. At the fourth interview she had done her hair and makeup and was dressed as if she was going out (although she said she was not going anywhere that day). She was at home without her parents (her older sibling was upstairs). So she had been entertaining herself, she had baked some biscuits for me coming and was watching “Sex and the City” which is an American sitcom with adult themed storylines. Jasmin clearly felt more grown up and confided in me about things that happened at school.

When talking about the brace coming off, Jasmin compared herself to others at school who had already had their braces removed. Jasmin tightly bound having a brace with a stage of adolescence, therefore, having her brace on longer than her friends was significant for her, she felt as if it was holding her back from growing up.

“Like it’s so embarrassing because I’ve seen so many people at my school with braces on and they like had like better teeth than me when they first had their braces on. And now, their teeth like looks perfect when they’ve had them off. And now, I’m just stuck here”

Interview 4

Given the effort Jasmin had put into presenting herself well for me coming round, it was clear she now thought her appearance was very important and as a result, was comparing herself to others. She thought it was unfair that her teeth had been worse than other people's at school before they had braces, and this was still the case, because they now had perfect teeth and she still had her brace on. I would have expected her to reason that if her teeth were worse at the start, the orthodontic treatment would take longer, although she had not reached this conclusion. This made still having her brace on even worse, not only did other people's teeth look better than hers, but she was also "stuck" in a stage of adolescence that she felt she was mature enough to have left behind. In addition to these negatives of having a brace, Jasmin gave several examples of when the brace causes her pain, but described having a "love-hate relationship" with it, so I asked what was good about having a brace.

"Like you always get that whole, 'Oh, this is not how I look I'm going to get better. I'm going to hopefully be prettier or something like that'. You know what I mean? It's only about reassuring and stuff"

Interview 4

Again, her focus was related to her appearance. Jasmin spoke in the plural second person at the start of the sentence, which suggests she thought all young people had the same view; as she grew up, she knew changes in her appearance were inevitable and she found this reassuring. Jasmin was talking about herself, however, the use of "you" indicates that she was voicing an opinion that was shared by people in general (Dingwall, 1976). As changes in appearance were to be expected, Jasmin anticipated her

appearance would improve. I imagine having a brace exemplifies this because orthodontics aligns the teeth and in the majority of cases, aims to improve the appearance. Later in the interview Jasmin gave another example of why she loved her brace, describing how the brace gave her confidence because she could use it as a mask.

“You know, they’re there to hide behind”

...

“Unless I got into an argument with like a bitchy girl, and if I did, and she called me a ‘brace face’. And I’d say something horrible back because I’m not one like to be mean unnecessarily, but if someone says something, I’m going to defend myself. So I do just say like, ‘oh, these are coming off, my teeth are going to be perfect but what about your personality”

Interview 4

Probably without realising it, Jasmin was telling, albeit a modern version, of an historic anecdote told in the House of Commons, which Churchill reportedly said in 1946.

“Bessie Braddock: Sir, you’re drunk!

Winston Churchill: Yes madam, but you are ugly and disgustingly fat, but in the morning, I shall be sober”

(O’Toole, 2011)

I’m not sure if Jasmin planned this comeback in case she was ever called “brace face” in an argument, or if it was something she actually said to girls at school that called her “brace face”. Undoubtedly Jasmin felt confident in her position if she was ever called names relating to her brace, although this may be because, if she was called names for any other reason, she would not feel able to retort. I was surprised by this, up until this point I never got the impression Jasmin would retaliate if she was called names, nor did I think

she was the target of teasing at school. Perhaps this was also an indication that she was growing up, gaining independence and confidence and was standing up for herself if confronted by a “bitchy girl” at school.

Presumably, Jasmin was more academically able and more ambitious than her friends, because when she was coming to the end of school (age 16 years) she was the only one of her close friends who had applied to attend a competitive entry sixth form college. The school had advised her to apply to a local college too (as a back-up) although she refused, Jasmin had worked out that if she got up at 6am, she would be able to travel across the city to attend what she thought was the best sixth form college in Sheffield. Jasmin recorded videos of herself and her friends larking about and having fun at lunchtimes at school, and during interviews she frequently mentioned friends at school. This gave me the impression that she was happy at school, although her education was very important to her, because she chose to apply to different colleges to her friends and was very excited about the impending move to sixth form college.

Not only was Jasmin planning the transfer from school to sixth form college, she also had upcoming GCSE exams which she had been working towards for the previous two years. Jasmin described how the teachers had been “stressing” about the students’ exams and school had become a “headache” for the same reason, so finishing her exams was another milestone she was looking forward to. Giddens (1991) created the term ‘fateful moments’ to describe a significant time in someone’s life when they make decisions which

carry consequences for the rest of their lives. The exams and the educational transition were such significant events for Jasmin; she linked them together with other aspects of her life; growing up, gaining independence and having the brace removed. These events Jasmin had grouped together and all contributed to a fateful moment for her. At the fourth interview Jasmin was quite reflective about growing up and how eager she was to progress through adolescence.

“we say we want to grow up, we mean like 18 and 19 and stop there. We don’t want to grow up to be like in our 30s (laughter)”

“I’ve been thinking about it recently. I’m like I’m 16. I feel like I haven’t taken advantage of it yet. I want to live in the moment. But I think I might be going to * with my friends”

Interview 4

*name of a music festival

Jasmin was anxious to grow up, although, because she only wanted to grow up to be 18 or 19 years suggests it was the independence that she craved, not being an adult. This is in keeping with research which found some young people can be “suspicious of the concept of adulthood: people lose their playful attitude and become serious, boring and responsible” (Du Bois-Reymond, 1998). Perhaps due to the pressure of exams, Jasmin was seeking something fun to do and reflected on what she had done previously, concluding she had not made the most of the independence of a sixteen year old. The majority of people who attend the music festival she was talking about, camp overnight and teenagers would usually attend without their parents. Going to a music festival seemed to be a categorical measure of

something that would denote that she was independent and had freedom. This attitude has been substantiated in the literature and applies to young women in particular, they often go through a phase where they just want to “have fun and to be free to be young, silly and irresponsible” (Gordon et al., 2005).

Jasmin decided she wanted to have her brace removed as part of the fateful moment, which was taking place over the summer months between school and sixth form college. Despite liking the brace and feeling that it was very much part of her, she was also looking forward to when it would be removed.

“Sarah: What is it that makes you most fed up, like most wanting it off?

Jasmin: I think it’s, why I want it off, like you see a lot of people who’s like put pictures up [on Facebook] like from when they were in year 7 and now. And they go ‘puberty did a good job’ or stuff like that. I just like that, ‘yeah, you’ve finally grown up’ look [without a brace]”

Interview 4

The appeal of having the brace removed was that she would look older. Having the braces removed would serve as a physical sign or evidence to others that she had progressed through adolescence and had grown up. She had detached herself from her (current) old self in anticipation for the educational transition. Jasmin had decided having a brace was part of adolescence and something she was ready to leave behind.

When choosing which sixth form colleges to apply to, Jasmin did not give any consideration to where her close friends were applying. In fact, she

wanted to be the only person from her school to go to her first choice of sixth form college.

“Girls I know and I’ve talked to and sometimes hang out with, three of them have applied to * [Sixth Form College] as their first choice... I’m kind of annoyed that they applied to *. I wanted like to know no one”

Interview 4

(* The name of a sixth form college)

There are two reasons which I think contributed to Jasmin wanting to go to college where she would not know anyone, one reason being that she was craving independence and wanted to leave behind her adolescent self. She went on to explain how the sixth form college she wanted to attend had a middle school, so there were children from age eleven through to sixteen years there too and she would have preferred there to only be people of her age or older. Jasmin, being intolerant of sharing the school with people she was surrounded by at the time, suggests she wanted to leave behind adolescence and everything associated with it. This was not surprising though. In the third interview Jasmin was disparaging about year 7 pupils following her on Twitter, because they did not realise “that’s not what you do”. She explained to me that Twitter is for teenagers to socialise digitally with each other, it is not for you to socialise with people you know in real life.

Another reason I think Jasmin would have preferred to start sixth form college not knowing anyone was so she could make a fresh start. Henderson and colleagues (2013) carried out a longitudinal study following a cohort of young people for up to ten years exploring their transition to adulthood. This

study acknowledged that adolescence, and the path to adulthood, is heterogeneous for young people. However, the educational transition was universally recognised as a critical moment for young people, and as a result of this transition, social networks changed. In those cases when the young people appreciated the opportunity to “make more mature or relevant friendships with the people they met at college” (Henderson et al., 2013), they only realised the benefit of making new friends after the new friendships groups had been established. Jasmin however, was looking forward to the change in social circles before the transition had taken place. She explained to me how the teachers were putting pressure on to the pupils to revise for the upcoming exams and how other girls were reacting to the pending change.

“Jasmin: But I love going to school. I do. Even now, people are like nearly crying at the thought. ‘Oh I’m going to miss you guys. I’ll never see you guys’. I’m like ‘Yeah’ [disinterested tone of voice]. You see like a couple of girls sat in the classroom going (pulls a miserable face).

Sarah: Is that because they don’t want to finish school?

Jasmin: No. I think it’s the people. Especially in my school”

Interview 4

Jasmin’s explanation for the behaviour of some of the girls at school was because of the social circles they had and the close knit community that existed “it’s the people. Especially at my school”. It was not that they did not want to leave school, she thought all her friends were ready for the next step in growing up and gaining independence, however, unlike her, they did not want to change their friendship groups. Despite loving school, Jasmin was almost scornful about her peers for being so sensitive at the thought of

leaving school and potentially moving to a college that their friends would not attend. At all the interviews Jasmin was happy talking about school and her friends and frequently reiterated how much she liked it, so I believe she did have close friends who she enjoyed spending time with, but maybe she did not have the same affinity or connection to her friends that they held for her. Jasmin and her family immigrated to the UK when she was of primary school age. Jasmin had to learn English and make friends with people from a very different cultural background to what she had been used to. Perhaps Jasmin found the prospect of making new friends more exciting than daunting, and she could envisage the advantages of a new start.

Jasmin wishing no one else had applied to her first choice of sixth form college could be construed as her wanting to create a new persona, having people from her old school who knew her previously could hinder this transition and the fresh start she wanted. Adolescents are “often experimenting with new ideas and ways of presenting themselves” (Faux et al., 1988), and I think this was true for Jasmin, she could have a reputation at school that she wished to leave behind, of being a bookworm. This is an assumption on my part, based on the fact that in earlier interviews Jasmin’s only hobby was reading and she loved school and learning above all else, whereas by the fourth interview she showed more interest in her appearance and talked about spending time outside school with her friends. Henderson and colleagues (2013) found that in the long term, young people’s reputations can become a burden and can “constrain their choices of who to be and how to act”. I think Jasmin feeling obliged to certain patterns of

behaviour would have been increasingly unacceptable for her, as she was craving independence and felt like she had not made the most of her opportunities as a sixteen year old yet. I realised Jasmin wanted to reconstruct her identity for the person she was going to become when she explained she had created a new Facebook profile for herself so new people would know nothing about her old self.

“I feel like when I get the braces off, it’s going to be a new me. I’m going to meet new people in A-levels that are not going to know what I looked like... In preparation for starting sixth form, I think it was a month ago I deleted my old Facebook... With all the new pictures and they haven’t got me with braces on”

Interview 4

In the literature section of the chapter titled “I Just Want to See What I Look Like with Straight Teeth”, I discuss the influence of social media on how young people judge their appearance. One of the reasons social media can have such a big impact, is because individuals’ profiles are socially constructed (Manago et al., 2008). So people are free to craft the online identity they choose highlighting their most favourable characteristics (Toma and Hancock, 2013). This is exactly what Jasmin did, although interestingly, Jasmin anticipated that without a brace she would become a new person, and was very much looking forward to this. She believed she would become someone new, who was categorically older than the young person she had been at school with a brace. She seemed to regard the brace being removed as the point that would reveal the new Jasmin. Gordon and colleagues (2005) found gaining independence and autonomy were crucial in the process of growing up; the authors identified key moments that formed

markers of progress, one of which was leaving school, another being in a romantic relationship. Jasmin had met her boyfriend earlier in the year and being in a relationship no doubt made her feel more grown up. In addition to the fact that she was eagerly waiting to change schools, it is not surprising that she was craving independence. The school transition, in combination with the brace being removed would form her 'fateful moment' or 'critical moment'. Of all the participants, I felt I had built the strongest rapport with Jasmin. She confided in me things that she said she would never tell her parents, sibling or her friends. However, when she had had her brace taken off, she repeatedly put off having a final interview, eventually she said she would prefer to contact me when things at college calmed down although I did not hear from her again. I may be reading too much into it, but I think this was another indicator that she had had a 'fateful moment'. I felt, she had moved on in her life, and confiding in me was something of her past that she did not feel the need to revisit.

4.3.1 Case Study Conclusion

The case study on Jasmin revealed how the presence of a brace can be far more significant than simply a device worn to straighten the teeth. It was only possible, to understand how Jasmin related the stages of growing up, to having a brace, through case study analysis carried out longitudinally. Jasmin did not like the appearance of her teeth prior to starting treatment, and she was happier when the teeth were straightened, however, through this in-depth analysis, I established that the brace was far wider reaching in

its importance. When analysing Jasmin's interviews in relation to her growing up, I found three main themes in the data, and these themes only became apparent when I analysed the data in-depth, longitudinally. The first theme, which ran through all of Jasmin's interviews, was that the brace formed a rite of passage through adolescence. At the first interview, Jasmin wanted a brace to show that she was growing up, then, for the majority of her treatment, the brace signified a stage in adolescence, which she was happy with. Towards the end of her treatment, she desperately wanted the brace to be removed, to indicate she had grown up.

The second theme that was evident, although to a lesser degree, was Jasmin's experience of living with a brace and how this linked to ambivalence about change and the future. To some extent, this is in contrast to the first theme, which revealed how much Jasmin wanted to progress through the youth transition, although there were also times when Jasmin was hesitant about change and growing up. This period is recognised in the sociology literature, when adolescents do not want the responsibility of being an adult and want to prolong the period where they can be free to have fun (Henderson et al., 2013, Gordon et al., 2005).

The third theme was the brace coming off being a fateful moment. The brace being removed in itself may not have formed a fateful moment, although for Jasmin, it was inextricably linked to other significant occurrences in her life at the time. Sitting her GCSEs and finishing school, attending the prom, starting college and making new friends were all taking place within a few months of

each other. Within this timeframe, she would also have her brace removed, and she seemed to regard the brace as being symbolic of all these changes.

I will now explore how other young people linked having a brace to stages in growing up within the three themes identified from Jasmin's data. Where appropriate I will refer to the literature and I will compare their thoughts and experiences to Jasmin's.

4.4 Other Young People

4.4.1 The Brace as a Rite of Passage

Throughout the participants' brace treatment, the theme of growing up and how this was linked to having a brace became evident; young people had a desire to grow up and look older. One way they did this was to use the brace as a categorical measure of growing up. Before commencing treatment, they thought they would look older with a brace on, and then towards the end of treatment, they thought they would look older when the brace was removed. Primarily, it was the girls who placed so much emphasis on how the brace looked, and how this evidenced their progression through adolescence, although some of the boys also alluded to it.

Some girls had wanted fixed appliances for several years, just as Jasmin had. Their desire for braces when they were young was not related to the outcomes of treatment or dissatisfaction with the appearance of the teeth. They referred to the appearance of the brace being the motivating factor, or,

that they wanted to experience having an appliance. It is interesting that the participants who wanted a brace when they were younger were all female. Two of these young people used role-play to understand better how braces would feel and what they would look like.

“When I was little I knew that I was going to have braces. So I used to like you know, like a hair bobble, you know it’s a circle and then like you know like kind of, bend it, and then do that with it, and then put it onto my teeth”

Ashley Interview 2

Ashley wanted a brace from a young age, because she was intrigued by the sensation of having a fixed appliance in the mouth. This is in keeping with the gender stereotype, because females tend towards experimenting with the body, playing with makeup or dressing up (James, 1993). The excerpt below demonstrates how Emma also used role-play to experience having a brace. For her, and for Anna, it was the appearance of the brace that appealed.

“Emma: When I was six, I used to get cucumbers and put them there. (Laughter) Cucumbers...my [older] brother had braces and I was jealous. I was like oh, yeah.

Sarah: So you used to use cucumbers to make them look like braces?

Emma: Yeah. But I didn’t have the lines coming down there (Laughing). Stupid, kind of, that was really embarrassing, wasn’t it?”

Emma Interview 2

“When I was little I just thought, oh yeah, they make, they [braces] might look nice or something, when I was about seven or something”

Anna Interview 1

For Emma and Anna, their motivation to have a brace was not to improve the appearance of the teeth; it was specifically the appearance of the brace that they liked. I do not think the young people thought their smile would be more attractive with the addition of stainless steel; they wanted the brace for the associations it held. Orthodontic treatment is more commonly carried out on children because treatment is more efficient while patients are still growing. However, comprehensive fixed appliance treatment cannot be initiated until all the primary ('deciduous' or 'baby') teeth have been shed and the secondary ('permanent' or 'adult') teeth have erupted. There is some variation in the chronological age at which the permanent teeth erupt, although treatment usually starts in adolescence. Therefore, younger children will associate orthodontic treatment with being older. James (1993) describes how children see the body as a "potent marker for social status". The social status braces carry, explains why they were appealing to participants at a young age. Children use height as a direct measure of maturity, because it serves as a sign they are growing up (James, 2000). For some young people, getting braces was a categorical measure of maturity as well, demonstrating a rite of passage through the teenage years.

"A lot of the bigger people have got them [braces], well biggish people have got them, I mean we all know like, that we're gonna get them at some point, apart from, you know, those few people that aren't"

Anna Interview 1

Anna's understanding of orthodontic treatment was not related to who had crooked teeth, and therefore who needed a brace, it was simply a stage in adolescence which she expected to go through, along with the vast majority

of her peers, as part of growing up. Interestingly, orthodontic treatment did not seem to be an optional undertaking, or even a process which she would have input into the decision about, it was an inevitable stage of her life. Similarly, Ashley thought everyone in the school had a brace.

“So in our school there’s 500... Everyone who I know their name which is like 560, I don’t know. We’re not friends with them but they’ve all got braces”

Ashley Interview 2

Both girls and boys thought the braces were so common that the majority of their peers at school would have a brace. This is interesting because the Child Dental Health Survey 2013 for England, Wales and Northern Ireland reported that only nine percent of twelve year olds and eighteen percent of fifteen year olds examined were undergoing orthodontic treatment at the time (HSCIC, 2015 Table 4.35). The proportion of young people with a brace may vary, depending on the socio-economic status and geographical area, because there are differences in access to care, however, this does not explain why young people think “they’ve all got braces” (Ashley Interview 2). From a young age, some participants’ general dentists sowed the seed of the potential need for orthodontic treatment when they were older. This will have exemplified young people’s view that orthodontic treatment is a rite of passage. In addition, these participants often did not register that orthodontic treatment may be an optional undertaking; rather that it was an essential stage in adolescence, which they would pass through at some point, and come out the other side, as they have with all stages of childhood. This is

demonstrated by Emma who, even before she had had her brace fitted, accepted that it was a stage in adolescence through which she would pass.

“It’d be quite funny having my picture taken with braces then you could say like when you’re older; this is when I had braces”

Emma Interview 1

For Sam, a ten year old girl, orthodontic treatment being an indicator of growing up or gaining social status is likely to be what led to rivalry between her peers. The first person to have braces would be the leader in the transition through adolescence.

“Sam: They keep saying that they’re gettin’ ‘em. But then they’re making excuses saying, “Oh I can’t have ‘em yet coz, erm, I can’t have ‘em yet coz my teeth have got holes in ‘em” That’s what my friends say.

Sarah: So you’ll be the first?

Sam: Yep

Sarah: Do you mind being the first?...

Sam: Not sure

Mum: Till you get to school

Sam: Yeah, tomorrow”

Sam Interview 1

There was competition at school as to who would be the first person to get a brace. When it materialised for Sam that she would be the first to have a brace, she was apprehensive about whether this was actually a positive thing or not. Sam was bullied at school, because of the appearance of her teeth, however this stopped when she was able to tell them she was going to have a brace. Complex social relationships must exist between herself and her peers that resulted in her anxiety, because she wanted to be the first person to get a brace, but also had a desire to fit in and be one of the crowd.

Young people were often impatient to initiate their fixed appliance treatment. This was understandable for those who were self-conscious about their smile and wanted to improve their appearance as soon as possible. Although some young people were not desperately concerned by the appearance of their teeth; their motivation for treatment was following the advice of others, or because they thought it would be advantageous to have straight teeth when they were older. These individuals were also anxious to start treatment and this was because they viewed orthodontic treatment as a sign of progression through the teenage years. This made wearing appliances more appealing irrespective of the potential benefits of the treatment itself, the young people were anxious to grow up and for this reason, they were anxious to have the brace fitted to indicate their progression through adolescence.

Madison was fifteen years old when she had her brace fitted, she was so excited about having treatment that she counted down the days until she got her brace; she saw every aspect of the treatment in a positive light, the appearance of the brace in particular. During the first interviews with the young people (before they had had their brace fitted), most participants had given some consideration into what colour elastics or 'modules' they should choose to have on their brace. Although otherwise, they were relatively indifferent about the appearance of the brace; this was not so for Madison.

"I'm excited about having them on because I think they look nice"

Madison Interview 1

Madison had also thought about the colours, but unlike the others, she felt the brace itself looked nice. She had a friend who, she thought, looked “better” with a brace on, because it “complimented her”, and Madison was confident the brace would look nice on her own teeth too. Unfortunately, these sentiments changed with time, as I explore in the following chapter ‘I just want to see what I look like with straight teeth’. This led me to believe, the reason Madison thought a brace would look nice, was because of the associations it held with growing up and progressing on to the next stage in adolescence, which she was eager to do.

Madison is an example of one of the young people who associated the brace with a stage in adolescence. This continued throughout the orthodontic treatment and contributed to young people’s desire for their brace to be taken off when they felt they had outgrown it. The braces being taken off served as a sign of the young people advancing through the teenage years and growing up.

Madison had her prom about six months after the brace was fitted and she described how she was not able to smile properly because she wanted to hide the brace. This matched closely with how Jasmin felt. Jasmin knew, several months before her prom, that she wanted her brace removed for the event. As Madison only had her brace fitted around six months before her prom, she did not share this view until much closer to the time, but she too would have preferred not to have her brace on for her prom. Madison wanted

her brace removed much earlier in treatment than Jasmin, and as the day her brace was coming off ('de-bond') approached, Madison became very anxious to have the brace taken off. I think the reason she had such a change of heart about the appearance of the brace was because it was a gauge of age and maturity. At school, having braces was common, and in the younger years it served as an indicator of being older. However, Madison had finished her GCSEs and had moved to college to study Beauty, where braces were an indicator of being young. She explained that only the sixteen year olds had braces, none of the seventeen or eighteen year olds did.

“You look really, really young. A lot younger [with a brace]”

...

“I think I'll look a lot older without them on”

Madison Interview 3

Although not described explicitly by all, there was an appreciation that having the brace was a rite of passage, which explains why some young people described how the completion of the orthodontic treatment had further reaching significance than simply not having a brace anymore; it had come to represent the end of a stage in the youth transition.

4.4.2 Ambivalence About the Future

Jasmin had intertwined having a brace with growing up to the extent that, during her treatment, she was apprehensive about having the brace taken off, because she was not ready for the next stage in adolescence, and she believed the two went hand in hand.

As described above, other young people thought of the brace as a rite of passage through adolescence and, like Jasmin, they too demonstrated uncertainty about the brace being removed, although I think their uncertainty, was for different reasons. For example, for the majority of Kaitlyn's treatment, she did not express any desire for the brace to be taken off.

"I couldn't imagine living without [my brace]"

Kaitlyn Interview 3

Matthew also described how he was content with his brace during most of his treatment. He was fifteen and a half years old when he started his orthodontic treatment, and he completed his treatment when he was seventeen. Matthew explained there had been a delay for him initiating treatment because the orthodontist wanted to monitor his jaw growth before deciding what treatment was most appropriate for him. As a result, he had his brace later than his friends.

"Sarah: Did you say most of your friends have had them taken off now?"

Matthew: Yeah. Quite a few of them. I think it might, it might actually be all of them so far that have had them taken off and then, they are now into the stage where it is retainers at night or retainers at some point during the day and all that"

...

"I probably would have preferred it if I was having them all done, having them all done when everyone else was having them done"

...

"Matthew: For the time being, I'm quite happy [having the brace]"

Matthew Interview 3

It is interesting that Matthew was not sure if all of his friends had had their braces removed or not. This suggests, although he was aware his friends were having their braces taken off, it was not of huge significance to him, because otherwise I think he would have known for definite either way. Matthew categorised orthodontic treatment in stages – the majority of his friends were in the next stage, when they had had their brace removed and needed to wear retainers, while he was in the stage behind, and still had his brace. Matthew did not explain why he would have liked to have his treatment at the same time as his friends, but neither was he anxious to have the brace removed and was “quite happy” still undergoing treatment. Some young people explained in detail how the brace was normal and part of them (described in the chapter ‘How Braces Feel’). Despite describing the brace as having notable inconveniences, and being a source of annoyance, it was not until the latter stages of the treatment that participants told me that they wanted the brace to be removed. I think these individuals, like Kaitlyn and Matthew, were indifferent about the brace being removed, because they understood the timescales that were involved in their orthodontic treatment, and accepted it was a long process. I do not think they interpreted the brace coming off, necessitated them being older or more grown up, as was the case for Jasmin.

One of the reasons I chose Jasmin for a case study analysis was because she had obviously thought deeply about the issues discussed in the interviews. She was also very talkative, and did not hesitate to say what she was thinking or feeling, even if it seemed to lay bare her innermost thoughts.

She demonstrated this when she talked to me about a variety of topics relating to all different aspects of her life. As I got to know her, I realised that, although she was a happy individual, she was also a bit of a worrier and thought a lot about the future. I also wondered if her participation in the study had encouraged her to think in more depth about the significance of having a brace. Her inclination to think in-depth about things (the future in particular), and her involvement in the study, could explain why she had inextricably linked having the brace off, with a necessity to progress onto the next stage in adolescence, which in turn led to the ambivalence she demonstrated.

It has been described in the literature, how young people have high expectations about their life goals, and how the responsibilities associated with reaching these goals can be daunting, leading to ambivalence about the future (Gordon et al., 2005, Du Bois-Reymond, 1998). At age fourteen years, Jasmin had decided to be a neurosurgeon, and she set her sights on attending the best sixth form college in Sheffield. Being so ambitious, could explain why Jasmin was ambivalent about the future, although, from talking to her, I think she was also apprehensive about the social aspects of growing up. For example, on one occasion she talked to me about her anxiety about dating, because she had never had a boyfriend before and she did not know what to do. As Jasmin had closely associated having the brace to her stage in adolescence, any apprehensions about being older manifest itself as ambivalence about having the brace off.

All participants recruited into the study were aged 10-15 years. The majority of participants did not express any consideration that they had given to their futures beyond secondary education, and with the exception of Jasmin, none of them had made any firm career choices. So, perhaps this cohort of young people had not reached the post-adolescent stage, where they become apprehensive about their long term future (Du Bois-Reymond, 1998).

4.4.3 *Fateful Moments*

The third theme identified from Jasmin's case study was the brace being removed contributing to a 'fateful moment' in her life (Giddens, 1991). In the literature, leaving school was frequently found to be a 'critical moment' for young people (Henderson et al., 2013), this is because it served as a marker for growing up, gaining independence and autonomy (Gordon et al., 2005). The educational transition, undoubtedly, formed a 'fateful moment' for some of the young people in this study, as it did for Jasmin, and they too, linked the two events of the educational transition and their brace being removed, very closely. So one of the reasons young people wanted their brace taken off was, because this would serve as a physical marker of their 'fateful moment' – the educational transition and them growing up. Leighton was an example of this. Nine months into treatment Leighton thought he had had his brace on for "about a year and a half" and wanted it to be taken off.

"They will look better when they're off. They said it would be 6-12 months in August so I should get them off before I finish school"

Leighton Interview 3

Leighton gave a few reasons why he wanted his brace taken off, each seeming to be minor grievances, which he could cope with, but all contributing to his desire to have his brace removed. Rather than reporting that the brace was significantly troublesome, his primary concern seemed to be the importance of having his brace off before he finished school. I think this was so he was able to start college without a brace.

“Quite a few [friends] are getting them off about now”

Leighton Interview 3

That Leighton’s friends were having their braces taken off, probably contributed to him wanting his taken off too. Having the brace removed served as physical evidence of growing up, and as his friends were experiencing this, he too, wanted to be at the same stage. For Leighton, leaving school was his fateful moment and the brace would serve as a physical sign to verify this.

The same was true for Eleanor; there was not one aspect of the brace which she particularly disliked, in fact, she did not seem bothered by the brace at all. As a form of member checking, to ensure I had interpreted her correctly, I sought confirmation that although the brace was not annoying, she still wanted it off. In response, she replied:

“Eleanor: I would prefer to have them off before I go back to [start my new] school but like I said, most people don’t notice so hopefully it should be alright

Sarah: Yeah. How come you you’d prefer to have it off before starting school?

Mum: First impressions
Eleanor: Yeah, meeting people...
Sarah: How do you think it would change first impressions?
Eleanor: Um, I don't think it will be that different because a lot of people have braces now."

Eleanor Interview 4

Eleanor was sitting GCSEs in the summer, attending her prom, and was then moving to sixth form college, where she would need to make new friends. It is interesting that when I probed, and asked her how the first impressions would be affected, Eleanor concluded it would not make any difference, because so many people have braces. Although, her first instinct was a preference to not having a brace when meeting people, this suggests she felt there was, in some way, a negative connotation of having a brace. I think this was because she associated having a brace with being younger, so, like other young people, she wanted the brace removed to appear more grown up and ready for the transition in education. Eleanor and her mum told me all about the plans they had made for Eleanor's prom. They had been dress shopping together and had found a very special dress. Eleanor's friends were all coming round to her house to get ready together, and her mum had hired a stretch limousine to drive them to the event. It was clearly a very important occasion in Eleanor's life. Having her brace removed, attending the prom and leaving school were significant events, which, in combination formed a fateful moment, and a rite of passage through the educational transition.

From the outset, Matthew thought having a brace after he had left school was not acceptable and, as long as this time point was not crossed, Matthew

was happy to have a brace. After he left school, Matthew was planning to go to university. He had no idea what course he wanted to do, or what universities he would apply to, although he was sure that he did not want a brace at that stage in his life.

“As long as they don’t run into past my time at school that will be okay”

Matthew Interview 1

Matthew went to a school that had a sixth form so he did not need to move schools. So when he talked about wanting the treatment to be completed before he finished school, he meant, after age eighteen, unlike the majority of other young people who left school at the age of sixteen and started a different school or a college. For Matthew, having orthodontic treatment was within normal limits while he was still in secondary education. The fact that Matthew was certain that he did not want his brace on after he had finished school, suggests he associated the brace with a stage in his youth transition, and that leaving school (and perhaps the brace being removed) would combine to form a fateful moment.

In exactly the same way Jasmin did, Leighton, Eleanor and Matthew thought their brace should be removed in preparation for their educational transition. None of them mentioned their age when talking about when the brace should be taken off, they talked about leaving school as the marker in time. The two events being linked together formed a fateful moment.

4.5 Conclusion

This chapter explored how young people's experiences of fixed orthodontic treatment can change over time. As discussed in the following chapter (*I Just Want to See What I Look Like With Straight Teeth*), a child's appearance is a significant marker of their social identity (James, 1993). As young people advance through adolescence, they gain social status (Hockey, 1993). I believe the brace became a rite of passage for the young people, forming a visible marker evidencing their progression through adolescence, and therefore, demonstrating their social status. Consequently, for some of the young people, removal of the brace was symbolic of their progression onto the next stage in their life, and together with the educational transition formed a fateful moment in their life (Giddens, 1991). Although this was mainly the girls who attributed the brace as a rite of passage through adolescence, some of the boys connected the brace to their educational transition, and these events together forming a fateful moment in their lives.

Gaining this level of understanding, of the young people's orthodontic treatment was only possible through the use of longitudinal qualitative research because I was able to explore how the young people's feelings changed over time. The case study analysis enabled an in-depth understanding of Jasmin's perspectives, while the thematic analysis incorporated the other young people's perceptions. However, the way in which I used the themes identified in the case study analysis, to guide the thematic analysis of the other young people's views is an innovative approach. I think this was successful in gaining a thorough understanding of

the way in which young people link growing up with their orthodontic treatment.

Chapter 5: I Just Want to See What I Look

Like with Straight Teeth

5.1 Introduction

The main aim of orthodontic treatment is to change the way the teeth look, but whilst the brace treatment is being carried out, this will also affect the appearance. In this chapter I will appraise the literature on appearance and the cultural impact it holds. Following this, I will use three case study analyses to explore what motivated the young people to undergo orthodontic treatment, and what influenced their perspectives of appearance.

5.2 Literature

5.2.1 The Importance of Appearance

The ancient Greeks believed there was a fundamental relationship between beauty and positive personal qualities (Langlois et al., 2000). Stemming from this, Dion and colleagues (1972) carried out key research entitled ‘What is beautiful is good’. They found attractive people are stereotyped as having favourable personality traits, being more successful, and happier than those who are less attractive. The saying “What is beautiful is good” was examined in more detail by a meta-analysis, which found that being attractive, induced strong inferences about social competence (interpersonal skills and sociability traits) (Eagly et al., 1991). The study also demonstrated a

relationship, although to a weaker extent, between attractiveness and perceived potency, adjustment (psychological stability) and intellectual competence.

This is in contrast to the populist cultural maxims: (a) beauty is in the eye of the beholder, (b) never judge a book by its cover, and (c) beauty is only skin deep (Langlois et al., 2000). Interestingly, work by Shaw and colleagues (1985) indicated that gender influences lay opinions; an 'attractive' female being judged to be less friendly, less kind and less honest than her 'unattractive' counterpart. However, this may only be true of the adult population, because a similar study was carried out where adults and children were asked to judge images of attractive and unattractive 11-13 year olds (Shaw, 1981b). The 'attractive' children were thought to be more intelligent and have more positive personality traits than the 'unattractive' children, but gender differences were not evident (*ibid*).

5.2.2 The Significance of the Appearance to a Child

In Western society, children are defined by the age and abilities of their physical bodies. Their inherent characteristics, such as innocence, vulnerability and dependence have been inextricably linked to their physical immaturity (James, 1993). Historically, children had established roles in the work place, until it became compulsory to attend full-time education. As a result of the segregation of children and adults, the age of the physical body, became the dominant classifying principle when formulating cultural

perceptions of a child's social status (James, 1993). Society placing such emphasis on the physical body when categorising children, helps to explain why young people focus very much on the appearance of their body and potential changes to that body, because with change comes social status (James, 1993). Aspects of the body that bear particular significance for children are height, shape, overall appearance, gender and performance (James, 1993). These aspects are used by children to aid their understanding of their own identity and self-concept, as well as when formulating judgements about others; the body constitutes the fundamental basis from which social relationships are established (James, 1993).

5.2.3 The Body as a Flexible Entity

The existence of the body, once thought of simply in its physical form, has been renegotiated as a cultural phenomenon (Csordas, 2003). The body is no longer regarded just as biologically given or a fixed entity. Rather, it is a complex of attributes, formulated from social expectations (Bridgeman, 2002). Historically, for both adults and children, the human body was used for publicly displaying markings, by using decorations, tattooing or scarification, this was done to indicate family or social status or affiliations to groups (Turner, 1991). Amelioration, or improvement of the appearance, became an ancient art, and various body modifications undertaken to 'enhance' or 'beautify' the body are still practiced today (Evans, 2002). For example, plastic surgery, piercings, tattoos and ear stretching, are all fashionable body modifications practiced in Western cultures. Body

modification is undertaken to improve the appearance, although it is interesting, that the way people choose to do this varies. For example, some individuals just want to look 'normal' and fit in; others are aiming for perfection, or rather, how they subjectively perceive perfection. In contrast, a minority of individuals want to change their appearance so that they stand out from the crowd, for example, individuals who cover their face with tattoos and piercings.

These practices demonstrate how the physical body has always been seen as a flexible medium which can be altered to improve its appearance. Culture is one factor which can influence how people choose to change their appearance. For example, a traditional ritual, which is still a custom today among the Annang people in West Africa, is artificial fattening. Females are confined to a 'fattening room' in order to gain weight because it is thought they will become more beautiful, healthy and fertile (Brink, 1989). This is in contrast to mass dieting in the developed world, as females strive to achieve the modern 'ideal' body (Brink, 1990, Polhemus, 1978). With regards to the fattening ritual, one author hypothesized that in developing countries, only wealthy people can afford to eat in excess, therefore obesity is seen as a status symbol and beautiful (Brink, 1989). In developed countries, by contrast, food is plentiful, and fresh fruit and vegetables are more expensive than high fat, high sugar processed foods; therefore being thin is associated with eating more expensive food, which is a status symbol and seen as beautiful (Brink, 1989). However, beauty being a desirable feature because it represents wealth is an oversimplification of a more complex issue regarding

the cultural values of appearance. Gender, for instance, plays a role. It is significant, for example, that it is only the female population among the Annang people who go to such lengths to alter their appearance by fattening. It is a similar situation with ear stretching among Maasai people. This custom is still practiced by Maasai women, although less and less so by Maasai boys and men (Adams and McShane, 1996). This gender shift is interesting, because in Western culture it is also the female body which is thought to be more flexible than the “stable and bounded” male body (Evans, 2002).

5.2.4 Appearance of the Mouth

Of particular interest for this study is the fact that the the face and the mouth are frequently used for body modification. The reason for this is not well understood; it could be because the face bears a particular “social and symbolic significance” (Csordas, 2003). Another theory is that, in many cultures, the mouth is highly visible, so is important in the the outward appearance (Exley, 2009), and social judgements are influenced by physical appearances (Khalid and Quiñonez, 2015). It is said, when we look at someone’s face, first, we look at the ‘facial triangle’. This is an inverted pyramid we subconsciously form, using the two eyes and the mouth as the features of significance (Chung et al., 2004).

Historically, the teeth have been used in body modification for beautification and to display group identity or social status (Khalid and Quiñonez, 2015). One example of this is embellishing the teeth. Despite tooth enamel being

the hardest material in the body, in the seventeenth century the Mayans developed techniques in Central America for teeth to be carved and inlaid with precious stones. This tradition has continued and similar practices are still carried out in some developing countries, for example, in Guatemala today children and adults have gold caps glued to the teeth to enhance beauty and to signify wealth. This practice is indicative of the importance people place on the appearance of their smile, and therefore, their teeth. Another example is the intentional blackening of the teeth, which was carried out in Elizabethan England (1558-1603) to signify affluence. Sugar was an expensive commodity, and having eaten so much sugar, Queen Elizabeth I had decayed black teeth, which aristocratic women tried to emulate (Khalid and Quiñonez, 2015). It is noteworthy that the tides have turned completely and the demand for tooth whitening has increased immensely in order for people to achieve the 'ideal' dental appearance. This demonstrates that, the importance of the smile is not restricted to populations who physically modify their dentition in other cultures around the world; changes to the smile are also carried out in the developed world.

Dental grills have become increasingly popular in Western cultures in some groups of people. These are a form of removable dental jewellery, made of metal, which fit over the teeth; and can be inlaid with precious stones (Hollowell and Childers, 2007). They emerged in the 1990s, being worn by hip hop music artists, although as hip hop music has become more mainstream popular culture, the fashion has become more widespread (*ibid*). Orthodontics can also be viewed as ameliorating the smile, because the

majority of patients who seek orthodontic treatment here in the UK, do so to improve their appearance (Shaw, 1981a). Appearance or attractiveness has been established as a major component of self-concept (Leonard et al., 1991); the importance of which is widely acknowledged. There is some evidence that orthodontic treatment can improve self-concept and reduce negative social experiences for young people (O'Brien et al., 2003a) however, this link has not been fully substantiated. Interestingly, a study carried out with eleven to fifteen year olds in the UK, found they did not make social judgements about other young people purely on the basis of wearing a fixed appliance (Patel et al., 2010).

In addition to the literature demonstrating that a person's appearance signifies certain personal characteristics, there is evidence the same is true for an individual's dental appearance. Bedos and colleagues (2009) carried out a qualitative study with Canadians on social assistance. This group of participants thought straight white teeth epitomised oral health, and in addition, this reflected favourable personal qualities, including personal hygiene and overall health. Similarly, a study in Finland found people perceived images of people with dental crowding and a midline diastema to be less beautiful and less successful than people with straight teeth (Kerosuo et al., 1995). There is also evidence that the dental appearance of women is more important than it is for men. Shaw and colleagues (1985) found women with unattractive dental conditions, were judged to be of lower social class, and to have unfavourable personality traits, although this was not true for the men.

5.2.5 Influences on our Opinions About our Appearance

There are many factors affecting people's preferences concerning physical attractiveness and there is some evidence about dental attractiveness too. I will now explore the factors that are thought to influence our opinions about appearance.

5.2.5.1 Mainstream Media

The demand for orthodontic treatment is growing, and one explanation for this increase is the influence of the mass media (Khalid and Quiñonez, 2015). The term 'mass media' refers to any form of communication with the public, including film, television, newspapers, magazines and the internet. Even those who claim not to pay attention to the mass media might be influenced. Repeated exposure over time subconsciously makes viewers believe these portrayals represent reality (Grabe et al., 2008), so what was once thought of as the 'ideal', becomes the new norm (Dittmar, 2007, Khalid and Quiñonez, 2015). Research has shown, patients sometimes realise that they are seeking orthodontic treatment, not to become 'normal', but to achieve the media's depiction of the ideal (Stanford et al., 2014). The media link attractiveness with sociability and popularity, and portray being attractive as critical for popularity and social attention (Eagly et al., 1991, Kim and Chock, 2015). As more people undergo orthodontic treatment, crooked teeth become less common, and straight teeth become more ordinary.

Research has been carried out looking at the influence of consumer culture, which is closely linked to that of the mass media. Consumer culture pertains to the way media, film and television represent ideals and the impact this has on a society, and people's consumer behaviour. Consumer culture is thought to be responsible for establishing a "Cage Within", which is the subtle, but powerful way advertising consumer ideals affects our "thoughts, feelings and behaviours" (Dittmar, 2007), and females, in particular, are targeted (Fredrickson and Roberts, 1997). The proliferation of images of styled underweight models (with perfect teeth) in the media, is narrowing the boundaries within which imperfections are seen as acceptable variations of the natural body, and people are being encouraged to compare themselves to these new standards of appearance (Evans, 2002). As a result, females especially, are changing their appearance to try to conform to the Western culturally set ideal (Bell and Dittmar, 2011). This includes undergoing orthodontic treatment to improve the smile.

With regards to body size, for example, the use of underweight models in fashion magazines is, in part, being held accountable for causing young girls in the West to become obsessed with their weight. It might also be responsible for the increase in prevalence of eating disorders, such as anorexia nervosa and bulimia (NICE, 2004). In a similar way, it has been proposed that the media have established straight white teeth as the new norm, and this could help explain the increase in demand for orthodontic treatment (Khalid and Quiñonez, 2015). The authors also suggested dentistry (and in particular, privately funded orthodontics in America), use

their professional credibility to pressurise patients into undergoing treatment “to normalise their mouths, to conform to these restricted expectations of how teeth ought to look” (Khalid and Quiñonez, 2015).

In addition to the underlying inference between attractiveness and favourable personality traits, marketing in the media exploit the term ‘look good, feel great’ to further enhance the importance of appearance (Featherstone, 1982). Appearance and bodily presentations are seen as expressions of the inner self. Body care is associated with achieving positive attributes, such as beauty, health, fitness and social acceptance, while bodily neglect (which could include being overweight), lowers acceptability as a person, reflecting laziness and even moral failure (Featherstone, 1991, Featherstone, 1982). The mass media has influenced society, such that people’s bodies impact how they are judged as a person (James, 1993). As a result, people value their appearance to such a significant extent, they use clothes, posture and cosmetics, as well as body modification to construct their look so they feel good (Turner, 1991).

5.2.5.2 Social Media

Sociocultural theory describes how young people’s body image satisfaction is most strongly influenced by the mass media and their peers (Shroff and Thompson, 2006). Social media, however, combines the effects of the media and peers in one place. Social media is used extensively by young people (Greenwood et al., 2016), and their online identity, or ‘profile’, is socially constructed, so they can experiment and portray an idealised self, only

uploading flattering images of themselves (Manago et al., 2008). It has been suggested that, this forms part of the appeal of social networking – users have the opportunity to craft their self-presentation and highlight their social connections, facilitating individuals to verify their self-worth (Toma and Hancock, 2013). However, there are unfortunate negative aspects of young people’s involvement in social media too. The prevalence of images on social media means young people are exposed to more idealized images of their peers and it was found that the more “friends” a person had on the social networking website Facebook, the more likely they were to compare their appearance to that of others (Kim and Chock, 2015). Furthermore, females were more likely to engage in appearance comparisons than males, and were more likely to be dissatisfied with their appearance (Kim and Chock, 2015).

5.2.5.3 Culture

As discussed above, culture influences individuals’ opinions about overall attractiveness, and the same is true with regards to their views about dental appearance. For example, a midline diastema (gap between the front teeth) is considered a desirable characteristic and a sign of beauty in some African cultures (Mugonzibwa et al., 2004). Conversely, a study in Finland found this occlusal feature had a stronger negative influence on judgement of beauty and success than an unattractive face with a normal dentition (Kerosuo et al., 1995). Similarly, one study carried out with children in America found that minority ethnic groups rated images of crowded teeth and a diastema as more attractive than their white counterparts (Tung and Kiyak, 1998). This

demonstrates the importance of culture in people's assessment of dental appearance, which in turn influences on them when establishing their identity and their judgements about others.

5.2.5.4 Peers and Gender

Sociological research, examining how peers can influence young people's perceptions of appearance, tends to focus on how others' opinions, can cause body dissatisfaction triggering eating disorders (Grabe et al., 2008, Kim and Chock, 2015). Although there is some dental literature pertaining to how peers can influence young people's perceptions of their teeth. Henzell and colleagues (2014) examined Twitter feeds of people in New Zealand, and found their decision to undergo orthodontic treatment was strongly influenced by their friends. Another study found peers and family members influenced patients' views regarding a 'normal' facial appearance; however, if participants thought they had an 'abnormal' appearance, positive reassurance from friends and family did not change these innate beliefs (Stanford et al., 2014). Marshman and colleagues explored the impact of developmental defects of the enamel on adolescents (Marshman et al., 2009). The authors found young people made moral judgements about their peers based on the appearance of their teeth, the perceived approval of peers being more important, than approval of very close friends (Marshman et al., 2009).

Interestingly, gender did not influence the impact developmental defects of the enamel had on the young people (Marshman et al., 2009). This

contradicts sociological studies exploring adolescents' opinions about their overall appearance, which found the influence of peers was gendered to a large extent (Jones, 2004). The author described three social factors and two psychological factors which influenced adolescents' views of appearance (Jones, 2004). The social factors were conversations with friends about appearance, the perceived social benefit of conforming to appearance ideals, and teasing; these factors were exhibited by girls, but not by the boys. The first psychological factor was the commitment individuals made to achieve socially defined ideals of attractiveness. The second was appearance social comparison; this refers to how people compare their appearance to that of others (*ibid*). Jones (2004) found boys demonstrated an internalized commitment to appearance ideals, but were less likely to engage in appearance comparison compared to the girls.

The reason for this difference between girls and boys could be because appearance is more critical to girls' sense of worth, whereas boys evaluate themselves on other domains (Lunde and Frisén, 2011). For example, adolescent boys use sexual orientation as a primary source of identity (Mac An Ghail, 1994). The mass media also plays a role in the presence of gender differences. Some literature describes how American culture socializes females to internalize observers' views, leading them to believe their appearance reflects their identity (Fredrickson and Roberts, 1997). Fredrickson and colleagues (1998) reported that people vary in the extent to which they judge themselves through the eyes of others. This variation is also true in the UK. Marshman and colleagues (2009) did not find gender

differences, although they did report variation in the impact developmental defects of the enamel had on young people, and for some, their appearance was a defining characteristic of their sense of self. These individuals perceived any appraisal of their teeth to be negative, irrespective of what their friends actually said (*ibid*).

There is further evidence pertaining to gender affecting how young people judge their appearance. One study found individuals that had been subjected to bullying in early adolescence, adopt habitual appearance monitoring in later adolescence, and the girls were more adversely affected than the boys (Lunde and Frisé, 2011). Girls are also more easily influenced than young women when they view images in the mass media of slim beautiful women (Groesz et al., 2002). This demonstrates adolescent females are highly impressionable, and are the group most susceptible to images of the 'ideal appearance'. In addition to this, there is social compliance among adolescent girls to conform, reproducing themselves as mirroring their friends (Hey, 1997), which is not displayed to the same extent by boys.

5.2.5.5 Social Class

The literature exploring how social class influences appearance is inconsistent, or rather, it is a complex issue. It has been demonstrated that individuals of a very low socio-economic group, hold great regard for their appearance; their poor dental appearance having a significant bearing on their self-esteem (Bedos et al., 2009). However, the authors did not speculate about how the dental appearance would affect individuals of a

higher socio-economic group (*ibid*). In contrast to this, some literature has compared groups of different backgrounds and showed that the higher the level of education, the poorer the appearance-esteem (McLaren and Kuh, 2004). In essence, social class, or level of education, does seem to affect people's opinions about their appearance, although the direction of this effect is uncertain.

5.2.6 Summary of Literature

The theme of this chapter is appearance. The literature on this subject describes how it was established historically, although is still the case today, that a person's appearance is thought to reflect their underlying personal attributes. Making changes to improve the appearance of the face or the body, forms part of many different cultural traditions. Although, some practices, such as undergoing orthodontic treatment or having tooth whitening, are more prevalent in modern Western culture than ever before, and there is a higher uptake among females. The mass media, social media, and peers all influence how we judge appearance, but this too is gendered. The mass media target women more than men, and women are more easily influenced by external factors, to believe that their appearance reflects their identity.

5.3 Case Studies

I have presented the analysis of appearance through case studies of three young people. I chose these individuals because I think they demonstrate the different factors that influence appearance most clearly, gender being the most important, but for the girls, the influence of the mass media and peers also play a significant role. The first case study is Ashley. Ashley had the strongest dislike of her teeth and this affected her behaviour and perspectives. She exemplified, albeit in an exaggerated form, the extent to which girls can judge their appearance through the eyes of others. I will then explore Matthew's perceptions relating to appearance. His accounts are very different to Ashley's. I chose Matthew because, for the most part, he was typical of the boys. He seemed to have similar motivations for treatment, and outlook to treatment compared to the other boys. I will then look at Madison's narrative. Madison really did not like the appearance of her teeth, although she had a different personality to Ashley, so these concerns manifested very differently. To some extent, Madison was representative of the other girls, although she was more significantly influenced by the mass media. She was explicit when expressing her feelings and spoke reflexively in her narrative, which was very interesting.

5.4 Ashley

5.4.1 *Dissatisfaction with the Appearance*

All the young people were unhappy with appearance of their teeth prior to starting orthodontic treatment, although there was wide variation in how distressed they were about their appearance. Ashley was among the most concerned, about how their teeth looked. Despite being very chatty, Ashley disliked the appearance of her teeth so much that, before she had her brace fitted, she was self-conscious talking about her appearance, and on a few of occasions asked me questions on something completely unrelated in order to change the subject.

“Sarah: Do you mind how your teeth look?
Ashley: I REALLY don't like it
Sarah: Oh don't you?
Ashley: Is it OK if I go to the toilet?”

Interview 1

On this occasion, Ashley had been relaxed, happily chatting to me until I brought up the topic of appearance. She quickly became very uncomfortable, covered her mouth so I could not see her teeth, and fled the room as she said the last sentence. I immediately got the impression she was voting with her feet to avoid discussing this subject. Later in the interview, Ashley had been telling me about how a couple of her teeth had been sore. From what Ashley had said earlier in the interview, I was under the impression she wanted a brace to get straight teeth, although I wanted to check this was her motivation for treatment, and that it was not to alleviate the pain.

“Sarah: So do you want braces just so that they are straight?
Ashley: Yeah, nothing to do with school really, I just want to see what I look like with straight teeth, yeah. Where you live, was it snowing on Wednesday?”

Interview 1

In retrospect, I phrased the question poorly, implying a positive response was the “correct” answer. Ashley did indeed answer positively, although she misinterpreted the question as being related to school, as explained below. I did not get the impression that Ashley was bored talking about getting a brace, because it was a conversation we went back to on several occasions and she had much to say on the matter. I think she asked me about the snow, to move the conversation on, because she was so self-conscious and was not comfortable talking about her appearance. In this respect, Ashley was unusual. It was not uncommon for the young people to be self-conscious talking to me about their appearance, although they did open up and tell me how it affected them, unlike Ashley who avoided the subject completely.

In the last excerpt, the reason Ashley answered the question saying it was “nothing to do with school” was because, earlier in the interview she had explained that she was apprehensive about after the treatment was complete, which was relating to her peers at school:

“I’m kinda happy, once it’s over like it’ll be better but I’m really worried like that we’ll have finished school and like no one will get to see what has happened after”

Interview 1

Ashley was anticipating a dramatic change in her appearance and one of her motivating factors was relating to what people at school would think of her teeth after the course of treatment. This demonstrates Ashley internalized observers' views, assessing her appearance through her peers. This phenomenon is described by Fredrickson and Roberts (1997), who explained how Western culture socializes females to see themselves through the eyes of others, and leads them to believe their appearance reflects their identity. Some children with developmental defects of the enamel also felt that, because their teeth were different, they would be judged negatively by their peers, and it was a defining characteristic of their self-identity (Marshman et al., 2009). I think Ashley also thought her teeth reflected her identity. She assumed her peers made negative social judgements about her because of her crooked teeth, and this was why she wanted everyone at school to see her with straight teeth, so their opinion of her would improve.

Ashley felt there is a stigma associated with having an unattractive dental appearance. Scambler and Hopkins (1986) described two different types of stigma for people with epilepsy. The first is 'enacted stigma', when people are discriminated against on the grounds of their perceived inferiority. The second is 'felt stigma', this describes people having a fear of enacted stigma, or feeling shame because of their condition (Scambler and Hopkins, 1986). Using these distinctions, I think Ashley was displaying felt stigma. She perceived negative social judgments were being made about her, by her peers at school, despite no one ever having mentioned the appearance of her teeth. Ashley reiterated the insecurities about her appearance when I

returned for the second interview (after the brace had been fitted). After the initial pleasantries, I started the interview as follows:

Sarah: How are you doing anyway?

Ashley: Yeah. They are a lot straighter

Interview 2

Ashley understood the purpose of the study was related to having a brace, so she would have anticipated talking about her teeth. Although it is interesting, that in response to such a general question about her wellbeing, she interpreted it in this way and responded saying her teeth were straighter. This could suggest having straighter teeth had actually influenced how she felt in herself, although it is impossible to determine this definitely from one comment. A short time later, I confirmed that Ashley previously had not liked the appearance of her teeth:

“Yeah, I didn’t like them. It was obvious; I don’t think anyone really would”

Interview 2

Ashley spoke gravely when she said this, which was quite out of character as she was such a bubbly, fun-loving teenager. Her serious tone of voice illustrated her sincerity and the magnitude with which she had disliked the appearance of her teeth. It probably also indicated that she felt she knew me better, so was more comfortable talking to me about her teeth, and because the alignment of her teeth had improved, she was more comfortable talking to me about how she had previously felt. Again, Ashley talked about her appearance from the perspectives of others, speculating that no one would

have liked the appearance of her teeth. In the first interview, Ashley did not want to talk about the appearance of her teeth, but she did take a photograph on the video camera, and gave it to me along with the video diaries. Indeed, she did have severe crowding of the upper anterior teeth, with her upper canine teeth erupted but displaced significantly. It is interesting that she was not able to describe or explain anything about how the appearance of her teeth affected her, but she did take a photograph so I could see them, perhaps assuming I would understand her point of view from looking at the image. The frequency with which Ashley talked about what (she assumed) other people thought about her teeth, reinforced my view that she was very self-conscious about her appearance. However, once her teeth were straight, and she no longer had reason to be self-conscious about how her teeth looked, Ashley continued to assess her appearance through the eyes of others. She undoubtedly internalized what other people thought of how she looked, and perceived their views to be her own, as described by (Fredrickson and Roberts, 1997). This was demonstrated in the interview after Ashley had had her brace removed and I asked her what she thought of how her teeth looked. Ashley never said what she personally thought of her teeth, she explained what her boyfriend, and others said:

“Ashley: People say they look really good, like loads of people.

Sarah: Oh have they?

Ashley: Yeah

Sarah: Oh that’s nice.

Ashley: And like, I put a picture on Facebook and it got like 60 ‘likes’ or something”

Interview 5

After Ashley had her brace removed, she had taken a selfie and posted it on Facebook, as a means of informing everyone she no longer had her brace on. As the name suggests, the social networking website Facebook allows people to upload photographs for their friends to view. Friends have the ability to comment or register that they “like” the photograph as a sign of approval. Ashley quantified how much she liked her teeth based on the number of “likes” the photograph received from her friends. This shows that Ashley seemed to have adopted the Western cultural norm that females are objects to be looked at and for their appearance to be judged (Fredrickson and Roberts, 1997).

5.4.2 The Focus of the Dislike

Like some of the other young people, Ashley was very vague when she talked about her appearance. The young people’s ability to articulate what they did not like about their teeth did not reflect the level of distress their appearance was causing them.

“Sarah: What do you not like about your teeth?
Ashley: I just, dunno.”

Interview 1

There are several explanations as to why Ashley struggled to describe what she did not like. One reason could be that she felt self-conscious talking to me in detail about her appearance, when it had been established she did not like her teeth. It was during the first interview that Ashley and I first discussed what she thought about her appearance. At this stage, she had only met me

on two occasions and both of these were relatively brief. Not knowing me very well could have made her more self-conscious, talking about the personal insecurity she had about how she looked. It is possible that her vague descriptions could be a demonstration of the adult-child power imbalance, if a parent or carer had told her to have treatment, because it was in her best interest. If Ashley had been coerced into treatment, it would be difficult for her to explain, in detail, what she perceived the problem to be. Although, I did not get the impression Ashley or any of the other young people had been coerced into treatment, they were all willing and motivated to undergo orthodontic treatment and it had been their decision. Another possible reason Ashley was vague in the complaint about her teeth could be because generalised crowding is more difficult to describe than identifying that one particular tooth is not straight. From the image I saw of Ashley's teeth, there were more than one crooked teeth, however, I think the most likely reason for her vagueness was because she was so self-conscious about her teeth.

5.4.3 Wanting Perfection

Ashley was under the impression orthodontic treatment would not result in perfectly straight teeth. This caused her to re-evaluate the value of treatment if she did not achieve the perfect smile, after what she thought would be five years of wearing a brace.

“I think it will be good that I have straight teeth, but I think the bad thing is the dentist said like, my teeth won't be exactly straight but they'll just be a bit straighter so I just thought, it

might be a bit pointless just having it a bit straighter, having to have it on for like, well different ones on for like 5 years”

Interview 1

Ashley’s orthodontic treatment did not take five years, I can only imagine she had been told about wearing retainers at the end of treatment and she was confused about the timescales. I am also unsure as to why the orthodontist told her something, which she interpreted to mean she would not get straight teeth. At the end of treatment, Ashley reported her teeth were straight, although when I saw her a few weeks after she had had her brace removed, she thought that had changed.

“Ashley: They was like perfectly straight then [when I had my brace taken off] and now they’ve moved a bit. So if I went back [to school] and no one had seen them yet, they would think, ‘Oh they’re not that good’ But.

Sarah: Do you think they are that different?

Ashley: Yeah”

Interview 5

I was sitting quite close to Ashley so could see her teeth clearly and I could not see what she was referring to when she was telling me her teeth were not perfectly straight anymore. Perhaps there were minor changes, which I could not see, although this shows quite how close to perfection Ashley wanted her teeth to be. Again, Ashley’s concern was in relation to what other people would think. The issue she had with her teeth no longer being perfectly straight was that people at school might not think they were good enough; it was not that she personally did not like them. One perceived way of achieving peer acceptance among adolescents is through conforming to appearance ideals (Jones, 2004). So presumably, she predicted her peers

would make a negative social judgement, and perhaps she would be less likely to be accepted if her teeth were not absolutely perfect.

Young people's desire for perfect teeth is recognised in the literature, Wickstrom (2016) found young people were hoping for "movie-star teeth", and believed perfection was achievable and expected. Although in Ashley's case, her motivation for wanting perfect teeth was because she thought she would be judged more favourably by her peers. I was surprised by one comment, in particular, that Ashley made at her final interview, after her brace had been removed:

"I didn't really want to go around smiling because like I didn't want to be like, 'Oh look, I've got straight teeth now.' Because like some people still don't have straight teeth and I don't want like, 'all right'."

Interview 5

Ashley did not explain this comment any further, and quickly moved on to describing how she evaluated her teeth, after her brace had been taken off. I think being apprehensive about smiling, because some people did not have straight teeth, demonstrates how much value Ashley placed on appearance. She pitied the people whose teeth were not as straight as hers, because of the deep seated belief that moral judgements are made about people based on the appearance of their teeth, as has been shown in the literature (Marshman et al., 2009).

5.4.4 Appearance of the Brace

The main reason young people want orthodontic treatment is to improve the appearance of their teeth, it is not surprising therefore, that during the first interviews we discussed how the young people felt about the appearance of the brace before it had been fitted. 'Modules' are small rubber bands that secure the orthodontic arch wire to the metal brackets, which are glued on to the teeth. The modules come in a variety of colours, are replaced each time a patient has their fixed appliance adjusted, and the patient can choose what colour to have each visit. Modules are often referred to as "colours". Interest in colours was not exclusive for all young people. Some were aware that they could choose a colour because their friends had it, but it was not something that appealed to them. While for other young people, like Ashley, it was the most positive aspect of the process of orthodontic treatment.

Like other boys and girls, Ashley had given considerable thought to the most appropriate colour to choose, based on her observations of what colours other people with fixed appliances had chosen. Young people paying attention to the colours demonstrates an interest in the appearance of the brace, although it could also indicate they are keen to take control of their choices when given the opportunity.

"I don't know if they're gonna be like changing the colour every time I go, I've already decided what colour I'm having!"

...

"I don't really like the colour pink but it just looks good on your teeth so. I like purple, like in the fish tank, that sort of purple, that's, but it's not like what I'd have on my teeth so"

Interview 1

Ashley overlooked the colour purple, despite it being a colour she liked, and instead was planning to choose a colour that she did not like, because she thought other people would think it looked good. I think this is quite telling about Ashley's character; Ashley was insecure and really cared what people thought. To an extent, this is probably common for a twelve year old, although particularly so with Ashley. Although it also serves as a reminder that when people make choices, they can be perceived as purely individual, but are often influenced by many other factors, such as, the people around them. I explore the way in which other people influence young people's experiences of orthodontic treatment in chapter 7, "Sharing the Treatment Experience". Sociological and dental literature describes a range in the extent to which people adopt the belief that their appearance reflects them as a person (Marshman et al., 2009, Fredrickson et al., 1998). Ashley was typical of the girls in the study and chose a colour that she thought would look good. This was in contrast to the boys who often chose their favourite colour or the team colours of the football team they support. The different ways boys and girls choose colours resonates with the gender differences discussed in a study by (Rossiter, 1994). This study explored ten to twelve years olds' feelings about attending their first dance party. Boys were not concerned about what clothes to wear or what the other children might think, whereas choosing what to wear provided significant anxiety for the girls interviewed, because it placed them in a position of scrutiny by their peers, the male gaze in particular. It transpired, the girls' anxieties were justified. One girl wore a party dress which was seen as childish and as a result, she

was outcast, being the only girl who did not get to dance with the Birthday boy (Rossiter, 1994). The author theorized that the girls were placed in a position of being a sexual object, from their previous childhood identity. Furthermore, the girls being placed under scrutiny, and their change in identity could be detrimental to adolescent girls' self-esteem (Rossiter, 1994). This is also the case for girls in early adolescence, and being judged as an object, would explain why Ashley was so concerned about the appearance of her teeth, the appearance of her brace, and how much she valued other people's opinions (Fredrickson and Roberts, 1997, Rossiter, 1994).

Before commencing treatment, Ashley was excited about getting the brace and having the opportunity to choose the colour of the modules. At the second interview, when Ashley had had the brace on for three months, the appearance of the brace was not a concern for her, but as the treatment progressed, Ashley's feelings changed. The third interview was approximately nine months into her treatment.

"I've got so many events in the last two years of school that I'm going to do next but like, I have braces. So it kind of ruins the photo but if you get what I mean"

Ashley Interview 3

Ashley was accepting of the appearance of the fixed appliances, although when all things were considered, she did not like the appearance of the brace and thought it would ruin photos recording important memories.

5.5 Matthew

5.5.1 Motivation for Treatment

As discussed in the literature, gender influences the desire to change or improve the appearance, both in Western cultures and in other cultures around the world. This is in keeping with my findings; as gender played a significant role in determining young people's motivation to undergo orthodontic treatment. Some girls had given it considerable thought, and tended to focus on wanting orthodontic treatment because straight teeth would improve their overall appearance. Whereas the boys were frequently, although not exclusively, vague about the benefits of having a brace. In addition, boys often described a secondary reason for seeking orthodontic treatment. Matthew was a prime example of this. Before he had his brace fitted, when I asked him how it came about that he was having a brace, he initially described an entirely functional reason. This led me to question what his primary motivation was.

“Matthew: I kind of knew I was going to have braces because my teeth are all over the place. So they do need sorting out because it is quite uncomfortable to have, the way they are aligned, you can't quite put your jaw together properly, so, and you can move it around and slot it into different teeth and it's a bit odd so I definitely thought it was the thing to do.
Sarah: So, because they are not that comfortable rather than the way they look or is it sort of both?
Matthew: It's more the way they look.”

Interview 1

It transpired, Matthew's primary motivation was to improve the way his teeth looked, he went on to explain which teeth he did not like and that he would

prefer them to be “on the same line”. There are a few possible explanations why Matthew described the functional discrepancy of his malocclusion first, despite the aesthetics being more important to him. It could be that he had two motivating factors, which were of nearly equal significance to him. Matthew was not the only boy to give secondary reasons for undergoing orthodontic treatment. Other boys described how their crowded teeth caused them to ache and one other boy explained that, in addition to improving the appearance, he wanted straight teeth so he would be able to clean them more scrupulously. These are examples of how some of the boys seemed to regard their body in a mechanical sense, as if it were a machine that required fixing, undergoing treatment would resolve their problem, this was something the girls did not do. Previous literature found boys' primary motivation was to correct the functional aspect of their malocclusion, but for the girls, aesthetics predominated (Trulsson et al., 2002). Although, more recent literature found, improving the function of the teeth did appeal to boys, but the appearance was more important (Wickstrom, 2016). Boys' motivation to correct the functional aspects of their dentition could be boys fulfilling their stereotype, as having a desire to fix things that are broken. However, they will have been influenced by Western culture that has narrowed the boundaries within which they think straight teeth are correct and normal, and crooked teeth pose a problem or defect that requires correction.

Matthew explained that his friends had had braces, so I asked him if he had talked to them about him getting a brace.

“I think they probably would have agreed with me to say that I do need them but no I haven’t, I haven’t talked to them”

...

“This is my decision, I want it, I want to do it”

Interview 1

Matthew decided for himself that he wanted a brace, and had not considered what his friends or his parents thought. Matthew’s mum was present during this conversation, and she verified that they had not discussed it. This is in keeping with the literature on how opinions about appearance are gendered. Boys do not engage in appearance comparisons to the same extent as girls, and are less likely to be influenced by friends’ views about their appearance (Jones, 2004). This was the opposite to Ashley, I do not know if Ashley asked her friends if they thought she needed a brace, but their opinions were undoubtedly her primary motivation for treatment. Ashley had also discussed this with her mum, and prior to the first interview, her mum explained to me, quite how desperate Ashley was to initiate treatment.

Matthew said his malocclusion was “uncomfortable”. I did not ask about his symptoms, but two other boys cited this as a reason. From a clinical point of view, there is not an obvious biological reason why crooked teeth may cause discomfort. At the time, I suspected he, and the other boys, talked about the functional aspects of their malocclusion because they thought caring about how their teeth looked, and having orthodontic treatment simply to improve their appearance, could be seen as vain and feminine. It is stereotypically girls who show more of an interest in their appearance, and so as not to question their masculinity, during the interviews, boys may have felt more at

ease giving functional reasons for undergoing orthodontic treatment, as well as aesthetic reasons. However, given the ambiguity about Matthew's primary motivation for wanting a brace, I think this demonstrates the appearance of his teeth was not causing him any significant distress prior to treatment, and he did, in fact, have a combination of motivating factors. Matthew's mild dislike of his appearance was in contrast to Ashley and Madison. This too was gendered, girls tended to voice a much stronger dissatisfaction about their appearance than the boys. However, this could be because from childhood, in comparison to girls, boys are discouraged from expressing their emotions (Bendelow, 1993).

5.5.2 Not Wanting Perfection

Matthew was not excessively concerned about the appearance of his teeth, and he did not want his teeth to be perfect. Again, this demonstrated a divergence in gender relating to the young people's motivation for treatment. As discussed earlier, Ashley was apprehensive that her teeth may not be perfect at the end, and was disappointed that, within two to three weeks of having her brace removed, she perceived her teeth to no longer be straight. This was in direct contrast to Matthew, before he had his brace put on, he explained how he did not want perfectly straight teeth. Matthew had a canine tooth that was displaced towards the cheek (buccally) and it took some time for the brace to create space and allow the canine tooth to be aligned. Throughout this period, Matthew repeatedly explained at interviews that he did not want his teeth to be completely straight.

“I don’t think I want them to be perfect because imagining myself with perfect teeth, it just seems a bit, a bit odd but, yeah, I’d definitely prefer them to be straighter”

Interview 1

“I’m used to having them so irregular and it’d be weird coz I’ve seen friends who have had their braces in and they’ve come back with perfect teeth, you know, afterwards. But they weren’t anywhere near as bad as mine”

Interview 2

“I’ve always said, I never wanted them perfect”

Interview 3

Matthew reiterating that he did not want his teeth to be perfect demonstrates it was something he was quite sure of, although he thought the orthodontist had a say too, and he wanted them to be happy with the results as well. I did interview Matthew when I thought his teeth were fully aligned, although he seemed unsure if they were completely straight, because of the presence of the brace. This is sometimes the case; patients do not realise their teeth are straight when the brace is still in place. Unfortunately, I did not carry out a final interview with Matthew after his brace was removed because of schoolwork commitments, so I do not know what he thought of his teeth, which, presumably, were perfectly aligned. Sociological literature describes how the pressure to conform, to achieve the perfect appearance, is greater for females than it is for males (Groesz et al., 2002). This could explain why Ashley was anxious to achieve perfection and Matthew only wanted an improvement. A person’s appearance, plays a significant part in their identity (Dittmar, 2007), and this could also explain why Matthew did not want his teeth to be perfect, because it would result in a dramatic change to his

appearance. Matthew thought some improvement would be enough to satisfy his dissatisfaction, but would not change his identity.

Matthew explained how the orthodontist had started orthodontic treatment on his upper teeth, and was going to decide later down the line, whether or not to put a brace on the lower teeth. Unlike other young people, Matthew did not have a preference:

“Matthew: You know, if the top ones are organised, it doesn’t look that bad [on the bottom] then I’m not too bothered.
Sarah: Yeah, your lower ones are quite straight aren’t they?
Matthew: Yeah. It’s just a little bit all over the place but not as bad”

Interview 2

Matthew did go on to have a brace on his lower teeth. In some patients with Matthew’s malocclusion (Class III), treatment of the lower teeth can be delayed to assess the improvement in the bite of the anterior teeth. Matthew’s orthodontic treatment was delayed so the orthodontist could monitor the growth of his lower jaw, and decide whether jaw surgery was indicated to correct his bite.

“Matthew: I think it’s my [general] dentist who said unless you want to be a model or something, you don’t need to have your jaw done or anything. Just go for the, just go for the bands and whatever. Unless, because my jaw wasn’t the worst so I thought, well, just live with it. My jaw, it’s a bit more jutting out than some people but it doesn’t really
Sarah: Do you think it is?
Matthew: Not anymore, I think it was. I think the bands did a lot more than I was expecting them to... It’s moved back a lot more than I thought it would”

Interview 4

Patients undergoing orthodontic treatment are often asked to wear elastic bands between the top and bottom teeth. Wearing these bands moves the teeth but it cannot move the lower jaw back. Matthew had explained in the past that he had an “under bite”, so I presume, the bands changed the bite of the front teeth, and this led Matthew to think the prominence of his lower jaw had also been corrected. This reinforced Matthew’s view that he did not want perfection, and essentially was happy with the appearance of his face.

5.5.3 Appearance of the Brace

Gender played a part in how the young people chose their colours. Boys chose colours that they liked, and although some girls also chose colours that they liked, other girls, like Ashley, chose a colour that they thought other people would think looked good. I think this gender difference was a demonstration of how adolescent girls can feel under pressure to look good, and that they will be judged on their appearance, more so than boys (Fredrickson et al., 1998). Matthew explained his thought process relating to which colour to choose.

“I was thinking about it the other day what, what colour I’d have because I don’t want it to be bright pink or bright blue or anything like that but if I have it a bland colour like white or black it is going to look a bit odd. If you have white bands and slightly off-white teeth, it’s going to look a little bit odd but I don’t, I have been thinking about what I will get”

Interview 1

It is interesting that Matthew had considered getting white modules, although discounted this, because his teeth are off-white and “it’s going to look a little

bit odd". A couple of the girls had analysed peers at school who had braces and chose what colour modules they should have, based on which would give the illusion of having white teeth. Matthew did not want his teeth to look off-white, and although he did not say explicitly, that he wanted his teeth to look white, he did not want to draw attention to their true colour either. The concern he was voicing was very interesting. Matthew was mature and decisive, and in relation to all other aspects of the treatment, Matthew was very sensible and logical; nothing seemed to faze him. However, the colour of modules to choose was the only time he showed indecision and apprehension. Ashley always judged her appearance through the eyes of others, and although Matthew did not do this, he did give considerable thought into what colour to choose to make sure it did not look "odd". For young people, like Matthew, to voice unease about what colour modules will look good, and what colour will make his teeth look off-white, suggests the colour young people choose, matters far more than I realised. Perhaps it is an indication that the mass media are influencing their preferences; heightening their awareness of appearance, and narrowing the boundaries of what is a deviation from 'normal'. Understanding that the choice of colours is very important to some of the young people is only a very small element of providing orthodontic care. Although, I think it is an example of one of the small ways in which this study is giving voice to young people enabling orthodontists to understand our patients' treatment journey better.

With regards to the appearance of the brace, Matthew, like most young people did not consider the appearance of the brace in a negative way:

“Matthew: I wasn’t too bothered about having braces in, coz of what they’d look like, coz lots of other people do have them. Especially at school... I can’t really remember the first day I came in with them in school”

Interview 2

Matthew told me about a friend who had recently had her brace removed. Seeing the change in her appearance made him realise that he had got completely used to her with a brace on, and this helped him accept the appearance of his own brace as ‘normal’. The second interview with Matthew was only a few months after he had had the brace placed on his upper teeth, but he had already forgotten his first day in school with a brace on. This shows that the appearance of the brace was clearly not something he was self-conscious about. For the most part, this was the same for the boys and girls in the group, so presumably, getting a brace was normal for this age group (of fourteen and fifteen year olds).

5.6 Madison

5.6.1 Dissatisfaction with the Appearance

As discussed above, there was variation in how precisely the young people could describe what they did not like about the appearance of their teeth. Ashley and Madison both disliked their appearance, although their ability to describe this differed significantly, because they had very different personalities. I think Ashley also lacked self-esteem, compared to Madison, and this influenced how she narrated her feelings. At the start of treatment,

Ashley struggled to talk about the appearance of her teeth because she disliked them so much. In direct contrast to this, Madison was happy to talk about the appearance of her teeth, and I think the only reason she was able to talk in such detail, about the chronology of her developing malocclusion, was because she disliked the appearance of her teeth so much, and had done for so long, she had been monitoring them closely. The reason I chose Ashley and Madison for case study analyses was because, although they both hated the appearance of their teeth, the reasons they disliked their teeth differed. Ashley was strongly influenced by her peers and the social judgements of having an 'unattractive' dental appearance. This differed to Madison, who was motivated to improve the appearance of her teeth by images she saw in the media.

"When they first came through, they were alright because I had these four here [pointing to top teeth] but then the side ones came down and they were more far forward than they are now. And they like stuck out a bit. And then everything moved and they went a bit wonky, especially with the bottom one, that one [pointing]. Because everybody is like 'Why is that one longer than the other one?' And it's not. It's just because they're so tight. It's been pushed back and up"

Interview 1

The crowding of Madison's lower teeth had displaced one tooth in particular, so if you looked closely, it appeared to be longer than the surrounding teeth. I did not probe when Madison said "everybody" asked about that tooth, but presumably a sufficient number of people had talked to her about it, for her to think everyone noticed it. I do not know the context of these conversations, but the fact that people have asked her about that tooth could be an

indication that the mass media has influenced our social norms, to the extent that straight teeth have become normal, and deviations in the alignment of the teeth is a topic for discussion (Khalid and Quiñonez, 2015).

5.6.2 Motivation for Treatment

Madison's grandparents were present for the first interview; Madison's grandmother had been quite involved in the conversation, and had said the reason Madison wanted a brace was cosmetic. Madison's grandfather had contributed very little up to this point, although he had been listening and following the discussion. Presumably, this was one of the few topics that he felt he had an opinion to voice.

“Grandad: At the end of the day, it's a necessity isn't it, to straighten your teeth to improve your, you know, your morale if you like.

Madison: Yeah. I don't agree with people who deny them because it's only helping you to getting better”

Interview 1

Madison's grandad believed it was a “necessity” to have straight teeth, and that this improves people's “morale” (perhaps referring to self-esteem), there being more benefit to having straight teeth than just the cosmetic outcome, as Madison's grandmother had proposed. Madison agreed with her grandad, and although she did not expand further, that she said: “it's only helping you to getting better” suggests she believed having straight teeth, would benefit an individual's health or well-being in some way too. Having straight white teeth reflecting optimal health is a relationship that has also been described

in the literature (Bedos et al., 2009). The work Bedos and colleagues (2009) carried out was with Canadians of low socio-economic status. Socio-economic status can be determined by different methods, for example parents' educational background, occupations or address, none of which I knew. Madison aspired to become a beautician, which suggests Madison valued appearances, probably more so than other adolescents of her age. Later in the interview, I asked about Madison's motivations for orthodontic treatment, she explained that she felt there was more to having straight teeth, than simply improving the appearance and self-confidence; how someone looks reflects their personality and affects their social interactions.

“Just when somebody approaches you and they've got straight teeth, you just like, and they're smiling and they've got a nice smile, you're like, they warm to you more.”

Interview 1

This subject has been widely discussed in the literature, the appearance of the body is thought to reflect an individual's character, attractive people being stereotyped as having favourable personality traits (Dion et al., 1972). In particular, attractive people are judged to be more sociable and more popular than unattractive people (Eagly et al., 1991). This was corroborated by Madison, and was at the heart of her motivation to have a brace. It is also in keeping with orthodontic literature, which explored patients perceptions of dento-facial normality (Stanford et al., 2014). The authors found participants thought it was common to make negative judgements about people based on their 'abnormal' dental appearance (*ibid*).

For Madison, the ideal outcome was to have artificially whitened, perfectly straight teeth, like characters she had seen on television. She was looking forward to a drastic change in the appearance of her teeth, in the hope that this would also change her identity to be more like her idols.

“You know, especially with all, people are like TOWIE and all that, having really straight teeth and having them whitened, that’s what I’m looking forward to. Like, when I’m older, I could have them whitened when I’m older if they were like this, but they wouldn’t be half as nice”

Interview 1

TOWIE is the acronym for a scripted reality television programme called “The Only Way Is Essex”, which follows the lives of people from Essex. The show has been criticised for a lack of authenticity and for its negative stereotypical representation of the people from Essex (WIKIPEDIA, 2014), females wearing fake tan and having artificially whitened teeth. However, for Madison, the appearance of the characters in the programme epitomised what she was hoping to achieve, and that having her teeth whitened would not be sufficient, they had to be straight as well, in order to achieve the ideal outcome. It is interesting that Matthew was reluctant for the appearance of his teeth to change significantly, only wanting a slight improvement in the alignment, whereas, Ashley and Madison were striving for a drastic change, and wanted perfect teeth. Perhaps Madison’s desire to change her teeth so dramatically compared to Matthew, was because the female body is seen as more flexible than the male body (Evans, 2002), which leads to girls feeling more comfortable with the idea of drastically changing their appearance. It is thought, females are targeted to a greater extent, and are forced to compare

their appearance to “the idealised images of the human body which proliferate in advertising and visual media” (Featherstone, 1982). As a result, females are “trapped” into consumption of commodities from the cosmetic and fashion industry (*ibid*), in order to achieve the “perfect body” (Dittmar, 2007). Madison explains “people are like TOWIE”; because people with a certain appearance exist on television or elsewhere, this was what she compared herself to. However, she goes on to explain:

“Madison: I’m not bothered about, you know, like fake teeth, though, you know, where they file them down and
Nan: Capping
Madison: Yeah”

Interview 1

Madison felt having straight, artificially whitened teeth was within the limits of what she thought was natural, normal and achievable. The desire to achieve perfect teeth, but for them not to look “fake”, has also been described in the literature (Stanford et al., 2014). The authors described how the media’s depiction of ‘normal’ resulted in people seeking orthodontic treatment to achieve this ‘ideal’, although the media also depicts the unattractive appearance of people being fake, and “too perfect” (Stanford et al., 2014). The mass media undoubtedly had a significant impact on shaping her image of the ideal appearance. Research has been carried out exploring the reason why tooth whitening has become increasingly desirable. One theory being, white has symbolic significance in Western cultures indicating perfection and cleanliness (Khalid and Quiñonez, 2015). This could explain why, having white teeth is thought to reflect perfect health (Bedos et al., 2009).

5.6.3 Appearance of the Brace

The majority of young people, like Matthew, were neutral in their opinion about what the brace would look like, because so many people at school had a brace already. Madison differed to the rest of the participants, initially anyway; she was looking forward to the change in her appearance that would result from having a fixed brace on.

“I’m excited about having them on because I think they look nice. I like all the colours and stuff. I think they look nice”

Interview 1

Before having the brace placed, Madison liked the appearance of fixed appliances, it was not just the colour of the modules that appealed, it was the fixed appliances themselves that she thought were flattering.

“Madison: My friend... she had her braces on for a year and a half and I think it suits her better with them on.

Sarah: Really?

Madison: Yeah. They look, her teeth are lovely now. I wouldn’t say, ‘Put them back on’, but she did look really nice with them. They, like, complemented her a bit”

Interview 1

Madison thought her friend looked better with braces on, although I think this was because she was desperate to have a brace herself, she thought they looked good on everyone. I think the tendency for girls to engage in appearance comparisons (Kim and Chock, 2015), and their predisposition to conform to appearance ideals (Hey, 1997), contributed to the appeal of fixed appliances for Madison. She explained how most of her friends were either undergoing treatment, or had completed their orthodontic treatment, and she

was still waiting for her brace. This was until it materialised for her, once she had her brace fitted, she changed her mind about how good they looked. As discussed in the chapter titled “Being a Little Kid, to a Teenager and an Adult”, by the third interview Madison had had her brace on for about nine months and was anxious to have her brace removed. This was because she had started college, and realised the older students did not have a brace, so she thought the brace made her look young. In this respect, for Madison, both wanting the brace put on, and wanting the brace taken off seemed to be related to the associations it held rather than issues she had with the brace itself. However, at the third interview, Madison did describe how she did not like the appearance of the brace:

“You don’t smile with your teeth because you don’t think it looks nice... you can’t smile properly without showing a bit of silver. So, but I’ve had grey or silver colour on for ages now”

Interview 3

Before starting treatment Madison had been looking forward to getting colours and, like many of the young people, she thought this was an exciting part which would look good. The novelty wore off, because in time, she changed from choosing colours that drew attention to the brace, to choosing silver modules because they blended in with the stainless steel brace.

“I wish I had them off for prom because I was smiling like this” (Madison demonstrated a forced smile holding her lips tightly together)

Interview 4

Despite several attempts I did not get to meet Madison after she had her brace removed. My previous interviews with Madison had been in Sheffield, although after she left school she moved house and she did not think I should travel to visit her at her new house. I explained I was happy to come and see her there, although apparently this would not work because she had younger sisters who would make an interview too difficult. Trying to arrange a final interview proved too difficult in the end, Madison said she would contact me when she knew when she would be coming to Sheffield although this never happened. Talking to Madison on the phone, I was glad to hear her treatment had taken a year and a half to complete, because she had been very anxious to have her brace removed, and, more importantly, she was thrilled with the results.

5.7 Conclusion

No previous research has explored the factors that can influence young people's perspectives of dental appearance. This chapter has identified that gender can play a role, so too can the perspectives of others, and images seen in the media. Ashley exemplified what has been reported in the sociological literature; adolescent girls can strive for perfection, having unrealistic expectations and viewing their appearance through the eyes of others. At times, Ashley seemed unable to distinguish her own opinions, from what she anticipated her peers thought about her appearance; and her perceptions of others' was what motivated her to undergo orthodontic treatment. Matthew was typical for the boys, and his thought about

appearance contrasted greatly from Ashley's. Although he did care about his appearance, he was not aiming for perfection, quite the opposite; he did not want a drastic change in his appearance. Furthermore, Matthew decided to proceed with orthodontic treatment without considering what anyone around him thought about his teeth, he was very much, doing it for himself. Like Ashley, Madison was also striving for perfection, although she was not motivated by others' opinions to the same extent. It was apparent in Madison's narrative that she was strongly motivated by images in the media, and that she believed depictions she had seen on television of the 'ideal' dental appearance were entirely achievable. Madison was motivated by the inferences associated with having the ideal dental appearance; she believed straight white teeth reflected favourable personality traits and likeability.

Chapter 6: How Braces Feel

6.1 Introduction

The research question this chapter addresses is how young people's experiences of fixed orthodontic treatment change over time. I focus on the experiences of the brace in the physical sense, so how the brace feels, and how this affects the young people. Interestingly, the way in which the young people narrate their experiences of the sensation of the braces is influenced by gender, so I also explore how gender influences young people's perspectives of fixed orthodontic treatment.

6.2 Literature

6.2.1 Orthodontic Pain

It is widely accepted by the public that undergoing fixed orthodontic treatment can cause pain, although the orthodontic literature relating to pain is limited. One study that used Twitter posts to explore people's opinions about braces, found pain resulted from adjustment of the appliance and sharp bits of the brace causing soft tissue trauma (Henzell et al., 2014). Another study used qualitative in-depth interviewing with young people to explore their dietary intake and behaviour in the early stages of their fixed orthodontic treatment (Al Jawad et al., 2012). The findings were described quantitatively, which suggests an in-depth qualitative analysis was not undertaken; two themes were described, the first being experiences relating

to pain. All participants reported pain and discomfort although there was variation in the duration and timing of the pain experienced. The second theme was relating to dietary changes caused by the brace (Al Jawad et al., 2012).

6.2.2 Different Approaches to Examining Pain Narratives

I felt the young people in my study, discussed their experiences of pain, and the physical presence of the fixed appliance, in more depth than the way it is described in the orthodontic literature. Therefore, I turned to the medical sociology literature to compare with my findings. Pain caused by fixed appliances is intermittent, so it is not the same as chronic pain caused by illness. It has been reported that, suffering with chronic pain can make children feel isolated and different from their peers, because they are not able to participate in day-to-day activities. Often, they will try to mask their pain from friends and family, in an attempt to feel 'normal' (Meldrum et al., 2009). This is not the case for young people undergoing orthodontic treatment. It is unlikely they will feel isolated from their peers because so many young people have orthodontic treatment. It is also unlikely that the brace will interfere with their participation in activities in the same way as a medical illness or disorder. Furthermore, orthodontic patients know the pain caused by a brace will only last a finite length of time. Once the brace has been removed the pain will never return; this is very different to children with pain caused by illness who have the additional burden of worrying about how the pain will affect them in the future (Meldrum et al., 2009). Despite these

differences, the young people's narratives of pain in this study align closely with the literature on narratives of chronic pain and illness.

Normalisation is a common theme among patients with chronic pain and participants in this study also displayed normalisation. There are two different processes of normalisation. The first process involves patients trying to maintain their pre-illness identity, lifestyle and behaviours (Bury, 2001). In these situations people will disguise or minimise their symptoms from people around them (*ibid*). One explanation for why people do this is so they can disguise their differences with others (Kelleher, 1988, referenced in Bury, 2001), thus preserving their self-identity and their ability to fit in (Tong et al., 2009). This could be because they do not want to worry people close to them, or it could be to avoid the stigma that can be attached to illnesses or being different. Research involving children with cancer, and their families found, both the children, and their parents normalise some of their symptoms as 'everyday' symptoms (Woodgate et al., 2003, Woodgate, 2008). These 'everyday' symptoms were viewed by the family as not as severe, irrespective of their frequency; the symptoms had become so much part of their lives they did not warrant discussion. The author suggested the reason some symptoms were overlooked, was because it afforded the family time to live a normal life, and to not need to live in the 'world of cancer' all the time (Woodgate et al., 2003). The second process of normalisation occurs when people incorporate their illness into their life, and redefine what has become 'normal life' (Bury, 2001). In this situation, there is complete acceptance and

openness that life has been affected by the illness, and as a result, there has been a change in identity (*ibid*).

As social actors, individuals present themselves to the outside world based on their experiences, their perspectives and their cultural influences; whether consciously or not, people “construct a public identity for themselves” (Kelly, 1994, referenced in Bury, 2001). So when people are asked about how they feel, they provide information about their state of health, but they also reveal information about “the status of the self” (Radley and Billig, 1996). Throughout my analysis, I have primarily focussed on what the young people say (using thematic analysis and case study analysis); however, as it has been highlighted in the literature, much can be gleaned from how people choose to tell their stories (Bury, 2001, Robinson, 1990). Therefore, in this chapter, I have also used narrative analysis to explore the way in which the young people tell their stories. Participants told their narratives in different ways, and some individuals change the way they told their narratives over time, and this reflected a change in their outlook on the brace and their treatment.

There are different frameworks used to examine illness narratives. One example of this is Robinson (1990), who analysed written narratives exploring how individuals told their story. He read life stories written by patients who had multiple sclerosis, and he found people use different evaluative processes to recount the experiences and events in their lives . There were three broad practices by which people interpreted and described

their personal narrative of illness. First, 'the stable personal narrative'; this is constructed chronologically, there are no dramatic cues and the links between life events and experiences are understated. The second process is a 'progressive personal narrative'; people construct this narrative in a positive light, linking things that have happened in their life to how they have contributed to personal life goals, sometimes alluding to roles of heroism or courage. In direct contrast to this is the 'regressive personal narrative'. This narrative will tell a story which illustrates how the illness, life events and experiences are widening the gap between "valued personal goals", and the possibility of these goals ever being achieved (Robinson, 1990).

Another way people's illness narratives are analysed is to differentiate between them being 'public accounts' or 'private accounts' (Cornwell, 1984). This is based on the premise that what people say, varies according to the circumstances they are in, who they are with and who they are talking to. Public accounts involve descriptions of "common social currency", i.e. what an individual says, typifies the view point of the general public, so it is highly likely that their opinion will be acceptable to other people (Cornwell, 1984). The author explains how this is commonly used when the interviewer and the interviewee do not know each other well, for example, at the first interview, the interviewee maintains social distance by making polite, socially acceptable responses (Cornwell, 1984). The alternative, the 'private narrative', will exist when a person responds "if thinking only what he and the people he knows directly would think and do" (Douglas, 1971, referenced in Cornwell, 1984). The private narrative is not simply an

individual's own personal view, it too is influenced by a person's background and what those around them think and feel (Radley and Billig, 1996). It is also important to note, frequently, people can merge public and private narratives, sometimes in the same sentence as they present themselves to the world (Radley and Billig, 1996, Kelly, 1994, referenced in Bury, 2001).

6.2.3 Cultural Influences on Pain Accounts

Understandably, personal experiences influence people's health beliefs, as does, an individual's upbringing and place in society (Radley and Billig, 1996). Bendelow (1993) carried out a study with adults to explore the relationship between perceptions of pain and the social characteristics of individuals, focussing on gender. The first arm of her study was a questionnaire carried out in inner city London. Interestingly, it contradicted previous findings in the literature about which gender better coped with pain. Bendelow found that women were thought to be more capable of coping with pain, however, previous literature found it was the other way round. The quantitative component of the study was followed by in-depth interviews; the findings from the interviews offered two possible explanations as to why women can cope better with pain than men. The first reason was that biologically, women have a higher natural capacity to endure pain, because they are equipped to cope with childbirth. The second explanation was that pain was more abnormal for men and they are not accustomed to suffering with it. The reason they thought men suffered with pain less frequently than women was not clear (Bendelow, 1993). The author's findings also revealed

culture and social expectation has a significant influence on how individuals articulate pain (Bendelow, 1993).

“childhood socialisation actively discouraged emotional expression in boys and adult males felt an obligation to display stoicism”

(Bendelow, 1993)

This is in keeping with findings that men are less likely to express pain or illness, because they may appear as weak and, therefore not fulfilling their gender roles (Radley and Billig, 1996). Bendelow found, men expressing pain would be seen as effeminate and could imply homosexuality, because it was more socially acceptable for gay men to express their feelings. Gender differences in the narration of pain have not been explored in the orthodontic literature. One study did conclude boys found it more difficult than girls when describing their decision to undergo fixed orthodontic treatment, although this was in relation to them expressing their motivation for treatment, it was not related to their pain experience (Trulsson et al., 2002).

6.2.4 Relationship with a Medical Device

The way in which the young people talked about their fixed appliances, and how they felt about them, differed hugely in my study. There is a scarcity of reports in the orthodontic literature exploring how young people feel about their brace. One study in New Zealand study investigated the content of orthodontic related posts on Twitter (Henzell et al., 2014). The authors found people Tweeted that they missed their brace after it had been removed

(Henzell et al., 2014). With the exception of this comment, I was not able to find literature describing the relationship people have with their fixed appliances, therefore, again, I turned to the medical literature to explore the relationship young people have with their medical devices.

Medical research in this area has primarily involved patients with medical devices that are in some way lifesaving and, therefore permanent in their lives. This is different to a brace, which is optional and temporary. As a result of these differences I would have expected the relationship young people had with their orthodontic appliances to be different to that with medical devices, yet, there were marked similarities. Literature concerning young people with implantable cardiac defibrillators revealed that they can have very mixed feelings about the device. In addition to other feelings, young people developed a very close relationship with their defibrillator, and learnt to accept the negative aspects, and instead focussed on the positives (Rahman et al., 2012). This was also the case for patients who had undergone organ transplant. Despite the drawbacks of transplantation adolescents often adopted a positive attitude to their situation (Tong et al., 2009). These were feelings that were also shown in my study, so irrespective of the differences between medical devices and fixed appliances, I have compared the relationship patients have with their medical devices to the relationship participants in this study had with their brace.

6.2.3 Summary of Literature

It is taken for granted that a fixed appliance will cause pain, and this has been evidenced in the literature (Al Jawad et al., 2012). Although, what is interesting in the medical sociology literature, is how people can experience their pain in different ways. For example, some people normalise their pain experience by masking it from others, whereas others accept a new norm, which incorporates the pain into their everyday lives (Bury, 2001). Similarly, people can narrate their pain in different ways, and this can be interpreted to reflect their underlying feelings about their pain experience (Robinson, 1990). Culture and gender also affect how people narrate their pain. Boys and men feel a social expectation in Western culture to cope with pain and not to articulate their feelings (Bendelow, 1993). The medical literature also alluded to how patients can develop a relationship with their medical device or implant, and young people tend to focus on the positive outcomes of these changes in their life (Rahman et al., 2012).

6.3 Sensation of the Braces

Anecdotally we know fixed appliances cause pain and discomfort and the majority of participants had friends or siblings who had told them that aspects of the orthodontic treatment would hurt. For some participants the anticipation of pain was the biggest source of anxiety.

“I was most worried about if it hurt coz I don’t like my teeth aching and hurting that much”

Josh Interview 1 age 12

Emma was the only person who was not expecting the braces to hurt. This might be because she was the first of her friends to have a brace. Emma had an older brother, and although she remembered him having a brace, she did not recall him complaining about the pain and they had not talked about this. Understandably, prior to treatment, she was more anxious than most, as she did not know what to expect. Both her parents were healthcare professionals, who could have anticipated the brace caused discomfort, although Emma said she had not asked them much about having a brace, so presumably they did not talk about this aspect of her treatment. The second interview I carried out with Emma was after she had had her brace fitted and a couple of her friends at school were also undergoing fixed orthodontic treatment. By this point, she had become used to the braces and was a bit embarrassed that she had not realised the braces would cause pain, because pain was such an integral part of the treatment.

“Sarah: So was it like you thought it would be like, having braces?

Emma: Not really, no.

Sarah: What did you think it would be like?

Emma: I don't know. Just the teeth moving but not hurting, which is a bit stupid really. It's like, yeah”

Emma Interview 2

During the interviews I carried out with the young people after the fixed appliances had been placed, we discussed how the braces felt. As a clinician, I anticipated the most significant feeling they would remember would be the initial pain, because I have frequently been told this can be severe in the first week of orthodontic treatment, before subsiding in the

second week. For this reason, clinicians routinely warn patients that dental pain and soft tissue irritation is most severe following initial placement of the brace. Madison was very excited about getting her brace, although the shine was taken off the experience shortly afterwards due to the severity of the pain. Anna also described the initial dental pain, which was clearly significant.

“Hi, erm, I had my braces on two days ago, on Thursday. So I were really looking forward to it, and then when I got ‘em on, I started getting horrendous pains”

Madison Video 3

“You know when you get a bad tooth?... that kind of pain but the whole of your mouth and every single one of your teeth”

Anna Interview 2

Indeed, the initial pain being severe was described by some young people, but, surprisingly, the feeling most commonly described was a change in the position of the lips, being displaced away from the teeth by the presence of the brackets; this did not appear to be a positive or negative experience, just unexpected and different.

“Sarah: So is it mostly the pain that’s different from how you thought it would be?

Emma: Not really. Your lips (laughter) tend to be more, like, forward. Your mouth seems to get more forward”

Emma Interview 2

“When I first had them on, when they just put the first bits on, not the wire, I closed my mouth and I had these weird sticky out things on my teeth and it felt really weird and like my lip was being pushed out. But I’m used to that now”

Kaitlyn Interview 2

“They kind of changed the way my face moves a bit and that because, and the way I smile because, yeah, it’s like sticking out on my teeth. So, like, when I smile, my lip goes further up than what it used to because it’s going to go up like that”

Tyler Interview 2

“Before you have it, your smile is different because you haven’t got anything, you know pushing your lips but”

Anna Interview 2

“When I first had it done my mouth was out (Jasmin pouted), I used to be ridiculous (laughing)”

Jasmin Interview 2

Interestingly, when recalling the braces being fitted, the young people focussed more upon how different the mouth felt with the braces in place, rather than the pain. There might be a few reasons why the young people did not talk as much as expected about the initial dental pain. The first interviews with each of the young people (prior to the braces being fitted) revealed that most of them anticipated pain during orthodontic treatment, therefore, because it was expected, the discomfort was not a surprise and may not have sprung to mind when the young people thought back to the appointment when the brace was placed. In contrast to this, the feeling of the lips being pushed out was unexpected and therefore the part they recalled when thinking back to the first stage of their orthodontic treatment. It is interesting that when Jasmin first had her brace fitted, she perceived herself to be pouting, even though the appearance of the mouth does not change (when the lips are closed). That she said “I used to be ridiculous” indicates

that by the second interview, she thought she had stopped pouting and her appearance had returned to normal. This is likely to be because she had adapted to the feeling of the brace in her mouth.

Another reason the initial pain may not have been mentioned as frequently in the interviews was because it had been forgotten. I understand from patients that immediately after the brace is placed, it can feel tight, although the brace does not usually hurt straightaway, it usually takes one to two hours for the pain to peak, which then resolves within the next two weeks. I did not carry out any interviews within the first couple of weeks following placement of the braces, so the initial dental discomfort will have resolved by the time I saw them at their second interview. It has been reported in the literature that a recall period of only 2-3 weeks can result in under-reporting of pain (Butz, 2004). The young people talked more frequently about other types of discomfort, for example the brace catching the soft tissues of the cheek, this was usually less severe, but could have taken precedence at the time of the second interview.

Compared to the interviews, the video data provided a more detailed description of the pain the young people experienced immediately following placement of the fixed appliances. This is to be expected, because the video data were recorded contemporaneously by the young people, and at the time, the initial pain will have been the most significant feeling which was affecting their lives.

“First of all when I got my top braces, they felt not like a stinging pain but a kind of, tight pain, not like a, not like when you cut yourself but like, a really aching pain, like cramp, and then like, it happened with my bottom braces, but I think the more curved your teeth are, the more it hurts, first of all, but now it’s really stopped hurting, as much so yeah”

Emma Video 6 (between interview 1 and 2)

“Err, the first few days, my, err, braces were hurting for, well about five days, I had to have a lot of paracetamol, but after that, not much has happened”

Leighton Video 1

One of the main reasons video diaries were used in this longitudinal study was to enable the young people to record data when something important or relevant was happening to them in relation to their experiences of orthodontic treatment. Henzell and colleagues’ study (2014), which used orthodontic Twitter posts as their data, also had the advantage that the patients chose to post comments at times that were relevant to them. In keeping with my video data, this study found people explained the different pain experienced and the disadvantages of having a brace in detail. The excerpts above demonstrate the use of video was an effective method of collecting data about the pain they experienced. Enabling the young people to record data at times that were relevant to them enhanced the richness of the data collected, and in some cases the pain narratives in the interviews were dramatically different to the pain narratives in the videos. For example, the following excerpt was a video diary Madison recorded two days after she had had her brace fitted.

“I started getting horrendous pains, and they was really like, hurting my lips, I’ve got an ulcer here, if you can see it, and

then I've got a lump inside my mouth, there, where the back one's rubbing on.... And my teeth feel really sensitive at the minute, and they feel like they're gonna fall out like, I've not been eating very hard stuff... ”

Madison Video 3

Madison went on to describe how she had not been able to eat crisps, meat or chips, which presumably were part of her normal diet, and that she had been restricted to eating yoghurt and jelly. When I met Madison for the second interview, about three months after she had had her brace fitted, she did not give the impression that she had suffered with pain to any significant degree, and prioritised talking about the elastics she had recently been instructed to wear, but had forgotten to put on that day.

“Sarah: Were they sore at the start?

Madison: It were mainly like the bits at the bottom and they were catching on. I need to put my bands on, actually”

Madison Interview 2

Video data enabling participants to record data contemporaneously has been described as far more informative and accurate than retrospective reporting in interviews (Rich et al., 2000, Buchbinder et al., 2005). It is understandable Madison focussed on what was relevant to her at the time, i.e. wearing elastic bands, but I was surprised that she seemed to have forgotten the pain she had experienced at the start, the soft tissue ulceration and the effects the pain had had on her diet. Other young people demonstrated similar behaviour, the video data providing a far more detailed insight into their experiences, which was not as apparent during the interviews.

6.4 Reassigning the Feeling of Normal

The participants who described a change in the position of the lips when the fixed appliances were first placed accepted the change in sensation. All the young people described how the feel of the brace became normal with time, and for the majority, this was entirely acceptable, Emma however, expressed some regret.

“Because I can’t remember what it was like without them. It’s a bit sad, isn’t it?”

Emma Interview 3

Emma was disappointed the brace had become such an integrated part of her mouth, or her life, that she could not recall how her teeth felt prior to fixed appliances but she accepted it as the new norm.

Most young people did not express any negative feelings about the brace becoming normal, with the exception of Anna. Of all the young people, Anna had the strongest reaction to placement of the brace; she felt it was an invasion of her body by an inanimate foreign object. This may be because her motivation for treatment was not pressing, she was doing it for the future – she thought it would be advantageous to have straight teeth when she was older. Perhaps, because she thought she would not reap the potential benefit of treatment for years to come, undergoing the treatment was less appealing, and therefore more difficult for her to tolerate. In addition to this, she had had terrible experiences having her teeth extracted prior to fitting of the brace.

This will have served as a further negative association with orthodontic treatment.

“When I first got them on, I was annoyed because I didn’t want them on. They were a pain, they weren’t my real mouth, they were metal”

Anna Interview 2

Before having the teeth extracted and the brace being placed, Anna had a trans-palatal arch with Nance button fitted; this is a thin metal bar glued to the posterior teeth attached to an acrylic disc on the roof of the mouth. It was at this stage that I interviewed Anna for the first time and she described how it felt, at the subsequent interviews she reiterated how much she disliked it.

“you know when you’re trying to hide a bit of chewing gum at the back, at the top of your mouth from teachers? Well it feels like that really, well, when I first got it, but now it just sort of lives there really”

Anna Interview 1

Anna had got used to the sensation of the Nance button, although the way she used personification indicates she dissociated it from herself. In time, Anna accepted the brace, although never accepted the Nance button in the same way.

“It feels like I’ve got a false roof of my mouth. I haven’t, my tongue hasn’t felt the roof of my mouth in a year I think now”

Anna Interview 3

“I can still feel my teeth you know, because of the traintracks, I can still feel them because the teeth are showing but with the roof of my mouth, it’s like it gets kind of just being replaced by something”

Anna Interview 3

Resentment of the Nance button persisted until it was removed. This was a part of the orthodontic treatment Anna was not prepared to tolerate. She felt her body had been invaded beyond what she deemed to be an acceptable level. Anna described how she could still feel her teeth, even though the brace was present, but the Nance button covered part of the roof of her mouth so she could not feel it with her tongue; this seemed to contribute to her dislike of it, perhaps because it made the Nance button feel more like a prosthesis. There were other negative aspects of the Nance button that will have made it more difficult for her to bear. She described how, on occasion, food had got caught in it and caused pain. This pain could be more difficult for her to tolerate because it was unexpected, compared to the dental pain from adjusting the brace, therefore serving as further dislike of the Nance button. At the first interview, Anna was under the impression the Nance button was going to be removed when the brace was placed, this suggests she was unclear of its role in the orthodontic treatment, and therefore probably more perturbed by the pain experienced from it.

Kirk (2010) describes how the visible presence of medical technologies impacted on social interactions and how young people were socially identified and categorised. In these situations, the medical device serves as a way of isolating the young people, making them visibly different from their peers. In this respect, the literature on young people living with medical devices does not match up with young people having a brace. Wearing fixed appliances has become such an integral part of adolescence in the UK; the

appearance of the braces was not an issue for the young people. The fact that the Nance button was hidden from view did not make it any more acceptable for Anna.

Anna's first impression of the brace was one of complete aversion to it. In her initial interviews, Anna described her experience of the teeth being extracted and the pain caused by the brace, in a way that could be likened to a regressive personal narrative. This can be characterised by an "increasing discrepancy between 'valued personal goals' and the possibility of their attainment" Anna's motivation for having a brace was based on advice from others, and, to have straight teeth when she was older, therefore, her personal goal for brace treatment, was in the distant future. It is understandable that she did not link her immediate suffering with, getting closer to her goal of having straight teeth when she was older.

Robinson (1990) explained that the structure of narratives can be complex. Most narratives broadly fall into one of three patterns, although there could be elements of the different forms in one narrative, and, people can change the patterning in which they present their narrative over time (*ibid*). How Anna felt about the brace changed dramatically when she realised the orthodontic treatment was having a positive effect on the alignment of her teeth. As a result, there was a very noticeable change in the way she framed the commentary of her story over time. Initially she had been very negative, but when she began to see an improvement in the appearance of her teeth, she told her story as a progressive personal narrative, describing her

experiences in a positive light, as they facilitated her getting closer to her personal goal (Robinson, 1990).

“Anna: But actually, when I first got them I was really kind of annoyed and stuff with it because it felt wrong, it hurt my mouth and stuff. But now, when they show me the pictures at the orthodontist, of what my teeth used to look [like], and I see them and it’s just now, they’re a lot straighter, so it’s good.

Sarah: What did you mean by it felt wrong, was it just that it was sore or?

Anna: It felt not, it felt like not my mouth you know... It felt like it had some massive, I don’t know, it’s not like you’ve got a chunk of metal because that would be all in one place. It’s like you’ve got this kind of metal thing spreading all over your teeth”

Anna Interview 3

The change in the appearance of her teeth altered her whole outlook of the orthodontic treatment. In addition to this, with time, the initial dental pain will have subsided and she will have got used to the feeling of the brace. All these factors lead to a change in the relationship she had with the brace.

“It’s just sort of part of me now”

Anna Interview 3

To describe the braces as part of her, demonstrates a complete change in her acceptance of the treatment and the appliance. Anna reacted with a strong dislike of the brace initially, but this did not last and she embodied the brace (even though the Nance button remained alien to her). Anna’s whole demeanour had changed when she talked about the brace, having a brace had become a positive experience for her. Unveiling the changes in Anna’s feelings towards her brace and her orthodontic treatment were only possible

though longitudinal data collection. Indeed, it has been reported in the literature that collecting multiple accounts, over time, can provide a richer source of understanding of participants' behaviour and perspectives (Thomson, 2007).

The feeling Anna eventually reached, of the brace being part of her, was a feeling shared by other young people. For example, Kaitlyn had become so accustomed to wearing a brace, she thought it was completely normal.

“Sometimes I don't even notice that they're there. So it just feels normal. It feels natural, just to have something there”

Kaitlyn Interview 2

Joseph had congenital absence of two upper incisor teeth and his upper canine teeth were ectopic, so essentially, only two of the six upper front teeth were visible in the mouth. As expected, he was keen to have orthodontic treatment to improve the appearance of his teeth, although this was not the reason he gave when asked about the positive aspects of having a brace.

“Because it makes my mouth feel more complete. Apart from missing two teeth”

Joseph Interview 2

It is difficult to ascertain what he meant by making his mouth “feel more complete” and he appeared unable or unwilling to explain this in greater detail. He was very shy and, I did not want to probe too much, because I feared he would feel under pressure and may be more guarded in what he said. Some young people were so self-conscious about the appearance of their teeth that they were glad when the braces were fitted, because this

masked the poor appearance of their teeth. Joseph could have meant the physical presence of the fixed appliance masked the gaps and this change in appearance made him feel his mouth was more complete. Alternatively, he could have meant that the presence of the brace made his mouth feel more complete because he was starting to have the severely displaced teeth aligned, which then filled the gaps. For him to be able to describe his mouth as “more complete” suggests that he too felt the orthodontic appliance was completely normal and he did not distinguish it from the rest of his body. Joseph’s excerpt above is an example of a progressive personal narrative (Robinson, 1990), the vast majority of narratives were predominantly described in this way. This is to be expected because, in theory at least, the orthodontist carrying out the treatment, and the patient’s expectations should be united to achieve a common goal.

Kaitlyn had her upper fixed appliance on for a considerable length of time before the lower appliance was fitted. The third interview was about four weeks after her lower brace was fitted and she had not got used to it completely.

“Kaitlyn: Because every time, because I'm used to my [lower] lip being so close to my teeth. But now, it's not. And then, when I try and smile, I forget that it's there. And then, I feel like I go like that [exaggerates moving lower lip while smiling].

Sarah: Do you reckon it will become normal? Or do you think that's like...

Kaitlyn: I think it might. Because that's how it was on the top. Because those felt weird at first but I think it's just going to go naturally”

Kaitlyn Interview 3

Kaitlyn explained how she would get used to the lower brace and it would “go naturally”, i.e. feel normal to her. The brace is glued to the teeth for the duration of the orthodontic treatment, so patients do not have periods of relief or a break from their appliance. Therefore, I can understand why the feel of the brace in the mouth becomes normal, but it is interesting that Kaitlyn describes it as “go naturally”. This implies she thought of the brace in a slightly more animate way than the stainless steel device it actually was. It is thought the soft tissues (inside the lips and the cheeks) physiologically adapt to the braces, so they become less sensitive to the appliances. The feeling of the brace becoming a normal part of their mouth was true for several young people, to the extent that they thought it would feel weird if it was not there.

“I never notice it’s there”

Tyler Interview 2

“you do get very very used to them”

Matthew Interview 2

The phrase “getting used to them” was frequently used by the young people. Matthew emphasised the point by the repeated use of “very”, perhaps because he did not know how else to explain how normal the feel of the brace had become for him. He also used second person pronouns narratively to explain how he had got used to them. This indicates he thought the feeling of a brace being normal was not exclusive for him, it was a general description of how everyone with a brace would experience it (Radley and Billig, 1996). The feeling of the brace became so normal, some young people developed a relationship or bond with their brace. The

relationship the young people had with their braces differed both between participants and for each individual over time.

In the medical literature, research with young people found the continual presence of a medical device in the body became normal, one young person referring to her implanted cardiac defibrillator as “just like another body part” (Rahman et al., 2012). This was very similar for the young people in this study; the brace being fixed to the teeth may have contributed to the formation of a relationship. Anna described the brace as “part of me” and others talked about how they could not imagine not having a brace anymore.

“Kaitlyn: It’s different, but I’ve got used to it now. I couldn’t imagine living without [a brace]

Sarah: Really?

Kaitlyn: Yeah, because I forgot, like, and I think it’ll be weird how smooth it will be. Because I’ve got this roughness in my mouth, that I can go past”

Kaitlyn Interview 2

Several young people focussed on the positive impact the appliance would have on the alignment of their teeth, in order to negate the disadvantages. Eleanor recorded a video diary explaining that she had had another two teeth extracted by her dentist and that it had hurt more on this occasion than the previous time. However, she was still able to look past this, and see that this was only one step in the process and the end result would be having straight teeth. Despite the despondent narrative in the video, she finished the video with the uplifting statement:

“So just another step forward to having nice teeth”

Eleanor video 2

Madison also managed to focus on the positives of having a brace when she was suffering with “horrendous pains” two days after her brace was fitted. In the video she described the dental pain in detail and the effects this had had on her diet, although she concluded the video as follows:

“I’m just in a bit of pain at the minute, but hopefully it will get better within the next week or so, so I should be alright. But other than that, I’m really happy to have them on and I can’t wait till the end result”

Madison video 3

This was also consistent with the medical literature, which establishes that young people focus on the positive impact on their lives. For example, young people spoke of the reassurance that having an implantable cardiac device could save their life, and the independence it brought to their day to day lives (Rahman et al., 2012). The function of the device is completely different, and obviously a lot more important than having a brace, although it is interesting that in this study, young people focussed on the positive aspects too, improving the appearance and the function of their teeth.

Jasmin had built a strong relationship with her braces, although this was complex in nature. During orthodontic appointments, patients’ archwires (which go between the teeth) can be removed and new ones placed. Jasmin described how, whilst the archwire is out, the sensation of the teeth is very different and was not a welcome change. Although she goes further than this, explaining a psychological bond exists between her and her brace that was interrupted when the archwire was removed.

“Jasmin: “But I like them, I'm used to them now. I really like them

Sarah: Do you still? That's really good. What is it you like about them?

Jasmin: I don't know. It's just like, you know when they take them, they take the wire off, to like, putting a new one on. I don't like it when they do that because I feel like my teeth are kind of, in a way bare or naked. And it feels weird not having something there that it's just like

Sarah: Joining your teeth altogether?

Jasmin: Yeah, it's just having that thing that's holding you on. I don't know how to explain it, like a little companion or something but on my teeth

Sarah: A security blanket

Jasmin: That's it!”

Jasmin Interview 3

Prior to treatment Jasmin was desperate to have a fixed appliance and clearly regards her brace as more than the inanimate object that some other young people did. However, shortly before this, she initiated the conversation about how she was looking forward to having her brace removed:

“Jasmin: I'm looking forward to having them off now.

Sarah: Oh are you?

Jasmin: Yeah but I think I'm going to really miss them.

Sarah: Do you?

Jasmin: Yeah, they've become part of me now”

Jasmin Interview 3

Jasmin must have perceived some negative aspects of having a brace, because she was looking forward to having them removed. However, the presence of the brace was very complex for Jasmin, as explored in the chapter on growing up, titled “Being a Little Kid, to a Teenager and an Adult”. Predicting that she would miss having a brace suggests it had become embodied. She thought there were positive aspects of the brace, and this

was why she thought she would miss it. Madison also predicted that she would miss her brace when it was removed:

“I’ll miss [them], they’ve made a change in your life haven’t they?”

Madison Interview 3

Madison went on to explain that before initiating orthodontic treatment, she had hated the appearance of her teeth and that she would be much happier as a result of the treatment. Therefore, the “change” she was referring to, was a positive change in her life. Radley and Billig (1996) explored people’s accounts of health and illness. In their study, one female participant used a second person narrative to describe her thoughts in exactly the same way Madison did. The authors explained this “shows the speaker is not merely talking about her special condition. The claims she makes about herself are made in relation to claims about the world in general” (Radley and Billig, 1996). Madison starts the conversation using the first person, saying she will miss her brace, but transfers to second person plural when stating that, having a brace made a change to her life. This suggests she thought having a brace universally makes changes to individuals’ lives.

6.5 Acceptance that Braces Cause Pain

From talking to patients (as a clinician) I believed the discomfort caused by adjustment of the braces diminished through the course of treatment to not really be an issue for them (similar to how the sensation of the fixed appliances became normal). This is true for some young people, because

there was a marked difference in the pain they reported following fitting of their appliance compared to their brace being adjusted, as described by Tyler.

“when I had them put on, it ached for about a week but when I had it tightened, it ached for two days”

Tyler Interview 2

This was also the case for Jasmin, and by interview three (several months into treatment), adjustment of the brace did not cause any discomfort, although she speculated the pain may return depending on the procedure the orthodontist carried out.

“Jasmin: The pain has gone completely

Sarah: Oh has it?

Jasmin: Whenever I get them tightened, it's gone, but I think it is going to come back because they've added a brace to this new tooth that's come out”

Jasmin Interview 3

Jasmin regarded her orthodontic treatment as not causing her pain. However, young people's ability to adapt and accept pain and discomfort as being part of the brace treatment, makes a significant contribution to their experience of pain. Young people's acceptance of dental pain and soft tissue trauma from the braces was notable. For example, Tyler explained how he thought people exaggerated the pain experience of fixed appliances, but in the following sentences he explained that after he had his brace adjusted, he struggled to eat and drink. This demonstrates he was prepared for significant levels of pain.

“Tyler: It’s been a lot better than what people make it out to be. They make as if it is this really painful, agonising process. It does ache and it is pretty horrible but it’s not like, really, really bad

...

I had it tightened, I was thinking, “Oh, this is alright.” And then the next day, I could barely eat. Yeah, it was awful, it was really like. One of the problems I had was my teeth, went a bit sensitive. So I couldn’t drink

Sarah: Really?

Tyler: Yeah, I could only drink warm. Anything warm, I couldn’t have a normal water like that”

Tyler Interview 2

Another example that demonstrates how the young people were accepting of pain is when they decided not to return for the brace to be eased when they had a problem. At the start of treatment it is explained to patients that they can arrange an appointment (usually on the same day) to have the brace adjusted or fixed if anything breaks or is hurting. Despite having this option, sometimes young people chose not to get additional appointments to resolve the discomfort they suffered with. Anna described to me in detail how the wire had been digging in to her lip and cutting her mouth, and that this had been going on for a month.

“Sarah: And did you go back [to the orthodontist]...?”

Anna: Oh, I haven’t been back!”

Anna Interview 2

She expressed surprise when I asked this question, as if this was an option that she had not even considered. Presumably the discomfort was not too severe, because otherwise I would have expected her to have it eased. Although it also depends on personal factors, for example, some young people did not like missing school and their parents needed to take time off

work for each appointment. Leighton relished the opportunity to miss school to attend appointments, although he was another individual who chose not to go back when he found a wire digging in. This was despite the discomfort being immediately following his normal appointment and his next routine appointment, when the pain would be relieved, would not be for several weeks.

“Leighton: They say “feel if any bits are sharp” and I did and I thought it was OK but then when I got home I realised they hadn’t cut the wire and it was really digging in and was cutting all the time

Sarah: Did you go back or did you wait for the 6 weeks?

Leighton: Well I had to go back for something else because one of the things came off, and I asked them about it but they couldn’t do much”

Leighton Interview 2

Leighton understood that it was essential for him to book an additional appointment if the brace was broken, although he also thought that, if it was sore, then it would be up to him to choose to return or just put up with the discomfort. Leighton recorded five video diaries, each one after a bracket had come off his tooth and he had had to book an additional appointment to have it glued back on. The recurring problem was not as evident in the interviews, which made the video data particularly useful. On the videos he explained that, organising an additional appointment was not a problem, because he got to miss Maths. However, on occasion, he also seemed to be in trouble with the orthodontist for repeatedly breaking his brace by biting his pen. Some young people did book additional appointments to have the brace adjusted if it was causing pain. For example, Eleanor returned for an additional appointment to have the brace eased so regularly she and her

mum had named the clinician they saw as the “Fix-It Lady”. These appointments seemed to be in relation to part of the brace hurting, not because it had broken.

“Mum: You’ve not been needing to go to the Fix-It Lady”
Eleanor: ... we had it like three or four times in a row after every appointment”

Eleanor Interview 3

There are a few reasons why young people may not go back for further adjustments to get them out of pain. The inconvenience of an additional appointment and the interruption it causes to their daily routine, as well as the experience that when they do go back, the pain may not be resolved are undoubtedly two of them. That aside, I think some young people choosing not to go back demonstrates their adaptability and acceptance that braces cause discomfort and that it is up to them to deal with it.

“It was only for the first month or so that I would complain about them, you know, coz um, coz, you know, I wasn’t used to them and, you know, you occasionally get caught, you know, inner cheek gets caught or something but there’s no real pain”

Matthew Interview 2

“The first time I had them put on, it hurt like, 8 out of 10. But then every time it gets tightened it’s like 2 out of 10... once you get used to it, it doesn’t hurt”

Ashley Interview 3

“I’ve got to get used to it really, same with the ulcers as well. Because like, this one here, I’ve had for about two months”

Emma Interview 2

“It depends if it catches and rubs, but at the minute they are all fine. Apart from that bit”

Eleanor Interview 2

Eleanor described them as “all fine” despite there being one part of the brace catching and causing discomfort. This suggests a certain level of discomfort had become acceptable to her. Similarly, Matthew and Ashley learnt that the braces catching or hurting a little, should be regarded as normal because the pain was not severe enough to be thought of as “real pain”. Young people seem to learn to tolerate the brace by increasing their threshold for what was an acceptable level of discomfort. As a result of this, young people may not report pain or discomfort because they think this is typical when you have fixed appliances.

“It hurts when I have my braces fiddled with. You know, when they re-do them. It hurts for about four, five days, but that's just normal”

Anna Interview 4

Interview four with Anna was over a year into her treatment, at the point when I would have expected adjustment of the braces to only be causing minor discomfort. Her descriptions, compared to the others', suggest there is significant variation in the pain experience between individuals. The fact that she describes this as “normal” indicates that irrespective of the amount of pain individuals' experience, they become accustomed to it. Despite her using the word “normal”, I do not think this means the pain could ever be ignored or that it was not affecting her life. She is exhibiting normalisation as described by Bury (2001). This is a narrative by which young people can

maintain their pre-treatment identity and minimise the interference their brace has in their life (Bury, 2001, Woodgate et al., 2003)

6.6 Pain is not Normal and does Affect Life

The appearance of the fixed appliances became normal with time, although the discomfort could never be completely ignored. The brace caused pain, and this was tolerated because it was understood to be an inevitable consequence of orthodontic treatment, however, at times, it affected young people's lives significantly. Their lives were affected in different ways although most commonly, the discomfort disturbed their eating, and this was particularly after they have had their braces adjusted. This is in keeping with the orthodontic literature, which found all participants' diets were affected by the presence of the fixed appliance in the early stages of treatment (Al Jawad et al., 2012).

“it just ached a lot chewing stuff and biting into things so I had to eat softer stuff and avoid, avoid certain things. Sometimes just eating crisps would be kind of painful”

Matthew Interview 2

“My teeth felt weak and I can't bite into anything. It was horrible. I had to like eat soft foods for a really long time”

Jasmin Interview 2

When the braces were aching, young people restricted their diet to soft foods to minimise the discomfort, unfortunately this did not eliminate the pain. Some young people explained that their mum would know to make meals

that were less painful to eat after the brace had been adjusted, although they did not go into any further detail about how this affected the family. The way food was prepared, and eaten, being influenced by the presence of the brace, and the diet being restricted, could carry an element of inconvenience and frustration for the young person and the rest of the family. Eating being such an essential, everyday part of life, and the braces causing this to be painful, must act as a repeated reminder of the presence of the fixed appliances.

Undergoing orthodontic treatment has become common during adolescence, so the majority of young people had friends who, had in the past, or were currently experiencing similar symptoms. Sharing these experiences could have provided solace and reinforce the sense that pain and discomfort related to braces is just something that must be tolerated as part of treatment. I think this is why the participants did not tend to share their pain experiences with their orthodontist, despite it affecting their lives.

“The only thing that’s really annoying is ulcers... it was really annoying to be honest, really hurt, made a difference to what I was eating coz it hurt when I was eating but. (Pause) You know that’s a big thing”

Emma video 4

The seriousness of Emma’s tone of voice indicated the impact the ulcers were having on her life, and they were the reason she made this video diary; she did not talk about any other aspects of her treatment. Emma describes them as being “annoying” although this is a broad term for something that I think was causing significant discomfort and disturbance to her everyday life.

This was evidenced at the second interview when Emma described how she had not been able to go to her clarinet lesson because it was too painful for her to play. In addition to changing the diet when the braces were hurting, the amount young people ate was also affected.

“My cousin had braces and it really affected the way he ate and he lost quite a bit of weight doing it”

Tyler Interview 1

“Mum makes me soup and porridge and stuff. But I do, every time I have my braces changed, I always notice that I lose weight. Just a little bit of weight. But it's because I'm not eating”

Anna Interview 3

Tyler could not expand on this any further because he had made an assumption that his cousin had lost weight because his diet had been affected by wearing a brace, this was only his theory, they had not discussed it. For Anna to think she lost weight because of her orthodontic treatment, indicates the extent to which she thought the brace was influencing her diet, and therefore her life. It could also demonstrate sensitization; this is the term used when participants involved in research become more sensitive and over-report the effects of an intervention, or the topic of interest (Butz and Alexander, 1991). As well as eating, other aspects of the young people's everyday lives were affected by dental pain, for example sleeping and talking.

“Mm-hmm. Sometimes, if I'm in bed, because it's like pushing you know, or inside or if I'm lying down or something, you know the metal rings on the back... your skin somehow gets stuck in it, so you have to pull your skin out,

which is quite painful but that's okay. Yeah. It only happens when you're lying down"

Anna Interview 2

"Jasmin: Oh yeah, and they do get stuck on my lips

Sarah: Do they? Your lip gets caught in?

Jasmin: That bit. It gets caught like, ah, ah. And it's like playing with my tongue trying to wriggle it out.

Sarah: Is it sore? Or is it okay?

Jasmin: No it's

Sarah: It's just something that annoys you sometimes?

Jasmin: It's just something that happens. But it's fine. It's like normal"

Jasmin Interview 2

Anna explained that when she lay down in bed, her cheek got caught in part of the brace. Despite describing this as painful, she said it was "okay" which suggests she has come to accept it. Throughout this excerpt she used a second person narrative to describe her experience. This was done by several of the young people, as if they were explaining to me what it would be like if I was to get a brace, indicating their experience were universal for everyone (Radley and Billig, 1996). It also suggests the young people see themselves as experts, which is how I framed them in this study, as experts in their own lives. Jasmin found her lower lip got caught in her lower brace, seemingly without reason. Again, she had come to accept this as "normal" although it must have carried an element of irritation because it would have interrupted the normal functioning of her mouth, and it was significant enough for her to tell me about it. It is possible Anna and Jasmin were telling me about these experiences because they were annoying, but they did not want to make a fuss or for me to think they were complaining. Having got to know Jasmin and Anna over time, I do not think this was the case, they did

not seem to hold back talking about aspects of the brace, or their treatment that they did not like when they arose.

“The only thing that’s bad about them, let’s say you’re not talking and your brace will slot into them [your lips], and then when you start talking it’ll kind of scrape up, but it doesn’t really hurt. It’s just, it just goes quickly, like if I do that”

Ashley Interview 2

Ashley was gesturing and describing how her lips got caught in her brace when she started talking. She thought this was acceptable because it only hurt transiently, although it must have served as a constant reminder and irritation that the brace was present. The fact that these incidents were recalled to me shows they happened frequently enough, or were uncomfortable enough to not go completely unnoticed. These are examples of a process of normalisation, which takes place when people have redefined “normal life” due to pain or discomfort (Bury, 2001). The young people accepted that their life had been affected, in this case, by pain from the brace. This was in keeping with the literature when normalisation takes place due to chronic pain (Bury, 2001). The young people were able to tolerate these sources of irritation because they only happened “sometimes”, although being intermittent could be irritating in itself, because it may be more difficult to get used to them, and the experiences were clearly uncomfortable. In addition to the random episodes of discomfort, the period after the braces were adjusted was a particularly difficult time for some of the young people. Kaitlyn and her mum talked about her reliance on pain-killers after the orthodontic appointments.

“Mum: It's usually about four days after isn't it? Literally keep her topped up [with pain killers] every four hours
Kaitlyn: Not every four hours
Mum: Not far off. You wake up in the night sometimes”

Kaitlyn Interview 2

“It's uncomfortable sleeping when you first like, get them tightened because you can't stop thinking about the pain and paracetamol and that don't help at all”

Jasmin Interview 2

“I couldn't go to my clarinet lesson because every time I would put my clarinet there, it was like toothache”

Emma Interview 2

Pain interfering with sleep and hobbies were seen as accepted consequences of the orthodontic treatment. Although the young people often did not talk to me about these problems, they must have carried an element of annoyance due to the impact they have on how the young people live their lives. Young people's activities, such as eating, sleeping and music lessons being affected is undoubtedly frustrating for them, although the constant presence of the brace also caused frustration because it interfered with their normal functioning.

“Eleanor: I try not to open my mouth too much because it hurts too much”
Sarah: Is that just now or usually?
Eleanor: No, just now”

Eleanor Interview 2

“Leighton: Just a bit fed up with it. Sometimes it cuts my lip or cheek at the side.
Sarah: When it cuts you, is anything wrong with it or is that just what happens?”

Leighton: That is just how it is”

Leighton Interview 2

“Yeah, it’s okay, it’s better than I thought. But sometimes it’s like, it digs in to your gums and you know. Oh, what are they called? Ulcers. You’ve got like ulcers, so. I’ve had like loads of them and then the brace digs in to it and kind of like pops and that hurts a bit. But it doesn’t hurt much”.

Ashley Interview 2

Ashley compares her experiences of orthodontic treatment to her perceived expectations, and despite there being several occasions where the braces have caused ulcers and pain, she concluded the treatment was better than anticipated. As mentioned above, this was also the case for Tyler, who was under the impression, from other people, that having a brace was an “a really painful agonising process”, although he went on to explain how the brace severely restricted his eating and drinking. Ashley accepted discomfort from the brace, and so perhaps did not realise the extent to which they were interfering with her life, because it was expected. Although this does not detract from the fact that the brace did interfere with how her mouth felt on a regular basis. Despite the brace feeling normal, the pain, and discomfort did impact the young people’s everyday lives. This, together with other aspects of the treatment, interfered with the young people’s lives. I think this contributed to the reason why young people were often keen to have the braces removed, in some cases, shortly after they had been placed. The following excerpt demonstrates this.

“I want to get rid of them now, yeah, it’s been about a year and a half”

Leighton thought, or felt, like he had had his brace on for a year and a half, although it had actually only been nine months. Leighton went on to explain that he had spaces at the back where he had teeth extracted, which were being closed, although he did not know why they were doing this because the front teeth would not get any straighter. The desire to have the brace removed as soon as possible was not shared by all young people though.

“Sarah: Is it an inconvenience or a hassle or anything [having a brace] or do you think it is just normal?

Eleanor: Just normal. I can't really imagine not having them on (laughter)

Sarah: Really?

Eleanor: Yeah. It's only been like a year and three months since I had them on. And then other people have them on for like two or three years. And I can like, hopefully I can have them off soonish”

Eleanor Interview 4

When asked a closed question about having a brace, she said it was “just normal”, suggesting it is not an inconvenience. She follows this up by saying she is hoping to have them off “soonish”. This would appear to be in contrast to describing them as normal. However, I did not ask a very clear question because the two options were not discrete. I think having a brace had become normal for her, although there may also be elements that were a hassle as well, which would explain why she would like them to be taken off in the not too distant future. “Soonish” denotes a longer time frame than “soon” (angstmetalsong - Urban Dictionary, 2006) Later in the interview,

when asked if she is looking forward to the braces being removed she responds by saying:

“You know, I don’t think it will make a difference that much, only that I won’t have braces anymore”

Eleanor Interview 2

There appears to be an inconsistency in what the young people think about their braces and this happened frequently. They describe the brace as normal and that they do not notice them, although often they would also like them to be taken off. As expected, the longer the brace was on, the more keen the young people were to have it removed. I think this demonstrates the fine line between what they learn to accept as normal and the awareness that the braces do affect their lives. This was exemplified by Anna; Anna had had the strongest negative reaction to the brace when it was first placed, which dramatically improved when she realised the brace was changing the alignment of her teeth. Unfortunately, her relationship with the brace deteriorated again, once her teeth were straight and she did not think the treatment could be of any more benefit.

“Anna: You don’t think of them as your braces. You just think of it as part of your mouth really. It’s just, yeah.

Sarah: ... I don’t fully understand it. If it’s part of your mouth then, it’s sort of like just part of you? Then, it wouldn’t bother you.

Anna: It’s like having a ginormous wart that’s like the size of your hand on you. And you just get used to it. And it’s part of you. But you hate it.”

Anna Interview 4

I think Anna used an excellent simile to explain how she hated the brace. She accepted the brace as part of her, and explained how, because it had been there for so long, they felt natural and like her teeth so she did not think about it day-to-day. However, when probed, it became clear that she had developed a strong dislike for it.

6.7 How Young People Narrated their Pain

Experiences

There was variation in how much pain each young person experienced, although the majority of the descriptions about the severity of pain, and how this affected the young people's lives came from the girls. This may be because the girls tended to talk more about their experiences in general. This is to be expected, as women tend to disclose more than men (Dindia and Allen, 1992). Previous qualitative interviews exploring why young people chose to undergo orthodontic treatment, found boys had difficulty expressing themselves (Trulsson et al., 2002). I tried to address the disparity in power, and facilitate the boys expressing themselves in many ways, as discussed in Methods. For example, I used video diaries as a method of data collection, the theory being, the impact of an outside observer could be reduced if the participants were recording data on their own (Noyes, 2004). Video diaries did prove useful, although I still found gender played a part in how each of the young people expressed their experiences of pain, both in interviews and in video diaries. I discuss this further below.

Joseph was being bullied at school; he lacked confidence, and was self-conscious talking to me. He also had a mother who was very eager to help, so frequently talked for Joseph, if she did not think he had provided a comprehensive enough answer. These factors inevitably diminished the depth of his descriptions of the pain. Although, in addition to this, I think there was another reason Joseph's descriptions were rather lacking when he spoke to me. I think he wanted to play down the pain he experienced, both at the start, and during orthodontic treatment, so as to give the impression that he was brave and was not significantly affected by the pain. In the excerpt below, Joseph was describing his experiences of having a cannula placed in the back of his hand prior to the general anaesthetic to have his canine teeth exposed.

"It didn't actually hurt a bit, I didn't feel a thing.... [pointing to a mark on his hand], that's where the needle went in actually, it does look a little bit bruised but it didn't hurt that much"

Joseph video 4

Joseph shows the camera the pin prick and the bruise on his hand as evidence of what he went through. Within the short duration of the video he recalls how "I didn't feel a thing", then followed this up by saying "it didn't hurt that much". These descriptors are a bit inconsistent, and I think this was because, it did actually hurt a little, but he wanted to appear brave to me. To come across as brave, could be another reason why the boys, in particular, chose not to discuss the initial severe dental pain when they were face-to-face with me in the interview setting. At the second interview, Joseph described the pain immediately after he had had his brace placed.

“Joseph: Just decided it was a little bit weird
Sarah: Just a bit weird?
Joseph: Well, maybe for the first day it was a bit painful
Mum: So you was sympathy-grabbing was you, for the first
couple of days?
Joseph: No!”

Joseph Interview 2

Joseph’s mother painted a different picture of his pain experience, which he found embarrassing, because it alluded to his suffering being more severe than he had let on to me. To some extent he may have forgotten the pain he experienced when the brace was first fitted, because it was no longer affecting him, although gender undoubtedly played a role in his narrative. Parents were not present for most of the interviews, so the young people did not have their reports challenged or contradicted in any way, like Joseph did on this occasion. There was only one individual, Leighton, who recorded any video diaries with a parent present, and it was only for his first two videos. With the exception of these, all participants recorded the meaningful videos alone, so again, their narratives would not be challenged in any way. Matthew recorded a video the day he had teeth extracted to facilitate the orthodontic alignment.

“So today I had my two teeth taken out... The day before, I wasn’t too bothered about having it done... I remember it feeling very odd...
So that’s about that.”

Matthew Video 15

Joseph and Matthew used similar terminology in their narrations. Joseph used the word “weird” to describe the feeling he experienced when he had

his brace put on. It was only because his mum disputed his account, that I got the impression he had suffered actual pain from the brace. In a similar way, Matthew used the word “odd” to describe having his teeth taken out. Indeed, I believe it does feel odd when one has teeth extracted. However, I think there was also an undertone of courage in his account, in the way he explained he was not nervous beforehand, and his matter of fact conclusion “so that’s about that”. There are numerous unpleasant experiences associated with having teeth taken out, for example, the sensation of being numb, the feeling of the extraction sites, and the oozing of blood; Matthew did not mention any of these. Perhaps he did not think these were important, although, I think this was also because Matthew was being brave in his account of his experiences. Josh described his pain experience in a video.

“The first hour when I had my braces on, it didn’t hurt at all but then it started to really hurt so I had some medicine for that, well not SOME medicine, just a tad”

Josh Video 2

Josh correcting himself to show he only needed a small amount of medicine, rather than “some” medicine suggests he wanted to seem brave. Similarly, when I interviewed Josh, his reports of the length of time that it hurt for varied. At the start of the interview I think Josh wanted to give the impression he was not affected by the pain, and although he admitted it ached, he made it clear that with the exception of this episode of pain, he had been able to cope without a problem.

Josh: As soon as I had them in, it ached for like an hour

Sarah: When you first had them put in?

Josh: Yeah, and then apart from that it’s just been fine

In the video (recorded shortly after he had his brace placed), Josh said there was no pain for the first hour (as is usual with fixed appliances). Whereas, at interview (several weeks after the brace was placed), Josh described the pain only lasting for that first hour. However, later in the interview he described his experiences of the days following the brace being fitted, and explained how the aching was relieved by analgesics. There may be an element of recall bias; he could have forgotten exactly when the pain started, although, I think it also demonstrates that Josh wanted to downplay how long he experienced pain for, so as to present himself as a brave young man.

“it was only hurting, well actually not hurting but aching properly for the day that I had it on then the day after, which I went back to school, it wasn't aching too bad because I had like a pain killer”

Josh Interview 2

In the video Josh described the brace as “hurting”, whereas in the interview, he downgraded the description of the symptom as “aching”. It may be that he thought “aching” gave a better description of the symptoms he had experienced, although I think changing the descriptor was also to play down the severity of the pain he suffered.

This is characteristic of the way the boys regarded the pain they had from the braces. It is also in keeping with the literature, men think it is feminine to express pain, and in order to be socially acceptable as a heterosexual man, they must display stoicism (Bendelow, 1993). The boys in this study are

undoubtedly aware of the social expectations of men in Western culture, and seemed to be adopting these behaviours themselves. In the same way, men who are considered to be 'ill' may not want to accept the sick role because it suggests they are weak and potentially not "fulfilling their places in social order, and, in particular, their gendered roles" (Radley and Billig, 1996).

Adolescence is accepted as a transitional period, both physically and emotionally, ultimately leading to adulthood. Adolescent boys talking to me, as a woman, may have been more inclined to give the impression of being strong young men, who could cope with pain, rather than boys, or worse still, sissy boys who stereotypically would suffer with pain and show their emotions. It has been reported in the literature, that the use of video diaries can eliminate the reactivity of an outside observer, because participants are not under direct observation (Rich et al., 2000). If this were the case, I, being an adult, and a female, would not have had any influence on the video diaries recorded – but these also demonstrated boys downgrading aspects of the pain experience. Unfortunately, I do not think it is possible to disregard all influence of an outside observer, irrespective of the method of data collection. As I was the only researcher who the study participants had contact with, I think, while they were recording the video diaries independently, they will also have been aware that I would be viewing them. Therefore, I could also be contributing the fact that the boys were not inclined to describe their pain experience. This was in contrast to the girls who detailed how much the braces hurt and how much paracetamol they required. Kaitlyn and Eleanor openly described their reliance on analgesics.

“I’ve always got to make sure I have some [paracetamol] in my blazer pocket”

Kaitlyn Interview 2

“About two weeks ago, I had the first set of my braces fitted, I think it was 23rd April, it hurt after... I was taking a lot of painkillers”

Eleanor video 3

At the second interview, Eleanor described how she relied on painkillers, although she went on to explain that she needed analgesics less frequently following her last appointment compared to at the start of treatment. Unlike the boys, there was no embarrassment when she described the pain or the reliance on medication. As well as describing their reliance on medication, some of the girls also described alternative methods for managing the discomfort caused by the brace that they had discovered. Kaitlyn described how, on occasion, at home, she had worn her gum shield made for hockey to provide a physical barrier to stop the brace rubbing. Jasmin did not find analgesics helped, but had found other ways of alleviating the pain caused by the brace. One method was to have hot chocolate with marshmallows, presumably the comfort food temporarily relieving the psychological pain of the brace. The following excerpt describes another one of Jasmin’s tried and tested methods of relieving the pain from the brace.

“I just like bite on my finger and that it kind of like releases all the [dental] pain under my finger. Then when I let go it just likes all the pain comes rushing back. The side effect [is that] I put all the pain on my finger. And actually, that actually helps it for a bit”

Jasmin Interview 2

She goes to tell me that it is so effective she thinks orthodontists should tell patients about the technique. A randomised controlled trial has been carried out examining the pain experienced from a fixed appliance when patients chew chewing gum compared to patients who were instructed not to chew chewing gum (Benson et al., 2012). The first sets of data were collected twenty four hours after placement of the fixed appliances and found patients who chewed chewing gum experienced less pain than those in the control group (who did not chew chewing gum). Some participants in this study gave their explanations for the reduction in pain experienced by chewing. These included, the chewing acting as a distraction and acting as a means of releasing the pain (Benson et al., 2012). From a physiological point of view this could be explained by the Gate Control Theory; pressure stimulus to the skin triggers signals to the brain inhibiting the transmission of pain signals (from the teeth) reaching the brain (Melzack and Wall, 1965). This would explain why Jasmin found biting her finger was an effective method of alleviating her dental pain.

6.8 Conclusion

This chapter demonstrates how the experiences and perspectives of young people changes during their orthodontic treatment. As there has not been any longitudinal qualitative research carried out in orthodontics in the past, this is something that has never previously been explored. Gender was the most prominent theme which ran through the young people's narratives of

the feeling and pain caused by the brace. I found girls gave more thorough narratives of their pain experiences, and better described how they coped with the pain compared to the boys. The boys' narratives demonstrated more inconsistencies, and they tended to minimise the pain experience, which I think suggested there were cultural influences behind their stories. I think the boys were being influenced by the social expectations of men in Western culture. It can be seen as effeminate and weak to express pain, so they masked this, in order to fulfil their gender stereotypes (Radley and Billig, 1996, Bendelow, 1993). After the fitting of the brace, the most unexpected change was the sensation of the brace in the mouth, displacing the lips. This was a feeling that the young people got used to with time, as was the pain caused by the adjustments, and the trauma to the soft tissues. The young people showed a huge amount of adaptability, tolerating discomfort, and dealing with the consequences of the brace, for example, how it affected their diet and, although they regarded these consequences as "normal", they did take their toll, eventually contributing to the young people wanting the brace to be removed.

Chapter 7: Sharing the Treatment

Experience

7.1 Introduction

Within dentistry and medicine, there is an increasing understanding that children and young people should be involved in research that affects them (Neill, 2005). The volume of oral health research involving children and young people in the research process is slowly growing, although, young people are conceptualised as independent individuals. Although through my thematic analysis, I realised, gender, and relationships, played an important role for some of the young people, and strongly influenced their experiences of treatment. In this chapter I explain how relationships influence young people's perspectives. I also explore how gender influences the role of relationships in the treatment experience. Having established relationships influence young people's perspectives of fixed orthodontic treatment, I explore how this changes over time for some individuals. The process of undergoing orthodontic treatment was shared with a parent or friend, although the extent to which this happened varied significantly between individuals. Interestingly, the closeness, and the nature of the relationship between the two people influenced both the experience of undergoing the treatment, and the experience of having a brace. For this reason, I will start with a brief review of the literature on personal relationships. One young person in particular, Eleanor, had a very close relationship with her mum. It is fascinating how Eleanor's personality, her mum's feelings about dentistry

and their relationship influenced Eleanor's experiences of treatment. Eleanor's views were not typical of the sample, in part because her mum's involvement was much greater than most, but by focussing on this case, it is possible to reveal processes whereby young people's relationships influence their experiences of the orthodontic treatment. With time, Eleanor's feelings about her treatment changed, so I will then explore this longitudinally. Finally, I will look at how relationships influenced the experience of undergoing orthodontic treatment for Eleanor and for some of the other young people.

7.2 Literature

Connectedness has been used to describe a wide range of adolescents' relationships, for example, their connection with parents, family, friends, school and society (Eisenberg et al., 2003, Stone et al., 2015, Barber and Schluterman, 2008). The term was conceived by Grotevant and Cooper (1986) and was described in two parts, mutuality and permeability. Mutuality refers to an individual being sensitive to, and respecting others' "beliefs, feelings and ideas"; permeability refers to an individual being open and receptive to others' ideas (Grotevant and Cooper, 1986 referenced in Barber and Schluterman, 2008,). Relationships tend to form the basis of the definition for connectedness, however, the term has also been used to describe an individual's perceptions of a relationship, their feeling of belonging, or the quality of the emotional bond that exists (Barber and Schluterman, 2008, Lezin et al., 2004). Researchers exploring the role of connectedness have come to a mutual conclusion that there is a positive

correlation between connectedness and adolescent health (Barber and Schluterman, 2008). Connectedness with parents in particular, forms a protective role for adolescents', reducing health and social problems, including drug use, violence, unintended teenage pregnancy and suicide ideation (Lezin et al., 2004, Stone et al., 2015).

Following on from connectedness, within the Sociology and Anthropology literature, research had also been done on kinship and relationality. The concept of relationality was developed for the exploration of personal relationships between people who are not necessarily related (Smart, 2007). This concept emphasises the active nature of relationships constantly changing, it also clarifies that there may not necessarily be caring or positive feelings between the people involved (Smart, 2007). Relationality details how relationships are essential for people to learn about themselves and build their own individuality, and as a result, these relationships can affect their everyday decisions and actions (Smart, 2007). Essentially, individuals are embedded in webs of relationships with others and these relationships influence their experiences and behaviours.

To explore the importance of family relationships, Finn (2014) followed 17-19 year old females transitioning to university. She interviewed the participants at key points in their transition and found that after the young people were established in higher education and were living independently, they did not feel that they were a product of their family. Rather, they remained very much embedded in their role in the family, and contributed significantly to the

“emotional dimensions of home” (Finn, 2014). The study concluded that relationships within families are constantly evolving to connect kin at different stages in their life course (*ibid*). Finn (2014) described the setting of the research as a small working-class, former mill town in longstanding economic and social decline, and this may have influenced the research findings. Reay and colleagues (2005) examined the inequalities in higher education and one of their findings was that there is a class difference in the way feelings are expressed. Working class people, as well as minority ethnic groups, expressed more intense emotions than their middle class counterparts, who were often more “tempered” in their expression (Reay et al., 2005). These differences in social class do not suggest middle class females feel any less strongly about their family, only that, because of their background, their transition to higher education could carry less risk, and is not such an unfamiliar progression in their family, compared to working class individuals (Reay et al., 2005).

The meaning behind the term “family” differs for different people, ranging from co-residents, to a unit with a shared identity (McCarthy, 2012). It is logical to conclude, therefore, that people’s different perceptions of family will impact the extent to which they are willing share their personal experiences with others, either other family members, or people they feel connected to. Similarly, gender influences friendships; girls display a greater level of emotional attachment and social investment in each other compared to boys (Hey, 1997). As girls tend to display closer relationships with their friends, they may be more likely to demonstrate connectedness with other girls.

7.2.1 Summary of Literature

The sociology and anthropology literature reveals that relationships have a very important role in affecting a person's well-being, how they behave, and how they view the world. People are embedded in relationships, be it with friends or family, so they have a significant bearing on how people learn about themselves and influence who they become. Relationships are constantly changing, which, in turn, affects people's experiences. As circumstances change, friendship groups may change too, although young people can still feel embedded in their family.

7.3 Eleanor

Eleanor was fourteen when I first visited her. She lived with her mum, dad and two younger brothers; her siblings were half-brothers. There was a large age gap between Eleanor and her brothers. Eleanor unsympathetically banished her younger brothers from the room we were in, and often shouted at them to be quiet, which gave me the impression that Eleanor was not particularly close to her siblings. Her brothers being a different gender and age, had different interests to Eleanor, and had each other to play with. Knowing the boys were her half-brothers may have contributed to my feeling that Eleanor had a special relationship with her mum. I did not get the impression that there was any animosity in the family, although the younger children were excluded from the lounge where all the interviews took place.

The interviews seemed to be an event for Eleanor and her mum to share together, far more so than the majority of interviews I did, which were usually regarded as less formal than those with Eleanor. At interviews with other participants, parents usually left the young person and me alone. If the young person seemed particularly nervous, the parent sometimes stayed for the interview, although this was usually for the first interview only, or part of it. At subsequent interviews with other participants, we were often left alone or the parent popped in and out, as they did other things around the home. Eleanor's mum was present for all the interviews and made significant contributions throughout. This was one of the signs, which led me to think that the orthodontic treatment was a shared experience for Eleanor and her mum.

Eleanor was a confident girl; from the first time I met her I did not detect any shyness when she spoke to me, so initially, I was a little surprised that Eleanor's mum stayed throughout the interviews. Eleanor and her mum clearly had a very close relationship. They both participated in the interviews, often ending each other's sentences to the point that it was sometimes difficult to ascertain whose view or opinion they were really describing. Eleanor's mum (who did not work) seemed to be the principal care-provider and Eleanor always attended her orthodontic appointments accompanied by her mum. As there was a large age gap between Eleanor and her younger siblings, Eleanor was more likely to have common interests with her mum, rather than her brothers, which may have led the relationship between Eleanor and her mum developing into more of a friendship.

7.3.1 Mum's Feelings about Dentistry

Eleanor was a teenager when she visited the dentist for the first time, which was around nine months prior to when I first met her. She had not been before this because her mum had a phobia of dentists. The fact that Eleanor's dad never intervened and took Eleanor to the dentist was another indicator that her mum was the main care-provider. Eleanor and her mum did not explain who made the decision to start seeing a dentist; it may have been because Eleanor had a retained primary tooth which, from the description, sounded like it would have been bothersome, if not uncomfortable.

"Mum (sheepishly): We've only just started going to the dentist

Eleanor: Yeah

Mum: Coz I had a major phobia of the dentist

Sarah (addressing mum): Is that because of your tooth being taken out?

Eleanor: No

Mum: Erm, no, that was erm, from when I was a child, my mum decided to throw me at the dentist to have four teeth out then let the dentist chuck me back out after I'd had it done. So, erm, I was petrified of the dentist"

Interview 1

The aetiology of Eleanor's mum's phobia is an example of the 'conditioning pathway' (Townend et al., 2000); the negative dental experience as a child resulted in a phobia of attending the dentist as an adult. Considering Eleanor's mum's phobia, it is not surprising that her mum put a negative slant on dentists and dental treatment. The next excerpt is from a conversation that came about because Eleanor was anxious about having dental extractions which were planned for the following day.

“Eleanor: I think they just numb you and then
Mum: pull ‘em
Eleanor: take it out. Mum’s had hers done before
Sarah: Has she told you about it then?
Eleanor: Yeah, she was in a lot of pain
Sarah: Oh dear
Eleanor: And that was just with one. I’m having four!”

Interview 1

Eleanor’s mum described teeth being extracted, as the dentist pulling them. She did not realise, that by saying the dentist would “pull ‘em” may have negative connotations for the procedure Eleanor was about to undertake, and that this could add to her anxiety. Eleanor had the gumption to finish her train of thought, which could be interpreted as correcting her mum’s terminology of the procedure. Eleanor’s mum had had a tooth taken out more recently and Eleanor had either witnessed her mum in pain following the dental extraction or, her mum had relayed the amount of pain she had suffered. It is more common for parents to try to allay their child’s fears, which Eleanor’s mum did not do, although this is perhaps to be expected considering her mum was a dental phobic.

On one occasion the brace was digging into Eleanor’s cheek, so her mum phoned the dental hospital to arrange an additional appointment to relieve the symptoms. Unfortunately, an appointment was not available until the Tuesday.

“Mum: I can’t get her in until Tuesday 'What! It’s like oh my gosh, she’s dying, you know'. Gosh, they’re gouging out her cheek. For goodness sake, ouch”

Interview 2

Mum exaggerated her daughter's symptoms saying she was "dying", although I think she was also suggesting a lack of empathy on the part of the dentists in the dental hospital. As an orthodontist who works in the department, I am aware that if a patient calls and they are in pain, the reception staff do their best to offer an appointment on the same day or the following day, although we do not guarantee it will be at a convenient time. Perhaps it is a defensive reaction on my part to interpret the criticism as a reflection of a lack of empathy. However, it was clearly a criticism, which was just one of many that Eleanor's mum had about many aspects of Eleanor's care.

Eleanor and her mum undoubtedly demonstrated connectedness during the interview process. Referring to the definition of connectedness by (Grotevant and Cooper, 1986), Eleanor was "open and receptive" to her mum's criticisms of the treatment Eleanor was receiving and how awful the experiences were.

7.3.2 Eleanor's Resilience and Independence

Given Eleanor's awareness of her mum's experiences, I was interested to explore if the 'modelling pathway' had influenced Eleanor's feelings; this is the term describing how maternal anxiety can result in children's anxious behaviour (Townend et al., 2000). Despite the way Eleanor's mum had portrayed dentists and dental treatment to her daughter, Eleanor remained

optimistic that having teeth out may not be that bad, because other people, who had had teeth extracted, had told her it was all right.

“Eleanor: they said it’s alright. Don’t hurt that much
Mum: Depends how high their pain threshold is
Eleanor: Yeah.”

Interview 1

Eleanor’s mum could not argue with other people’s reported experiences of having teeth extracted; although she did dispute the fact that having teeth extracted does not hurt, by attributing it to an individual’s pain threshold. Again, this could be interpreted as being unsupportive of her daughter and increasing the anxiety about the pending extractions. Eleanor seemed accepting of both her friends’, and her mum’s, experiences as valid. This demonstrates that despite the close mother: daughter relationship, Eleanor was able to appreciate her mum’s bad experiences did not necessarily mean her own experience would be equally distressing.

Eleanor was a high achiever, both at school and in the extracurricular activities that she was involved in and this became increasingly evident over time. I think Eleanor’s intelligence and self-confidence were central in her seeking orthodontic treatment:

“I just asked my dentist and then he referred me to Charles Clifford [Dental Hospital]”

Interview 1

Eleanor had several friends, in and out of school, who had braces, and this influenced Eleanor’s decision to seek treatment. Eleanor’s situation differed

to the other young people. She would have known that if she wanted orthodontic treatment, her mum was not about to pursue it, nor voluntarily engage in discussion with the dentist about seeking specialist treatment, so the responsibility lay with her to ask her dentist, and she did. This is interesting, despite undergoing orthodontic treatment being a shared experience for Eleanor and her mum, Eleanor understood she had to use initiative and independence to access orthodontic care, and cope with the prospect of dental extractions. I think it was only due to Eleanor's relationships with her friends that she decided to pursue orthodontic treatment. Following her first ever visit to the dentist, Eleanor had a retained primary tooth extracted under local anaesthetic. Given Eleanor's complete lack of dental experiences prior to this, the procedure did not seem to faze her.

“my big one had pushed through but it [the baby tooth] hadn't fallen out so it was just a case of just popping it out”

Interview 1

Eleanor explained to me that the primary tooth was mobile and stuck out towards her cheek, which (correctly) led her to believe that the extraction would be straightforward. Considering she had only visited the dentist once in her life, undergoing an extraction demonstrates the courage and self-confidence she has. Eleanor was nervous about having secondary teeth extracted in preparation for fixed appliances, although this is understandable given her lack of previous dental experiences and the influence of her dental phobic mum.

Eleanor had two appointments with the dentist and had two teeth extracted on each visit. She made video diaries the day after her first visit, then a couple of weeks after the second visit. This demonstrates how the video diary method facilitated Eleanor to record data contemporaneously, so it is more likely to be accurate, because the data were not open to recall bias to the same extent (Butz, 2004). She made the video diaries on her own, in her bedroom, so what Eleanor said, was not being directly influenced by her mum's opinions, in the same way as it was during the interviews, when her mum was always present.

“my dentist was really reassuring and always asked me to see if I was OK and if he wanted me to stop. And he made me feel a lot better about the situation. I'm not as nervous to go back tomorrow and to be honest I haven't really had any pain after having them taken out. So it's not THAT much of a big deal”

Video 1

“When the woman took my teeth out this time, it really did hurt me but it didn't hurt that much after so it wasn't that bad. It's been two weeks now and my teeth are like, back to normal”

Video 2

During the second interview, Eleanor and her mum recalled the appointments when Eleanor had the teeth taken out. From the video diaries, it would seem the extractions were not terrible experiences for Eleanor. However, her mum did not paint the episode in a positive light, inferring the dentist was a fierce character.

“Mum: The head honcho came in and she was wiggling the thing...”

Eleanor: Mum was scared, like she was going to get up...
Mum: I'm just like, 'Oh my God' I was sat in the corner thinking 'this is not' [trails off]" (Mum dropped her head into her hands replaying her actions)

Interview 2

There was a stark difference in Eleanor's narrative of the extractions in her video diaries, and her mum's narrative of the extractions during the interview. Recall bias may have influenced Eleanor's mum remembering the worst parts of the extractions, or it could be another example of how Eleanor's mum creating a narrative with dentists featuring as unkind characters, and all dental experiences being negative ones.

7.3.3 Eleanor's Views on the Process of Treatment

Despite her mother's fears of dentists, Eleanor made the decision to seek, and undergo orthodontic treatment by asking the dentist if she could have a brace. Eleanor's mum did not intentionally project any negative feelings about dentistry onto her children, but this was done inadvertently, and it did shape Eleanor's opinions of dentists and the process of treatment. This is in keeping with the literature on dental anxiety. Townend and colleagues (2000) explored the aetiology of child dental anxiety. They found that children did not become fearful of dental treatment, based on information they had previously received, although they did "absorb maternal attitudes to dentistry". When I asked Eleanor about her first ever visit to the dentist she explains:

"Eleanor: Mum obviously said that it's scary and stuff, it's, it's alright, I don't mind.

Mum: I had to, I had to get over my fear obviously for my children because I didn't want them to be in the same position I was in

Sarah: Mmm

Eleanor: I don't mind it, it's just, you go to the dentist and have a check-up. It's not that bad."

Interview 1

Eleanor had a preconceived idea that seeing the dentist was scary, but the scary experience did not materialise. Despite not having had any negative dental experiences, she described it as "not that bad" rather than having neutral feelings about seeing the dentist. Eleanor's mum did nothing to dispel her daughter's fear of dental treatment and from her point of view, had done her part by taking her children to the dentist.

I felt that during the first and second interviews, Eleanor and her mum did not respect the clinician's opinions. For example, on one occasion, Eleanor and her mum had difficulty booking an appointment in the recommended six to eight week timeframe between appointments. This was the second time during this interview that Eleanor's mum complained about the difficulty of booking appointments, at a convenient time. An appointment was available in five weeks although the clinician said this was too soon.

"Mum: And literally, sometimes they put them on [adjust the brace] and by the time she's come home from school, her teeth have moved and then, I'm like, my gosh. It was like when you had the gap in the middle, wasn't it?

Eleanor: Yeah, it closed within a day

Mum: Yeah, completely closed. Oh my gosh, it's completely gone. How come they say, you know "gosh five weeks"

Interview 2

On this occasion, Eleanor and her mum noticed her teeth had moved within a day, from their point of view, it did not seem logical that five weeks was not sufficient time for Eleanor to be seen again for the brace to be adjusted. This simply reflects a lack of understanding of the physiology of tooth movement. The fast initial tooth movements they described, are not mirrored in the remodelling of the surrounding bone; this bone remodelling is required for “true” tooth movement to have occurred and for the orthodontic treatment to progress. Ultimately, this misunderstanding is due to a lack of communication between the orthodontist and the patient, although rather than trusting the orthodontist’s clinical judgement, they thought they should be able to choose how soon she returned for her brace to be adjusted. From a clinician’s point of view, it is interesting that Eleanor and her mum believed they were in the right, but did not question the clinician; rather, they silently agreed to disagree.

Their lack of understanding of dentistry was demonstrated when Eleanor and her mum described how a baby or primary tooth had fallen out, another ‘adult’ tooth had grown in its place, then this had also fallen out, and a further tooth had grown in to replace it. Eleanor and her mum believed she had two ‘adult’ teeth, where this phenomenon had occurred. As a dentist, I know this does not happen. I presume they were mistaken between primary teeth that shed and secondary teeth that do not. If they do not visit the dentist regularly, to dispel ideas such as these, it is not surprising that they lost track of which teeth were baby or primary teeth and were going to shed, and which were adult teeth and had recently erupted. Faux et al. (1988) advocated correcting

misconceptions about an illness at the end of the interview. However, this was in reference to research when the participants were aware the researcher was a nurse, so they were in a position of clinician and researcher (Faux et al., 1988). I decided not to intervene and dispel their misconception, because their misunderstanding was not important, and I thought correcting them could be interpreted as a criticism. It would also necessitate me identifying myself as a dentist, which I thought would affect the rapport I had built with Eleanor and her mum, and because I knew how much Eleanor's mum disliked dentists, I thought the new information could affect our relationship.

Effective communication is crucial in establishing a trusting professional relationship between the dentist and the patient. It was difficult for this relationship to be built when Eleanor and her mum had an issue with the clinician's communication skills.

“Mum: You find it a bit hard to talk to your dentist don't you?
Eleanor: Yeah
Mum: at Charles Clifford [Dental Hospital]
Eleanor: Uh hm [in agreement]
Sarah: Oh?
Mum: He talks really quietly and she can hardly hear him or understand him
Sarah: Did you want to find out stuff he hasn't told you...?
Eleanor: No, he basically tells me everything I need to know”

Interview 1

This was one example where Eleanor and her mum were equally involved in the interview, so I was unsure if it was Eleanor or her mum who really took issue with the clinician's ability to impart information. These conversations

demonstrated to me the close-knit relationship between Eleanor and her mum, within the family. McCarthy explored the meaning of the word ‘family’ using her previous research, and examining the literature. For some people it means that they can rely on each other for care and support, and that they are linked, in such a way, as to share an identity and sing from the same hymn sheet (McCarthy, 2012). This is repeatedly echoed by Eleanor and her mum sharing a viewpoint; at times it was indistinguishable whose view was actually being expressed. Perhaps Eleanor did not want to criticise the orthodontist to me, so underplayed the difficulty she had talking to him, and her mum was just initiating the discussion, because she knew it was a problem for her daughter. Alternatively, as Eleanor’s mum had a general dislike of dentists, it could have been just another area that she was able to criticise them on, and this seemed to be shaping Eleanor’s opinion of the dentist. Eleanor’s mum expressing criticism, and this influencing Eleanor’s views also occurred with respect to other aspects of the care they were provided.

“Mum: Sometimes, we’ll go in and they’ll say “Oh you only need a twenty minute appointment” and I’ll think “Yes!” No!
(laughter)

Eleanor: An hour and twenty minutes later!

Mum: It never is a twenty minute appointment

Eleanor: But when you get there, they’re like, you know, waiting like half an hour

Mum: You go and you’ve got to park and then, you’ve got to walk up to the orthodontist”

Interview 2

The dental hospital has trainees, who are dentists learning to do orthodontics, so presumably Eleanor was being treated by an early stage

trainee, which was why her appointments were longer. The time spent attending the appointments was a source of frustration for Eleanor and her mum, in part because it involved missing so much school. As an orthodontist in training, I sympathise with the clinician. During the early stages of the orthodontic programme, on occasion, it is difficult to estimate how long an appointment will take, in part because it depends what procedures you will carry out, and this cannot be decided until the patient arrives, but also because we are carrying out procedures for the first time. Maybe this is a defensive reaction on my part, but before initiating treatment, patients and their parents are informed that they are receiving care in a teaching hospital, by a trainee and all appointments will be in school time. Eleanor and her mum had adopted an attitude, which seemed to be complaining about every aspect of the treatment, from the location of the hospital, the timings of the appointments, the wait before appointments, the duration of appointments, the clinician taking clinical photographs and the discomfort caused during the appointments.

“I don’t like going and having it snapped either. It’s like pliers in my mouth isn’t it and it makes a right loud noise in my mouth”

Interview 2

Eleanor phrases the statement as a question for mum to corroborate what she says, to add gravitas to her account, but also because she knows her mum will support her every word. Although the complaints were numerous, they were all mainly minor grievances, but there were more significant

objections, which Eleanor took real issue with, one being with respect to cross-infection control.

“Mum: She’s only got one complaint really, haven’t you?

About the guy who does your braces

Eleanor: Which? What? They don’t wear masks

Sarah: Oh

Eleanor: I know that sounds weird but

Sarah: They don’t wear masks

Eleanor: No, they don’t wear masks. I know it’s like, this sounds disgusting. When you are sat there with your mouth open and someone’s like this close to you (gestures being very close), I’m breathing, it’s not very nice”

...

“Eleanor: Then they just breath in your mouth. Obviously that’s not nice anyway

Mum: I would have thought they would have had to. Because obviously if you go to the dentist, the dentists all wear masks”

Interview 2

Again, it was Eleanor’s mum who brought up the complaint however, in this case, it was clear that Eleanor also felt strongly about the matter. In the hospital setting, in the Paediatric Department and the Orthodontic Department, clinicians do not routinely wear masks. In the Paediatric Department, this is so clinicians are less intimidating to the children. Masks are worn more frequently by other dentists to protect themselves, either from potential infections from the patients or from aerosols produced from the drill. As drills are not used as often in orthodontics, orthodontists tend not to wear masks. Eleanor appeared to have more of a concern about cross infection control procedures, rather than how approachable the dentist looked. She thought of masks as a method for protecting patients from the dentist, rather than the other way round. It was interesting that when Eleanor was complaining about an aspect of care, her mum was supportive and very

much in agreement with each criticism, verifying everything she said. This is another example of what McCarthy (2012) describes as families presenting a united front and shared opinions. The conversation about masks led onto their observations about gloves:

“Eleanor: the one who like, checks everything doesn’t always wear gloves
Sarah: Really
Eleanor: Yeah
Mum: A couple of times they’ve put their hands in her mouth without gloves on”

Interview 3

7.3.4 Changes Longitudinally

The impact the brace had on Eleanor’s life diminished with time. This was the case for the inconvenience of the appointments, the oral hygiene regimes and the diet. The following excerpts demonstrate the way Eleanor ate and drank had changed dramatically when she had her braces fitted. At this interview, Eleanor had had her brace on for about four months.

“Mum: If we go to McDonald’s and get a burger, she comes home and she puts it on a plate and eats with a knife and fork, it’s like, what?!”
Eleanor: But then I see other people with braces who just get stuck in... I’m like, I couldn’t do that”

“Mum: when she drinks, she drinks through a straw. She doesn’t drink like a cup of tea just a normal way, she drinks through a straw
Eleanor: That was advised... It’s just something I do. I reckon I’ll do that after I get them off as well”

Interview 2

These changes were not sustained throughout the treatment though. By the next interview, Eleanor had disregarded the initial changes she had made in the way she ate and drank.

“Mum: She eats normal as well now. She will actually bite a burger.

Sarah: Oh really?

Eleanor: Yes. Uh-huh”

...

“Sarah: What about drinks? Because you were drinking through a straw weren't you?

Eleanor: I stopped that”

Interview 3

Eleanor did not give an explanation for no longer drinking through a straw, when she had thought she would maintain this behaviour after treatment had finished. In interview two she acknowledged that, although she had changed the way she ate, she had not changed her diet, despite the advice she had been given; she made a judgement call that “if you don't eat loads of sugary things throughout the day, your teeth are alright”. She did follow advice about how to eat and drink initially, although these changes were not sustained in the long term. She explained eating everything with a knife and fork took far too long; so she decided to start biting again and deal with the consequences of cleaning food out of her brace afterwards. Presumably, as with all orthodontic patients, she had been given advice about not biting into things, as well as drinking through a straw and reducing the sugar in her diet, however, in the long term, this advice did not change her behaviour.

At the first and second interviews, I did not think Eleanor or her mum had anything positive to say about any aspect of the process of treatment at the

hospital, although by the fourth interview, there were definite positives to be gleaned.

Eleanor: I like the fact that they're not just like the orthodontist, they do take an interest in you, don't they?

Mum: Yeah. Like everyday life.

Eleanor: They're interested in stuff that I have done and they are interested in prom and they know you personally don't they?

Mum: Yeah, you've got to take your prom picture haven't you, the next time you go?

Eleanor: Yeah. Which is nice.

Sarah: Yeah, that's really good.

Eleanor: Because it makes it a bit more friendly, doesn't it rather than going having it done and then coming out. It's good because you have the same person as well and the same helper [dental nurse]. Sandra, she is nice.

Sarah: Oh yeah

Eleanor: She is nice. I wouldn't like it if you had different people all the time."

Interview 4

The continuity of care throughout the treatment had aided the clinician and the nurse building rapport with Eleanor and her mum, which Eleanor really appreciated. It may be that Eleanor and her mum had got used to the drawbacks of orthodontic treatment that they had previously complained about, although I think, having built a relationship with the clinician and the nurse, helped Eleanor view the process of treatment in a more positive light, realising, they were nice people (despite her mum's underlying opinion about dentists). Eleanor and her mum sharing such a close relationship meant it was unlikely Eleanor would have changed her opinion about the orthodontist without her mum's agreement. Indeed, Eleanor sought the approval or confirmation from her mum for what she had said.

“I’d mentioned to him that my next appointment was going to be the day before my Birthday and he’d been looking at my teeth and saw that I was ready for the next step so he decided to do it on that day... He knew it was going to be a lengthy appointment and it was going to hurt so it was quite nice of him to not want to do that the day before my Birthday”

Video 9

There were still aspects of the appointments that Eleanor’s mum had gripes about, for example, when the clinician ran late and so she needed to pay more for parking, and that the receptionists kept the remote control for the television in the waiting room, so she could not change the channel. However, Eleanor’s mum’s attitude about the care her daughter received did improve and there were some positives with regards to the duration of the visits. In contrast to the second interview, when Eleanor’s mum said “It’s never a 20 minute appointment”, a similar conversation transpired in the third interview:

“Mum: So, sometimes he’ll say you need an hour and a half and you go ‘Oh God, we will be here all day’ (laughter)
Eleanor: But then sometimes they give you an hour and a half and you’re in there for like 20 minutes”

Interview 3

I’m not sure if Eleanor and her mum were sharing the same train of thought that the appointment times had got shorter, but Eleanor certainly thought that on some occasions, the appointments had got shorter, which she felt was positive. The strength of the bond between them meant Eleanor’s mum did not want to contradict her daughter, because they had a shared identity (McCarthy, 2012). It could also be demonstrating connectedness; Eleanor’s

mum being open and receptive to her daughter's opinions about the duration of visits to the hospital (Grotevant and Cooper, 1986).

At the second interview (once Eleanor had had her brace fitted) she explained how she had problems cleaning her teeth more than twice a day. This was because it would require her to take her toothbrush to school, and make a special trip to brush her teeth in private. Going "all the way down" to the ground floor, to the disabled toilet, seemed excessive and she was not prepared to brush her teeth "in front of everyone". The level of cleaning she was achieving was not adequate to prevent calculus building up on her teeth, and she needed to visit the hygienist to have the calculus removed. At interview two, she described how she had an appointment with the hygienist, on the same visit to the dental hospital as having her brace adjusted; as a result, her teeth were sore, so she was not able to brush thoroughly.

"I'd had my braces done so it hurts to brush your teeth... you can't brush them properly can you? ... So, obviously you're not getting anything off, so you are going to get plaque build-up. And then, by the time your teeth have stopped hurting and you can brush them properly, it's already started [building up calculus] so you can't win really"

Interview 2

Eleanor was quite defensive that it was not her fault that calculus was building up. According to Eleanor, it was not possible to clean her teeth properly after the brace had been adjusted and when the dental pain had subsided, she thought calculus would already have started building up on her teeth again. Eleanor changed from speaking in the first person, to using second person to explain her point of view. Using "you" is a more

generalised term that applies to everyone, rather than a personal problem that she was having (Radley and Billig, 1996). This demonstrates that she thought not being able to brush her teeth was a problem everyone would have in the same situation. This changed with time. By the third interview, Eleanor was taking responsibility for cleaning her teeth to an adequate standard, by choosing to use an electric toothbrush and using little brushes that fit between the teeth and the brace. She said, using the little brushes was annoying but it seemed less of an issue for her than it had been at the start of treatment.

In the fourth interview Eleanor described how, in the past, she would have an appointment with the orthodontist, and within a few days, would need to return for an additional appointment “to have something done”, either to fix the brace or to have it adjusted. This happened so frequently they named the clinician they saw “the Fix It Lady”, although more recently this had occurred less frequently, which was another positive in the process of treatment. There was a marked improvement in the way Eleanor and her mum viewed the process of orthodontic treatment. Suffering less discomfort and not needing to attend for additional appointments, I think improved their satisfaction with treatment.

7.4 The Relational Aspect of Treatment

Undergoing orthodontic treatment was, for some young people, a relational experience that they shared with a parent or friends. For Eleanor, every

possible aspect of the experience of undergoing orthodontic treatment was shared with her mum. I have explained above how Eleanor's mum influenced her daughter's experiences, but also how Eleanor's personality played a part in her experiences of treatment. The close bond Eleanor shared with her mum was clear throughout the treatment and so it is understandable how the treatment was a relational experience for them both. I will now explore how orthodontic treatment was a relational process for some of the participants, starting with Eleanor as a leading example.

“Eleanor: it doesn't really hurt or anything anymore.

Mum: You don't really get many ulcers now either do you. Where you used to get loads especially (overlapping conversation)

Eleanor: I used to have an imprint of the brace on my bottom lip. It were really sore weren't it?

Mum: On the inside, yeah”

Interview 3

Eleanor's mum was about to explain exactly where Eleanor had previously suffered with ulcers. This shows how involved she was in her daughter's experiences; she was able to describe the most common site for the ulcers to occur. Her sentence was cut short, as Eleanor described how the brace used to irritate her lower lip; Eleanor then sought confirmation from her mum about the severity of pain this caused. Pain, more than any visible symptom, is experienced entirely internally by an individual. That Eleanor looked to her mum for confirmation of the soreness demonstrates how much of a shared experience the orthodontic treatment was for them. Similarly, Eleanor looked to her mum for validation of her likes and dislikes:

“Eleanor: Although there are some sweets that I hate eating isn't there?
Mum: Yeah
Eleanor: You know those
Mum: Strawberry laces (said at the same time)
Eleanor: Strawberry laces”

Eleanor Interview 3

Smart (2007) explains how the term ‘relationality’ or ‘relationism’ describes how people are involved in “intentional, thoughtful networks, which they actively sustain” to maintain their close-knit relationships. The way in which Eleanor and her mum have a unified conversation to describe Eleanor’s experiences, I think, demonstrates relationality and explains how her experiences were shared. The relational process continued throughout the course of treatment, and this was clear to me during the interview process. Eleanor and her mum both talked to me, and at times were participating equally in each interview, ending each other’s sentences. It was clear they had a close relationship, and rarely disagreed with what the other was saying. Orthodontic treatment was a relational process for other individuals and their parents too, which I will now explore in more detail. However, the relational aspect of the young people sharing the experience, changed with time, as the treatment progressed.

Orthodontic treatment was a relational experience for Kaitlyn and her mum too. Kaitlyn’s mum tended to pop in and out throughout the interviews, so on occasion they answered the questions together. However, I always felt it was Kaitlyn’s perspectives we were discussing, unlike when I spoke to Eleanor and her mum, when it was sometimes difficult to differentiate whose opinions

were really being voiced. Kaitlyn and her mum demonstrated the relational aspect of treatment by the use of the term “we” when referring to the procedures Kaitlyn was undergoing as part of her treatment. Kaitlyn and her mum used “we” in this context on several occasions throughout the first interview.

“Kaitlyn: We’ve waited like a month until this appointment”

...

“Mum: we thought that was when we were gonna start to have the brace on but we seem to just do”

...

“Kaitlyn: We had more pictures”

...

“Mum: so we went there and what have we had done at Charles Clifford? They did more Xrays”

Kaitlyn Interview 1

The excerpts above were from the first interview, before Kaitlyn had had her brace fitted. At subsequent interviews, there were fewer “we” references in this context, suggesting there was a move towards Kaitlyn experiencing the treatment independently. There are different reasons why this may be the case. It could be because Kaitlyn was getting older and more independent, so did not feel she needed to share the experience with a parent. Kaitlyn’s dad was also involved in the visits to the orthodontist, so the treatment was not something Kaitlyn shared exclusively with her mum, unlike Eleanor. Also, as Kaitlyn became more familiar with the process of treatment, she may not have felt the need to share the experience. Kaitlyn and her mum always seemed far more laid back about the treatment compared to Eleanor and her mum (who found relatively minor events significant).

“Mum: Dad took you last time, are they going to start to do something with that tooth next time?
Kaitlyn: We’ve got to get space. He said that he might be able to put, glue something on to it if they have enough room”

Kaitlyn Interview 2

In the excerpt above, it is unclear if Kaitlyn was referring to “we” as her and her mouth, her and her mum, or her and the orthodontist, who need to get more space. As an orthodontist, I refer to treatment and procedures as a joint experience between myself and the patient because I think it helps build rapport and reinforces the mind-set that the patient and I are working towards a common goal; perhaps Kaitlyn’s orthodontist had done the same and she too was adopting this approach. However, Kaitlyn goes on to say that “he (the orthodontist) might be able to put, glue something onto it if *they* have enough room”. This suggests she does not group herself together with the clinician. There were occasions in the second and third interviews when Kaitlyn and her mum used “we” to describe treatment, although this was far less common than in the first interview.

“I think it’ll be more painful when we get them tightened”

Kaitlyn Interview 2

“Kaitlyn: I didn’t remember it being that bad. Because last time when we had two...” [referring to when she had two teeth extracted]”

...

“Kaitlyn: I get to change my colour so
Mum: We stick to the same colour now after they messed it up when you had different colours”

Kaitlyn Interview 3

In these situations, Kaitlyn and her mum may be using “we” because a parent attends the appointments with her, rather than the treatment still being an experience they shared. Kaitlyn sought parental support in the initial stages when she was unsure about what the treatment would entail, although with time, as she became familiar with the process of treatment, she felt able to experience it alone, and no longer needed the same level of parental involvement. “We” was not used at all in the fourth interview to refer to a shared experience, which suggests treatment, for Kaitlyn, did become more of an individual experience with time.

This was also the case for Ashley and her mum. Ashley was an only child and lived with her mum. Single-parent families have been shown to have a greater level of intimacy, sharing thoughts and feelings more than two-parent families (Walker and Hennig, 1997). Furthermore, mother/daughter dyads reported greater affection in their relationship than mother/son or father/daughter relationships (Walker and Hennig, 1997). This could help explain why Ashley shared her treatment experience with her mum at the start. As treatment progressed, the domestic situation changed, Ashley and her mum moved in with extended family. Ashley’s family always left us alone for the interviews. This suggests Ashley was more independent, and that the treatment was not as much of a shared experience as it was for Eleanor and her mum, despite Eleanor being two years older than Ashley. Although, it was clear from what Ashley said, there were occasions that demonstrated it was a relational process for her and her mum in the initial stages. In the

excerpt below, Ashley describes how they managed the ulcers caused by the brace.

“Ashley: We’ve got like three different creams that we use on them though.

Sarah: Oh really?

Ashley: Oh, we only use it at night, because if it is in the day I’ll just like pull it off because it’s just annoying.

Sarah: Yeah. Does it help?

Ashley: Yeah.

Sarah: Your cream?

Ashley: One of them is that iglü® one and that doesn’t stay on that much. So on top we put this pasty stuff, but, yeah (laughter).

Sarah: Do you do it or does someone do it on you?

Ashley: Yeah, I do it”

Ashley Interview 2

The number of times Ashley uses the term “we” indicates she applies the ulcer cream with her mum, although when I asked her directly, she claimed she did it herself. Ashley was a very lively girl but lacked confidence and was quite self-conscious at times. Topics we talked about that were initiated by her, revealed that she aspired to being older. This is in keeping with the findings of chapter 4, “Being a Little Kid, to a Teenager and an Adult”, young people look forward to moving on to the next stage in the youth transition. For example, she was looking forward to when she was old enough to go on holiday to places I had been and having boots like the ones I wore. She actually asked (and tried on) my boots because she was so excited about when she could have a pair. I think she did not want to come across to me like a child, so covered up the fact that actually, her mum helped her put the ulcer cream on, this being an aspect of treatment which they shared.

“Sarah: So you’re told not to have chocolate?”

Ashley: Yeah, just like once a week but I think we'll have like, more than that but like brush my teeth more"

Ashley Interview 1

Ashley used "we" when talking about the number of times she would have chocolate before she had her brace put on. This could be because she usually had chocolate with her mum or because her mum acted as the gatekeeper of chocolate at home and she thought her mum would be more lenient than the recommendations, however, it also indicates Ashley thought eating chocolate was a joint decision or action. Ashley was not alone when considering her behaviour in relation to advice she had been given. Many of the young people told me about advice they had been given by the orthodontist, but frequently, this was not sufficient, and they would decide for themselves what advice to follow, or act based on what other people said or did.

Sam and her mum also used "we" in the same context referring to treatment being a shared experience. Sam was very quiet and spoke less than her mum, so this may explain why her mum used the pronoun "we" because she was talking on her daughter's behalf. Sam was the youngest participant, recruited into the study just after her eleventh birthday, so perhaps her mum was more involved with her treatment experience than some participants who were older and more independent. Unfortunately, Sam dropped out of the study after the first interview so I do not know how the relational experience of treatment developed.

7.4.1 Treatment Experience Shared with Friends

The chapter titled 'Being a Little Kid, to a Teenager and an Adult' highlighted that Ashley thought everyone at school had a brace, despite the national averages indicating the figure is less than a fifth of the adolescent population (HSCIC, 2015). Although Ashley was not alone in this respect, girls and boys in the study talked about how common braces were.

“All the girls, like, everybody I know has braces”

Emily Interview 1

“All my friends had already had them, and had them taken off by the time I was considering getting them”

Matthew Interview 3

Irrespective of whether the young people were accurate in their assessment of how many people were undergoing orthodontic treatment, it is telling, that they thought such a significant proportion of their peers were wearing braces. The tendency for girls' friendships to be closer knit than boys has led to girls being treated as less individualized than boys (Hey, 1997). So, I would have expected it to be the girls that exhibited connectedness with friends, sharing their experiences of orthodontic treatment with each other. To some extent this was true. For Anna, having a brace was a relational experience that she shared with her friends. Anna was grateful she would be having her orthodontic treatment at the same time as her close friends, so they could share the experience.

It'll be good because lots of people in my class and in other classes have got braces... I've got my little sort of friendship group thing, four out of five of us are going to have braces"

Anna Interview 1

The friendship group Anna was referring to included another participant I had recruited – Ashley. Interestingly, Ashley did not share her experience of orthodontic treatment with her friends in the same way Anna did. Ashley explained to me that she was in the academic year when most people got their brace, although, she wished she had had her brace when she was in primary school, to get it over and done with. For Anna, the friendship group provided solace; they sympathised with each other when the brace was hurting, talked about what colour of modules they should or should not have, always working together so their brace would help them look their best. In the same way as some participants used “we” when referring to themselves and their mum to describe their experiences, Anna used “we” when referring to her and her friends’ knowledge and experiences:

“We don’t really know any other orthodontists really so it’s just the one we are all at”

...

“Sarah [referring to her friends]: Do they tell you and do you tell them, ‘You’ve got food stuck in your braces’?”

Anna: Well we all sort of like spot it out to each other coz, it’s like, when you’re at this age you don’t really want other people, like it’s better if your friends warn you before you sort of get out the lunch room”

Anna Interview 2

Before starting treatment, Anna was worried that she would get food stuck in the brace, so when I saw her at the second interview, I asked if this had

caused any problems. However, she and her friends pointed out to each other if they had food stuck, so they did not need to suffer the embarrassment of other people (out with her close friendship group) seeing it. In this respect, relationality played a big part in the experience of orthodontic treatment for Anna and her friends, relying on each other to help to deal with some of the disadvantages of the brace.

Although in a similar way to Anna, Josh was also very grateful that he was going through treatment at the same time as his friends, one friend in particular.

“Sarah: Do you have friends with braces?

Josh: Yeah, quite a lot actually. Because my friend James told me that it was going to ache a bit. He had his braces like a month before me.

Sarah: Oh did he?

Josh: So, but it’s good that he had them before so he could tell me what it was like, so that was quite a relief

Sarah: Yeah

Josh: Otherwise, I would have more worries”

Josh Interview 2

Josh did not reference this friend, James (name changed) throughout his treatment in the same way Anna spoke about her friends, so it is difficult to say if he was truly sharing his experience of having a brace. Although Josh did receive information and support from his friend that improved his own experience of having a brace, which I think demonstrates connectedness to some extent.

Matthew explained that his treatment had been postponed to monitor the growth of his lower jaw, to see if his malocclusion could be treated with orthodontics alone, or if he would need an operation when he was older. As a result, he had his treatment later, so it was not possible for him to share the experience with his friends.

“Matthew: I think I would’ve preferred to do it earlier but I’m not really sure why. I’m not sure what difference it would make.

Sarah: Yeah. Does it bother you that much having your brace on when your friends don’t anymore?

Matthew: Not, not that much. But yeah, like I said, I’m one of the only ones still with braces in my year”

Matthew Interview 3

Despite understanding why he was not having treatment when he was younger, Matthew would still have preferred to have his treatment at the same time as his friends, although he was unsure why he felt this way. He rationalised that it was the end result that mattered, and this would be the same, irrespective of what age he has the treatment, although, if given the choice he would have preferred to have had the brace when he was younger. There are two reasons why Matthew may have wanted treatment at the same time as his friends. Had he had the treatment when his friends were undergoing treatment, he would have been able to share the experience with them. The second reason was so he would have fitted in with everyone else at school. He associated having orthodontic treatment with a stage of adolescence, which his friends had already passed through, but he had not, as discussed in ‘Being a Little Kid, to a Teenager and an Adult’.

7.5 Conclusion

In this chapter, I have explored how Eleanor shared her treatment experience with her mum. They demonstrated connectedness throughout the treatment, displaying mutuality; respecting each other's feelings, and permeability; demonstrating they were open and receptive to each other's ideas (Grotevant and Cooper, 1986). This has made an important contribution to the orthodontic literature because the relationships patients are embedded in, has not been explored before. I have been able to examine how these relationships influenced the young people's experiences of having a brace, and also, how their experiences can change over time. Eleanor's mum being a dental phobic influenced Eleanor's outlook on the treatment process, being very critical of many aspects of the care provided. Although, Eleanor was an intelligent girl, and despite her mum being so frightened, and so critical, Eleanor proceeded with treatment and on occasions, made fair judgements on her experiences, for example, having teeth extracted. As the treatment progressed, Eleanor and her mum built up a rapport with the orthodontist and the nurse, and this changed how they viewed the treatment experience. The brace seemed to be affecting Eleanor's life to a lesser extent, and there were aspects of the treatment that she viewed in a positive light. Some other girls in the study also shared their experience of treatment with their mothers. I think this is an important contribution to the orthodontic knowledge base. For young people, undergoing orthodontic treatment is not an individual experience, and it is

important to conceptualise patients as being embedded in relationships with others. Eleanor continued to share the treatment experience with her mum throughout her treatment, although interestingly, the other girls in the study did not. The other girls shared the treatment experience in the initial stages, but as they progressed through the treatment, they became more independent, and having a brace became an individual experience. Similarly, a few participants demonstrated that they shared the treatment experience with their friends. Although again, this was to a lesser degree than the extent to which Eleanor shared the experience with her mum.

Chapter 8: Conclusion

8.1 Introduction

The aim of this research was to give a voice to young people undergoing fixed orthodontic treatment. Of the limited qualitative research in orthodontics, none sought the perspectives of young people as they progressed through their treatment. Instead, all studies have been carried out at a snapshot in time. Therefore, in order to understand young people's perspectives throughout treatment, and understand how and why they change, it was necessary to collect data throughout their treatment.

Having explored the orthodontic literature, it was evident there was very limited good quality qualitative research. The first research question I wanted to address was 'how do young people perceive and experience having a brace?' I believe, having carried out this study, I have added new knowledge to this area in many ways. In this thesis I have demonstrated how young people's perceptions and experiences are intertwined with transitions to adulthood, the embodied experience of having a brace, including the importance of appearance, and the relationships in which young people are embedded. Orthodontic treatment can take up to two years, and in some participants' cases, even longer. Adolescence is understood to be a transitional period (Henderson et al., 2013), so it is to be expected that young people's perspectives and experiences will change during that time. Therefore, the second research question was 'how do young people's

experiences of orthodontic treatment change over time? Indeed, changes in their experiences were evident throughout the analyses. I think gathering and analysing data exploring changes over time has provided a significant contribution to the knowledge base.

I will start this chapter by summarising how this study has contributed to the existing literature. I will then describe the practical considerations; how dentists can learn from the findings of this study and how patient care can be improved as a result. Following this, I reflect on the methodology I chose to use in this study and look reflexively at my role in the study. Finally I will discuss the ways in which I will carry out further research and the areas I am interested in exploring.

8.2. Summary of my Contribution

I will now explain the contributions I believe I have made to the existing literature. In doing so, answering the research questions I posed: ‘how do young people perceive and experience having a brace?’, and, ‘how do young people’s experiences of fixed orthodontic treatment change during their treatment?’

8.2.1 The Importance of the Brace

One of the main contributions I have made is establishing baseline knowledge about the importance some young people attach to having a

brace. There were two main ways in which this was evident, which I will now describe.

One theme was, that having a brace, was a rite of passage for the young people, and marked their progression through stages in adolescence. In chapter 4 “Being a Little Kid, to a Teenager and an Adult”, I focussed the analysis on Jasmin. I chose Jasmin because she displayed many of the behaviours in which the young people linked the brace with growing up. Other young people exhibited some of these features, although not to the same extent as Jasmin. From when Jasmin was little, she had wanted a brace, and this was irrespective of the appearance of her teeth. This yearning had developed to the point that, when I first met her, she was desperate to start orthodontic treatment. Jasmin hated how her teeth looked, however, I felt, her desire for a brace was more closely linked to the associations it held for her, rather than, because she urgently wanted her teeth to be straight.

Jasmin was thrilled when she finally got her brace; she described it as “cool”, although she was not able to describe anything in particular that was good about it. This was because, it was the associations of having a brace that she liked, rather than, that the brace was straightening her teeth. The brace served as a sign to others that she was progressing through adolescence, which she was proud of. Surprisingly, she did not comment on the improvement in the alignment of her teeth, even though this was immediately apparent to me, and it was the reason she claimed she wanted a brace.

Instead, she talked about how a brace changed people's faces, which I think was another indicator that she believed, having a brace signified that someone was maturing.

The brace demonstrating a rite of passage continued throughout some of the young people's treatment. So as the young people grew up, what the brace represented to them, changed. This became apparent when they talked to me about why they wanted their brace to be taken off. For example, Madison described how she wanted her brace removed because seventeen and eighteen year olds at college did not have braces, only sixteen year olds. This suggests she wanted to leave adolescence behind; having the brace was holding her back.

The brace carrying more significance than simply a means of straightening the teeth was evident in another way too. For many of the young people, the brace being removed formed a fateful moment; the event being a meaningful marker in their life. A fateful moment is a term used to describe when events occur, that have important consequences for young people's future lives (Giddens, 1991). Orthodontic treatment is usually undertaken during adolescence, and it takes eighteen months to two years to complete. Therefore, for a number of young people in the UK, the end of treatment will coincide with preparing for, or going through, the educational transition from school to college, at age sixteen. The educational transition frequently forms a critical moment for young people (Henderson et al., 2013). Critical moments is a term that was developed from fateful moments and is

differentiated by the young people not being aware of the significance of the event at the time. The brace being removed at a similar time to the educational transition, and it resulting in changes to the appearance, I think helps to explain why, young people linked the brace being removed, with a fateful moment in their life. The brace formed a visible marker for this transition.

8.2.2 How Young People Interpret Appearance

The second contribution I have made to the literature is an understanding of how young people think about appearance. Having straight teeth is more significant than simply improving the smile. In addition, there are different factors which contribute to young people's opinions about appearance. There is a large body of sociological literature exploring the appearance, although this is not the case in the orthodontic literature. The only paper of this nature was carried out by Stanford and colleagues (2014). The authors found that adults were influenced to some extent by friends and family, although this did not affect their innate beliefs about their dento-facial normality (Stanford et al., 2014). There has not been any literature relating young people's perceptions of appearance and their motivation to undergo orthodontic treatment. I found, different factors influenced how the participants judged their appearance, i.e. the influence of peers, gender and the mass media.

I used three case study analyses to explore this theme. Ashley was very strongly influenced by people around her, or rather, her perceptions of what

they thought. Ashley was so self-conscious about her teeth, she never spoke to her friends about them, and nor did they comment on them. Irrespective of this, Ashley judged the appearance of her teeth through the eyes of others, speculating, no one would like them. Ashley struggled to describe what she did not like about her teeth, although this did not reflect her motivation for treatment; she was striving for perfection, and anything less would not be acceptable. The reason attaining perfection was so important to her, was so that her friends at school could see what she had achieved. Perhaps not surprisingly, she deemed the treatment to be a success, based on the judgements of others.

Matthew was very different to Ashley. His views were generally representative of the boys motivation for treatment and feelings about appearance. For all the young people in the study, their primary motivation for orthodontic treatment was to improve the alignment of their teeth. Although Matthew, like some of the other boys, and in contrast to the girls, described functional reasons for seeking treatment as well. The functional reasons the boys gave were relating to the position of the jaw, discomfort from the jaw or teeth, and to make cleaning the teeth easier. Matthew was not influenced by the perceptions of his friends or family, like Ashley was, nor was he influenced by images in the media as Madison was. Matthew made the decision to undergo treatment, for himself, i.e. his source of motivation was completely internal. Also of interest, was that he did not want to have perfect teeth. This demonstrates that he believed, how straight his teeth were, was significant. The reason he did not want his teeth to be perfectly aligned

was because he thought, a person's appearance reflected their identity. If there was a dramatic change to how his teeth looked, they would not characterise him anymore. There were other examples of how Matthew, and the other boys were motivated by internal factors, and less so by people around them or images in the media. For example, Matthew, like the other boys, chose the colour of modules based on what they liked. All of the boys did this, although only some of the girls did. Many girls, like Ashley, chose colours based on what they thought would look good (through the eyes of other people).

Like some of the other young people, the girls in particular, Madison was desperate to start orthodontic treatment. She had thought in-depth about why she wanted her teeth to be straight. She believed having straight teeth impacted on a person's well-being, because if you have a nice smile, people will warm to you. She believed, a person's appearance represents their personal characteristics, again demonstrating the significance of the appearance of the teeth. Matthew alluded to this too, both believing the appearance was very significant, and reflected a person's identity. Interestingly, this led Matthew to not want to change the appearance of his teeth dramatically, because he thought his teeth would no longer reflect him. Madison however, wanted her teeth to be perfectly straight, and artificially whitened, which would result in a complete change to her appearance, thus reflecting a more favourable identity. The reason she wanted her appearance to change so much, was because she wanted to look like stars she had seen

on television. She aspired to achieve the media's depiction of the 'ideal' dental appearance.

8.2.3 How Young People are Embedded in Relationships

Another contribution I have made to the knowledge base, which has not been described in the orthodontic literature, is how the relationships the young people were situated in influenced their perspectives of treatment. People are all individuals, with different backgrounds, but they are embedded in relationships with family and friends, who each have their own thoughts and opinions. For the young people in this study, I found, the relationships in which they were situated, influenced their experiences of treatment and having a brace.

Eleanor was an excellent example of how some of the young people shared their experience of having a brace with someone close to them. Eleanor's experiences were not typical of the group, because she shared the experience of her brace with her mum to a far greater extent than the other young people. Eleanor and her mum had a very close relationship, indeed, the other young people may also have done. However, in comparison to the other young people's families, I felt Eleanor's mum expressed her opinions more strongly, and she was far more negative, because of her phobia of dentists. I think these factors contributed to why Eleanor's mum, was far more influential in Eleanor's treatment experiences compared to other participants' parents or friends. I chose to focus the analysis on Eleanor's

experiences because she demonstrated most clearly, how relationships can influence young people's treatment experience. And although the other participants demonstrated this to a lesser extent, all the young people were embedded in relationships which affected their treatment experiences in some way.

Eleanor's mum's opinions undoubtedly influenced Eleanor's views. I believe, Eleanor and her mum demonstrated connectedness; respecting each other's beliefs, and being receptive to each other's ideas (Grotevant and Cooper, 1986). This was why, at times, it was difficult for me to ascertain whose views were actually being reported to me, because they tended to report their views as one, agreeing with what each other said. In the initial stages of treatment, both Eleanor and her mum described many different aspects of the treatment in a negative light; this included the treatment provided by the clinician, and her experiences of having a brace in everyday life.

Eleanor, like all the young people, was embedded in a web of relationships so was not only influenced by her mother, but also by her friends. For example, Eleanor's mum, unlike other parents, did not reassure her daughter about the dental experiences Eleanor would need to undergo. Quite the opposite, in anticipation of Eleanor having teeth extracted, her mum highlighted how much pain she had been in, when she had had teeth taken out, and disputed reports that it may be "alright". Eleanor was also influenced by the relationships with her friends, who were undergoing orthodontic treatment. This provided Eleanor with the confidence she needed to seek

treatment, and undergo the challenges associated with it, such as, having teeth extracted. So, despite having an unsupportive mother, Eleanor was able to stay optimistic that she would be able to cope with the treatment, because of the web of relationships she was embedded in with her friends.

In the early stages of treatment, Eleanor (and her mum) had a general dislike of the process of treatment and living with the appliance. Eleanor, having only visited the dentist for the first time the previous year, had very few experiences from which to pass judgement on the process of treatment. As a result, Eleanor's mum's phobia of dentists led to Eleanor's negativity.

In time, several aspects of the treatment improved for Eleanor. She and her mum built a rapport with the staff at the hospital. She was happy with the improvement in the alignment of her teeth, and she learnt how to adapt to the brace so it did not have such a negative impact on her life. Eleanor also learnt to clean her teeth effectively, so this was no longer a concern for her. She thought the length of appointments had reduced, and the brace broke less often. These factors led to the negative feelings being replaced by more positive experiences, both of undergoing treatment, and of having a brace. As no previous longitudinal research has been carried out following patients through treatment, I think this study has made a useful contribution indicating some of the factors that play a part in making treatment experiences more positive for patients.

8.2.4 Physical Feeling of the Brace

I have also made a contribution to the literature in terms of how the young people physically experience having a brace, and how this changed over time. Pain in the initial stages of orthodontic treatment has been reported in the literature (Al Jawad et al., 2012). Although, there is no literature relating to the sensation of the brace in the early stages of treatment, or how people relate to the brace, when the sensation becomes normal for them. Al Jawad and colleagues (2012) found pain lasted from one day to two weeks. The authors did not describe any gender differences in the pain reported, or any other sensations related to the brace. In this study, the participants did report pain, although, immediately after the brace had been placed, the most striking memory for the young people was how different their mouth felt. It displaced the lips and affected how the young people moved their mouth when talking.

By the second interview, when the young people had had their brace on for a couple of months, the sensation of the brace had changed dramatically and they had redefined it as “normal”. One individual, Anna, initially reacted quite strongly to the sensation of the brace, and this differed to the other young people. I think the reason she reacted differently, was because she was one of the few young people whose motivation for treatment, was to have straight teeth when she was older, rather than now. This being the case, she perceived, she would not reap the benefits for several years, whereas the negative aspects of the treatment had to be endured at the present time. She felt an inanimate object (the brace), had taken over her mouth, and

interrupted how her mouth felt. Interestingly, when the brace straightened Anna's teeth, her frame of mind changed completely. She changed from describing her experiences as a regressive personal narrative, to a progressive personal narrative (Robinson, 1990). It took Anna a few months longer, although she, like some of the other young people, embodied the brace, as part of them. All the young people regarded their brace as feeling normal, although they varied in the extent to which they built a relationship or bond with their brace.

As the treatment progressed, the annoying aspects of the brace did affect their everyday lives and could not be ignored forever. They came to realise that they had adjusted what they thought of as "normal" to accommodate the brace. And in combination with other factors (which I will describe below), the young people did want the brace to be removed. In interview 4, Anna providing the most telling analogy likening it to a wart "You just get used to it. And it's part of you. But you hate it". So, how the young people interpreted the feeling of the brace changed with time, despite the brace not physically being altered to any significant extent. This too is an area that has not been explored in the orthodontic literature in the past.

There could be several reasons why the young people described the feeling of the brace as normal, yet they still wanted it to be removed. For example, the primary motivation for treatment for all of the young people was to get straight teeth. Therefore, while the brace was aligning the teeth, they may have been more tolerant of the pain and frustrations it caused. The alignment

stage is at the start of treatment, so, as the treatment progressed, the young people would see far less change or improvement in their teeth, and I think, not reaping any aesthetic benefits made them increasingly less tolerant of the brace. In addition, in chapter 4. "Being a Little Kid to a Teenager and an Adult", I explored how the physical presence of the brace represented a stage in adolescence, and some of the young people wanted the brace off because it characterised being younger.

8.2.5 The Significance of Gender

Gender influenced several aspects of the young people's experiences of having a brace. In the orthodontic literature, gender has not been widely described as a factor that affects patients' experiences; in fact, I am only aware of one qualitative paper which refers to differences between girls and boys (Trulsson et al., 2002). However, I think this is an indication of the lack of in-depth qualitative research that has been carried out, rather than it being a contentious finding.

Trulsson and colleagues (2002) found teenage boys were motivated to undergo orthodontic treatment for functional reasons, whereas girls were motivated by aesthetic reasons. I too found boys were motivated to undergo orthodontic treatment for functional reasons, although these were secondary reasons; boys and girls primary motivation was aesthetic. Trulsson and colleagues' work (2002) was published fifteen years ago, so I think boys' motivation for treatment may have changed over that time. I also found, boys

tended to be motivated by internal factors for example, Matthew described how he had not considered what his parents or friends thought about his teeth, like Ashley had. Matthew also only wanted an improvement in the alignment of his teeth, unlike Madison who was motivated by characters she had seen on television, and was aiming for perfection. Motivation for treatment was not the only way gender influenced young people's perspectives, the theme of gender ran throughout the analyses, which I will now describe.

I think that gender differences influencing the young people's experiences, stems from the cultural positions of males and females in Western society. For example, it is stereotypically girls who play at dressing up rather than boys (James, 1993). This explains why some of the girls, when they were younger, tried to fabricate a pretend brace using items from the home, because they wanted to play at, and experience having a fixed appliance. Hey (1997) describes how girls invest far more time thinking about their feelings compared to boys. I think this is why the girls associated having a brace as a rite of passage through adolescence; they had thought through having a brace in-depth, so had placed more significance on it. This is not to say that boys did not think about their pending treatment, because they did, although they had not evaluated it in the same way as the girls.

In addition to girls thinking about their feelings more, it is more socially acceptable for girls to communicate their emotions, particularly to other girls. This explains why, when exploring the narratives of pain, the girls spoke

freely to me about their pain experience, their reliance on analgesics and how the pain affected their day-to-day life. Whereas many of the boys downplayed the pain they experienced, the length of time the pain lasted for, the quantity of analgesics they required, and how the pain affected them. I think Western culture encourages boys and men to be brave and display stoicism (Bendelow, 1993). Adolescent boys will be well aware of this, and perhaps talking to me, as a female, adult researcher, exaggerated the boys' tendency to adopt 'brave' narratives.

The sociological literature describes how girls' friendships stereotypically display more emotional attachment and social investment than boys' (Hey, 1997). This explains why the girls more frequently described their experiences being shared with a parent or friend.

8.2.6 Moving the Orthodontic Literature Forward

Clinicians having a scientific background often do not understand or realise the value of using qualitative methods in dentistry. I hope, in sharing this work with clinicians, that they will be able to appreciate the depth of understanding that can be achieved when qualitative methodology is employed.

There is an increasing emphasis on the importance of employing a patient-centred approach to healthcare. To do this, patients must be involved in the decision making process when deciding the most appropriate treatment.

Although alongside this, I think it is imperative that clinicians understand patients' perspectives with respect to the healthcare being provided. I think this study has provided an overall contribution to the qualitative literature in orthodontics and the insights will help to shed light on young patients' perspectives.

8.3 Practical Considerations – What Clinicians can Learn

Having a clinical background, one personal aim of conducting this study was to gain a better understanding of the perspectives of the patients I will treat throughout my career; I believe I have succeeded in this regard. It is not possible to generalise the findings from this qualitative study to the whole population; however, the themes, patterns and processes I have identified may arise with other young people. I plan to share the knowledge I have gathered with other clinicians in the field of dentistry. I think, the better we understand our patients' perspectives, the more able we are to provide patient-centred care. This is because we may be able to tailor aspects of the treatment to their wishes, for example, the timing of the treatment. We will also be able to communicate on issues that they think are important. I will now describe the practical contributions I think my research has made.

8.3.1 The Significance of Having a Brace

I think this research has provided dentists with an insight into how significant the brace can be for young people. Due to the paucity of qualitative research in orthodontics that has been carried out with young people, dentists' understanding of patients' perspectives is primarily constructed from clinical experience. As each clinician's experiences are different, aspects of this research may not be a surprise to them. For example, as a clinician, I knew that, often, patients are keen to commence orthodontic treatment as soon as possible. I presumed this was because, the sooner they started treatment, the sooner their teeth would be straightened. However, I believe the depth with which I was able to explore young people's perspectives has improved clinicians' knowledge base. I now realise, the close association some young people form between having a brace and growing up. In this study, young people's impatience to start treatment was because they want to progress through the youth transition at the same stage as their friends. Getting a brace, undergoing treatment, and, in time, having the brace removed, can signify important stages in young people's development. For them, the presence of the brace, at different stages in adolescence, had further reaching consequences than simply, how quickly their teeth would be straight.

Similarly, some of the young people were approaching, or went through their educational transition. The young people frequently described these events forming a fateful moment in their life, the removal of the brace validating their progression through adolescence. The chronological age of the participants,

in itself did not strongly influence young people's lived experiences of fixed orthodontic treatment. However, the educational stage did influence their perceptions of the brace. For example, starting college (which equated to age sixteen), was a time by which the young people expected to have completed their orthodontic treatment. This is worth clinician's bearing in mind. It may be possible to start treatment so they will complete treatment prior to their educational transition. If this is not possible, it may be beneficial for a patient (who is still at school), if the clinician explains their brace will be removed during their second year at college, rather than simply saying treatment will take two years. Rephrasing in this way could help ensure young people's expectation of when the brace will be removed is realistic.

Some of the participants had been told from a young age that they would need a brace. As a result, they felt, they were not progressing through adolescence, until they had their brace. Furthermore, in these cases, the young people did not feel there was a decision to be made about whether to have a brace or not; they did not feel in a position of control, a brace was inevitable. I think, some dentists should change how they speak to children about future treatment. For example, if they explained orthodontic treatment is elective, and in the future, they may choose to have a brace to straighten their teeth or improve the bite, the young people may feel in control of the decision to undergo treatment.

8.3.2 Appearance

The magnitude with which young people value their appearance has not been discussed in the orthodontic literature. So my findings, that the appearance of the teeth and the brace can be of huge importance, are providing new insights for dentists. Some of the young people in this study put a huge amount of thought into the colour of the modules they chose, disregarding their personal preferences in favour of colours they thought their peers would think looked good. The girls prioritised appearance to a greater extent than the boys. As an adult, and a clinician, I thought the colours of modules they chose was superficial and unimportant. Although this is not the case, and I now try to be more sympathetic when they are choosing colours because I realise how important it can be for them.

8.3.3 The Sensation of the Brace and Pain

Of interest to me as a clinician was that, irrespective of how approachable and kind the dentist was reported to be, the young people often chose not to communicate with the dentist about the pain or discomfort they were suffering with, and they would not return to have their brace adjusted when it was hurting. This was in part because there was an acceptance that braces cause pain, and this was normal. But also because of the inherent power imbalance that exists between young patients and their clinician. Clinicians acknowledging the hierarchy of power that exists between a dentist and a patient helps us to understand why young people may not choose to express their thoughts and feelings. As a result, the clinicians may not fully

understand how the young person is experiencing their treatment. For example, discomfort caused by the brace interfered with sleeping, talking, and hobbies, although these were rarely voiced to their clinicians

It is also important for clinicians to understand how gender can play a significant role in how young people communicate their pain experience. As I have highlighted, young people may choose not to communicate the pain experience to the dentist at all, and this does not mean they are not suffering. If young people do choose to talk about their pain, it cannot necessarily be taken at face value; the young people are situated in social relationships and an environment that can affect what they share. Once I had established rapport with the young people, the girls were far more detailed in their descriptions of their pain experience compared to the boys. The boys tended to use alternative descriptors such as “strange”, to underplay the discomfort. When they did recall the brace hurting, there were inconsistencies in the timing and severity, which suggests they were trying to be brave. The reason the boys provided accounts which demonstrated their braveness, was because they were fulfilling the gender stereotype of men in Western culture being stoic, brave and not expressing their emotions. This may also be the case when young people talk to their clinicians, so the boys may not provide an accurate picture of the discomfort with which they are suffering.

I think clinicians’ understanding how young people’s feelings change, and the strength of the relationship patients can build with the brace, (to the point that

some do not like the archwire to be removed) is important. The better clinicians' understand patients' perspectives, the easier it should be to communicate effectively and build rapport.

Similarly, the new feeling of the brace in the mouth was not described as a negative experience, it was just different. Clinicians appreciating this, and perhaps explaining to patients in anticipation of the brace being placed, that the sensation will be different, I think would be reassuring to patients.

8.3.4 Advice Provided

On one occasion Jasmin explained to me how she had been told she could not eat certain foods, or drink any fizzy drinks. I think there was a misunderstanding in this case. I presume the advice had been provided implying she was not allowed fizzy drinks, but Jasmin had interpreted the advice to mean she was physically, not able to drink them. Jasmin tried, and drank Coke without consequence; this led her to believe the clinician was wrong, although she did not ever choose to tell the professional. These examples, and other similar ones, suggest the participants did not want to question their clinician, instead, quietly disagreed, or disregarded what they said. It also demonstrates that patients may take what clinicians say literally, and at times, communication may need to be tailored to a younger age group.

Some young people described how the initial dental pain was severe, and in interfered with how, and what, they ate and drank, this is in keeping with other qualitative literature on dietary intake and behaviour (Al Jawad et al., 2012). Al Jawad and colleagues (2012) carried out their study 4-6 weeks into the patients' treatment, and found participants changed what they ate and the way the food was prepared. In this study, I also found this in the early stages of treatment, although no behavioural changes were maintained throughout the treatment. This demonstrates one of the advantages of carrying out this study longitudinally, it was possible to assess how behaviours changed over time. Interestingly, Eleanor changed the way she ate because she felt it was right to, but also because she had been given advice to that effect. However, she disregarded advice on *what* she should eat and drink. Other young people also disregarded advice provided by the orthodontist, either because they thought they were a better judge of what were appropriate levels of sugar to consume, or because they thought the orthodontists were providing inaccurate information.

Perhaps it was to be expected that one of the sources of irritation for the participants in the study, was a lack of communication by the dentist. For example, on one occasion Eleanor and her mum described to me how frustrated they were that they could not have an appointment earlier than five weeks after the previous appointment. This was because the clinician had not explained the process of true orthodontic tooth movement. Eleanor and her mum believed they were right and the clinician was wrong, but interestingly, they did not question the clinician.

8.3.5 Power Imbalance

Through carrying out this study, I have highlighted how communication between a clinician and a young person, may not be as equal as the clinician assumes, or wishes it to be. Unfortunately, empowering young people to feel that they are on a level playing field with their dentist, and can communicate freely with them can be a challenge. However, recognizing that the power imbalance exists, and that it is the responsibility of the clinician to take on this challenge, can benefit patient care. Moreover, this disparity in power may be inflated when the patient is a child. Clinicians doing what they can to build rapport and facilitate interaction may help some patients. For example, in interview 4, Eleanor said “I like the fact that they’re not just like the orthodontist, they do take an interest in you”. At the start of treatment, Eleanor only had negative opinions about the dentist and the care provided, although this was turned around completely when she and the dentist built rapport. It is important for clinicians to realise, for some patients, interest in the young person as an individual, may significantly improve their patients’ treatment experience.

8.4. Reflections on the Study

There are two main areas on which I have reflected. The first is the methodology, primarily in relation to the methods of data collection. I will discuss the use of interviews and video diaries. Using video diaries is a

relatively new and innovative method for collecting data in qualitative research. I think it was useful, although, it was not entirely successful for longitudinal data collection, the reasons for which I will explain. I will go on to reflect on my role, as a clinician and a researcher, but also as a female.

8.4.1 Reflections on the methodology

8.4.1.1 Data Collection

One reason I chose to use two methods of data collection was to engage young people who may have different competencies and interests (Punch, 2002). This enabled the young people to share their thoughts with me in ways that suited them. Some of the young people spoke very openly to me at the first interview, but others did not. For example, Jasmin was very comfortable talking and sharing secrets with me from a very early stage. Jasmin recorded some video diaries in the first few weeks of having a brace, although after a few months of treatment, she explained that she did not know what to say to the camera. At the opposite end of the spectrum, Joseph was very shy at his first interview. At the request of his parents, the first interview was in a noisy hotel restaurant. The environment did not lend itself to Joseph expressing his perspectives; I think he was further inhibited by the presence of his parents, not to mention his nerves about the impending general anaesthetic, which was taking place the following day. Although, providing him with the opportunity to record video diaries in private, allowed him to share insightful videos about his experiences at times that were relevant to him. For example, he recorded videos at the hospital before

the operation, after he had returned home, and, a further video describing his anxiety, the night before his first day at school with the brace on. The ability of the young people to record data contemporaneously, was a key advantage of using video diaries as a method of data collection, in particular, when the young people described their pain experience.

8.4.1.2 Video Diaries

One anticipated problem, which materialised as a limitation of the study, was participants losing motivation to record video diaries. Research has found young people can get bored if asked to record data too often (Maikler et al., 2001). Therefore, to encourage the young people to participate on their terms, and to avoid them getting fatigue or feeling data collection was a burden (Butz, 2004, Muir, 2008), I gave complete control to the young people to record as many, or as few video diaries as they wanted (Bray, 2007). Three participants chose not to record any video diaries, which may be a reflection of their preferences, because some young people are not comfortable recording their feelings audio-visually (Buchbinder et al., 2005). The remaining twelve participants recorded video diaries in the initial stages of their treatment although this did not continue, and no participants gave me any video diaries at their final interview. There are three main reasons why I think the young people did not record video diaries throughout their participation in the study.

During their orthodontic treatment, several young people were apologetic that they had not recorded videos for me. The reason they gave was usually

that they had tried, but they had nothing to say. Interestingly, data analysis, aided my understanding and reflections on the methodology, i.e. the reason the young people stopped recording the video diaries. The process of normalisation was a theme I discussed in chapter 6, "How Braces Feel". The feeling of the brace became normal for the young people, and usually this was within a couple of months. Another theme I identified in the chapter was that the young people accepted that the brace caused pain. The level of pain the young people experienced varied, some participants found the soft tissue trauma and ulcers the worst, others feeling more discomfort from the brace being adjusted. Although all the young people adapted, not only tolerating the pain, but becoming so used to it, they redefined what was 'normal'. As a result, they stopped recording videos because they did not think there was anything new to say.

The second reason I think participants stopped recording video diaries was because the novelty wore off. There was a distinct peak in the number of videos recorded at the start, after which time, data collection of videos tapered. As discussed in the analysis, young people grow up and change a lot during the adolescent period, so activities that they found interesting and fun at the start of their orthodontic treatment, may not be the same towards the end of their treatment.

The third reason I think they stopped recording videos was due to my reticence. I was very encouraging when I received video data back, I expressed my gratitude and I explained that although they may not think

what they said was important, it was interesting to me. Although, I did not want them to feel under pressure or coerced into making video diaries so, I never set a target for the number of videos they should try to record. Nor did I dictate what they should record. In addition, when they said they had not recorded any video diaries, I reiterated that recording videos was entirely their choice. I said this so the young people felt in control, however, perhaps I inadvertently gave the impression that the videos were not important.

8.4.1.3 Longitudinal Data Collection

As explained above, I think, collecting data longitudinally was essential to understand how young people's experiences change during their course of orthodontic treatment, and I believe I have captured this. So although there were some added complications, for example, trying to maintain the young people's motivation, and locating the participants when they moved house or changed their phone number, these issues were not insurmountable and were completely outweighed by the depth of understanding I gleaned from them. I think I have learnt a lot about how to conduct qualitative data collection over a long time period.

In future studies using video diaries, in order to facilitate data collection, I would consider setting a target number of videos for the young people. For example, suggesting they aim to record one video per week. I would also phone the participants more frequently, with the sole reason being to encourage them to record video diaries. During the study, I did maintain contact with the young people to uphold rapport, although I did not want to

burden the young people and did not target the phone calls to being principally about recording video data. I would also consider providing some written guidance, or suggestions of what the participants could record, to facilitate them collecting data in the latter stages of treatment.

8.4.2 Reflecting on my Role

Being an orthodontist will have influenced the way in which I interpreted the young people's experiences, irrespective of how much I wanted to understand their story. Porter (1993) described how a researcher's values and interests will always impact on the research work, and claiming objectivity in qualitative research demonstrates naïve realism. For example, having carried out many courses of orthodontic treatment for young people, ultimately I am a clinician who, albeit reluctantly, causes orthodontic discomfort. I endeavour to make appointments with patients pain-free experiences, although, this in the knowledge that, they may experience dental pain following the visit. However, I do this, in the comfort of the belief that overall, orthodontic treatment is worthwhile, and will result in a positive gain for the patient. So, it was important for me to appreciate this when I carried out data analysis of the pain and inconvenience caused by the brace, my standpoint will have influenced the way I appraised the data. To some extent, I am accustomed to overlooking incidences of pain, in favour of the bigger picture.

During the study, I avoided being on the clinic when the participants were attending their appointments, and I did not look at their clinical notes. Therefore, my understanding of their treatment was limited to what the young people told me, so at times I was as perplexed as they were about what procedures they were undergoing. This made it easier to understand their point of view. I think getting to know the young people longitudinally also helped, because I was able to better understand issues of importance to them, as individuals. As the study progressed, I became increasingly aware that without their valuable contributions, I would not have any meaningful data, and was overwhelmingly grateful for their help. Through data analysis (which I began at the start of data collection), I realised how important it was to thoroughly understand all of their thoughts and feelings, in order for me to conduct a rigorous analysis of the data. This also encouraged me to see the treatment from their point of view, and put aside my preconceived ideas as a clinician.

The other aspect that I think it is important for me to reflect on, is being a white female, and how this affected the participants that chose to take part, and the data I collected. With regards to ethnicity, I approached all patients who fulfilled the inclusion criteria, although of them, few were of ethnic minority background. So, although I only recruited one participant (Jasmin) who had an ethnic minority, this was roughly representative of the patient base I approached. The proportion of boys I recruited was not representative of the sample I approached; more boys declined to participate than girls. I discussed the reasons for this in the methods chapter. Towards the end of

recruitment, I targeted boys, so informed far more boys than girls about the study, although still ended up recruiting more girls than boys. In retrospect, I should have completely stopped informing girls about the study, focussing only on recruiting boys. Another potential way of overcoming this in the future would be to involve a male researcher in the recruitment of participants, to see if this would increase the recruitment of boys. However, in the qualitative study by Stanford et al. (2014), a male researcher was responsible for recruitment, and their participant group was made up of five men and ten women. There is also evidence to suggest potential participants can perceive qualitative research as a 'soft' topic more appropriate for girls (Davies, 2011). Having gained this knowledge and experience, in the future, I would pay particular attention to recruiting boys, and try harder to explain that boys' views matter.

It is important to reflect on my relationship with the participants (Tobin and Begley, 2004). When discussing some subjects, such as pain, the girls tended to talk more openly to me about their experiences than the boys. I believe this was related to Western culture, of girls expressing their emotions more openly than boys, although it is possible, it was because the boys did not feel as comfortable talking to me as a woman as the girls did.

8.5 Summary of Conclusion

- Placement of the brace, and subsequent removal, can be very significant in young people's lives, forming an indicator of their stage in adolescence.
- Young people believed the appearance of the teeth is very important; it reflects a person's identity and can lead to negative social judgements.
- The relationships young people are embedded in, with family members or with friends, can influence their experiences of fixed orthodontic treatment.
- The sensation of the brace becomes normal with time, and some young people developed a bond with their brace so it felt part of them.
- Gender influenced young people's motivations and experiences of fixed orthodontic treatment; girls being more likely to describe their pain experience.

8.6 Further work

Before embarking on this study I had no research experience, and so I did not realise what a rewarding and enjoyable process qualitative research would be. Nor did I realise, that there were different ways in which I could develop my research experience; it was not simply a matter of thinking of another research question that I wanted to answer. I will now looking forward, and explain how I would like to carry out further research, and my areas of interest that have developed as a result of this study.

8.6.1 The Young People's Level of Involvement

I chose to use participatory research methods because they can minimise the inherent discrepancy in power between adult researchers and child participants (Green and Thorogood, 2009). There are different levels of participant involvement in this approach. I would like to lead further research involving young people in all stages of the research process, from study design, recruitment of researchers, data collection through to analysis of the data (O'Brien and Moules, 2007, Alderson, 2001). There are practical and ethical challenges to this level of involvement. For example, it can add a significant amount of time to the length of the project because children's availability needs to be taken into consideration to involve them at all stages in the research process (O'Brien and Moules, 2007, Smith et al., 2002). Because this project was a longitudinal study, and involved collecting data from each participant for over two years, I decided, time constraints were such that it was not practical to involve children in the design or

implementation of the study. However, having gained the experience of building such a strong rapport with the young people, I can envisage, involving children and young people as researchers could be a very rewarding and successful approach. I want to embrace empowering young people, through involving them completely in the research. I think it is a very exciting prospect, for researchers and participants to work together, to revolutionise the orthodontic literature.

8.6.2 Data Collection

The novel way in which Henzell and colleagues (2014) collected data using orthodontic related Twitter posts interested me. In an interview with Jasmin, she recommended I use Twitter to understand the experiences and perceptions of young people undergoing orthodontic treatment. I think the prolific growth in young people's use of social media should be utilised. One of the reasons I used video diaries, was to try to engage the young people in an activity they may already be familiar with, or that they may interpret as an up-to-date approach. However, collecting data from social media, which young people are already using, could offer several advantages, both for the participants involved, and the researchers. The ethics of online discussion groups being used as data for research has been debated, however, research has found that online health discussion boards, and Facebook, are thought of, as being in the public domain, and open to a broad audience (Brady et al., 2016, Burkell et al., 2014)

8.6.3 Areas of Interest

In this study, I wanted to explore patients' perceptions in-depth, so I limited the inclusion criteria to young people undergoing fixed appliance treatment. I did this because fixed appliances are the most common type of brace used in the UK. However, there are other types of brace, for example the Twin Block appliance which is given to some patients, for a period of six to nine months prior to them commencing fixed orthodontic treatment. This treatment can be very effective, although this type of brace is removable, and it is thought around sixteen percent of patients do not wear the appliance, and therefore treatment is not successful (O'Brien et al., 2003b). I would like to explore young people's experiences of wearing a Twin Block. If we better understand their experiences, we may be able to improve their treatment experience to facilitate more patients wearing their Twin Block.

The other area of research I am interested in exploring is outside the orthodontic field. In this thesis I established that for some of the young people, the brace formed a rite of passage through adolescence. In some cases, this was initiated by the dentist, sowing the seed at an early age that the child would need a brace when they were older. The theory of rites of passage was first described by van Gennep in 1960 (Glaser, 1971). This theory was developed further by Glaser and Strauss (1971), and was called 'status passage'. The sociological literature describes how, the loss of teeth, forms a status passage through life (Gibson et al., 2016). Furthermore, Gibson and colleagues (2016) found the dentist and family members were particularly important in establishing the status passage to complete tooth

loss. There are marked similarities in these findings, and the findings in my study. I found, dentists had often told the young people when they were younger that they would need a brace. This sowed the seed of a brace being a rite of passage through adolescence. I also found, the young people did not think and act independently; they were embedded in relationships and were influenced by family and friends attitudes. These similarities are very interesting considering the very different participant group; Gibson and colleagues' (2016) participants were aged 71 to 101, and had had a dental clearance (all their teeth removed), before 1960. I would like to work with sociologists who have an interest in dentistry, to explore the significance of the mouth, and dental treatment, throughout the life course. For example, I think the transition from the primary dentition to the secondary dentition is significant for children, and I would like to explore and understand this in more depth.

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Appendix 1 Parent/ Guardian Information

Sheet



Academic Unit of Oral Health and Development
School of Clinical Dentistry
Claremont Crescent
Sheffield S10 2TA
Tel: 0114 2261097

Exploring young people's perspectives of undergoing orthodontic treatment

Parent/Guardian Information Sheet
04/03.2013 version 3

Part 1 – information about the project

This information sheet will tell you all about a study we are doing, which your child is invited to take part in. My name is Sarah Bell. I am a researcher at the University of Sheffield. Before you decide if you would like your child to take part it is important for you to know why the research is being done and what it will involve. Please take time to read this information and talk with friends or family if you wish.

What are you researching and why?

We are carrying out research exploring what it is like for young people to have dental braces. Not very much is known about what young people think about having braces. If we knew more about what our patients' thought we may be able to improve the treatment we provide to future patients.

Why do you want to involve my child?

Your child has been invited because they are going to have braces. We are hoping to get up to 20 young people involved in this project – your child is not the only one!

What will I be asked to do?

You won't be asked to do anything directly. If your child participates, I will need to arrange with you convenient times and places for meetings. If you and your child would prefer the research to take place somewhere other than your home, you may be required to transport them.

What does the research involve for my child?

At the meeting I will talk to your child about what they think it will be like to have braces, this interview will be audio-recorded to ensure I remember everything. This meeting will probably last for about an hour.

At the same time, I will lend your child a camcorder and ask them to record video-diaries about having braces.

I will meet your child every few weeks to exchange memory cards; these meetings can be anywhere that is convenient for you. Sometimes I will arrange to do another interview with your child about how they are finding their braces; again, these conversations will be recorded.

Does my child have to take part?

No! It is up to them. If they do, you will:

- be asked to sign a form to give consent and your child will be asked to give assent
- be given a copy of the signed consent form to keep

Your child is free to stop taking part at any time during the research without giving a reason. If they decide to stop, it will not affect the treatment they receive.

Is there anything to be worried about if my child takes part?

There are no known risks to your child taking part in the study. Your child does not have to talk about anything they don't want to.

All interviews remain confidential, and no personal details will be divulged to anyone. All names will be changed before findings are published.

What are the possible benefits of taking part?

I hope your child will find it fun making video-diaries and telling me about what it is like to have braces. We can't promise that joining the study will help your child directly but it is hoped the results from the project will help children receiving similar treatment in the future.

What do I do next?

I will phone you and answer any further questions either of you have about the project. If your child would like to take part in the study and you are happy for them to participate, I will ask you to sign a consent form and your child to sign to give assent to ensure you have all information you need.

If you would like to speak to me about your child's participation in the research, or about any other aspect of the research, please contact me by e-mail: s.j.bell@sheffield.ac.uk or by telephone 0114 2261 097 (Mondays, Tuesdays and Fridays).

Alternatively if your child has already decided they do not wish to participate in the research and you would prefer not to meet me again please contact me as above.

When does the project finish and what will happen?

The project finishes when your child has their braces taken off. I will do one more interview with your child at this point. At this visit I will collect the camcorder.

When the study has finished we will look at all of the information that has been collected from all the participants involved. A report will be written and your child will receive a copy.

Part 2 – more detail – information you need to know if your child takes part.

Will anyone else know they are taking part?

All of the information I collect will be kept securely at the University of Sheffield. The only people who will see the information will be the researchers. What your child says in the video-diaries and during the interviews will be written down but nothing will have your child's name on it. The reports from this research will not name any of the participants either.

It is normal for all interview tapes and written information to be stored securely for 5 years before being destroyed. Information is stored in case more research can be done with the data collected. The videos do not have to be kept for 5 years and so you and your child can decide if you want the videos destroyed straight after the study or stored for 5 years.

It may be useful to use some of your child's video clips to illustrate their views of treatment to medical professionals who are not involved in their care, for example in a presentation I will give about the research I have done. However, this is entirely up to you and your child, if you don't want the videos used in a presentation, I won't use them.

What if there is a problem or something goes wrong?

We cannot see anything going wrong during this project. But if you or your child feels unhappy about anything to do with the project, we will be very happy to talk to you about your concerns at anytime. Your child is also free to stop being in the study at any time.

What if I am not happy about the way the study has been conducted?

If you or your child are harmed by taking part in this research, there are no special compensation arrangements. If you or your child are harmed due to someone's

negligence, then you have grounds for legal action, but you may have to pay for it. Regardless of this, if you wish to complain, or have any concerns about any aspects of the way you have been approached or treated during the course of this study, the normal National Health Service complaints mechanism is available to you.

If you have any concerns or complaints please contact either myself by e-mail: s.j.bell@sheffield.ac.uk or by telephone 0114 2261 097 (Mondays, Tuesdays and Fridays) or Doctor Philip Benson, by e-mail p.benson@sheffield.ac.uk or by telephone on (0114) 2717 895 (Tuesdays and Fridays). If you do not obtain a satisfactory response, you can also use the normal NHS complaints procedure through your Patient Advisory Liaison Service officer allocated to the Charles Clifford Dental Hospital by telephone on 0114 2712 450 or Ms. Tracy Plant, Complaints Manager at the Charles Clifford Dental Hospital on 0114 2717 804. Alternatively, you may write to:

PALS	Manager	Ms. Tracy Plant	
Sheffield Teaching Hospitals NHS Foundation Trust		Charles Clifford Dental Hospital	
		76	Wellesley Rd
Patient Partnership Department		Sheffield	
B Floor, Royal Hallamshire Hospital		S10 2SZ	
Glossop Road, Sheffield, S10 2JF			

Who is organising the research?

The study is being organised by the Academic Unit of Oral Health and Development in the School of Clinical Dentistry, University of Sheffield.

Who has reviewed the study?

Before any research goes ahead it is checked by an Ethics Committee. They make sure that the research is safe to do. This study has been reviewed but the Derby 2 Research Ethics Proportionate Review Sub-Committee.

Thank you for reading this – if you have any questions please write them down and bring them with you to your next visit.

Appendix 2 Participant Assent Form



Academic Unit of Oral Health and Development
School of Clinical Dentistry
Claremont Crescent
Sheffield S10 2TA
Tel: 0114 2261097

Exploring young people's perspectives of undergoing orthodontic treatment

Participant assent form

04/03/2013 version 2

You have been invited to take part in a research project to find out what you think about having dental braces. This involves you recording video diaries at home and participating in interviews.

The purpose of this agreement is to make sure that you want to take part in the above research project and that you are happy with the way we use the information we collect. If the information we collect is used again this will only be for further research and publication in dental magazines. The information you provide will only be seen by the research team. It is expected that each interview will last about an hour and will take the form of a chat.

Taking part in this project is entirely voluntary. If you decide to take part, you can change your mind at any time and this will not affect your future treatment in any way.

All the information gathered in the study will be kept private. All the information from the research will be kept securely at the University of Sheffield. No one will have access to it except the researchers. Neither your name nor anything that identifies you will be used in any reports of the study. No names or addresses of anyone taking part in the research will be divulged at any time. The only exception to this is if something you say to me or on the video-diary causes me concern and I think someone's safety is at risk, I will tell my supervisors Dr Philip Benson or Prof Allison James.

You will be asked to keep a video diary. What you say in the videos will be written down by a researcher although this will not have your name on it. After the researcher has written down what you have said in your video, you can decide if you would like me to destroy the video at the end of the study or allow me to show short clips when I present my research.

If you have any problems or feel you would like to know more, please contact:

Sarah Bell
Academic Unit of Oral Health and Development
School of Clinical Dentistry
Claremont Crescent
Sheffield S10 2TA. Telephone: 0114 2261 097 Email: s.j.bell@sheffield.ac.uk

Assent form

Name of the young person to be involved in the research:

Participant Identification Number for this project:

1. I have read and understand the information sheet for the above study and have had the opportunity to ask questions. _____
2. I understand video and voice recordings will be made and how these will be used. _____
3. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. _____
4. I understand that any information will be used for research purposes only, including research publications and reports. The information will always be kept private and will never have my name on it. _____
5. I agree to take part in the above study. _____
6. Yes, my video recordings can be kept on password protected computers, for the purposes of research for 5 years. _____
No, destroy the videos at the end of the study after they have been copied in writing. _____
7. The use of the video diaries in presentations
Yes, I will let Sarah show short clips of my video diary in presentations for research or educational purposes for up to 5 years _____

**No, please destroy all the video recordings at the end of the study
after they have been copied in writing**



Name of participant: _____

Signature: _____

Date: _____

Name of researcher: _____

Signature: _____

Date: _____

Appendix 3 Consent Form



Academic Unit of Oral Health and Development
School of Clinical Dentistry
Claremont Crescent
Sheffield S10 2TA
Tel: 0114 2261097

Exploring young people's perspectives of undergoing orthodontic treatment **Consent form**

04/03/2013 version 4

Your child has been invited to take part in a research project to find out what they think about having dental braces. This involves your child recording video diaries at home and participating in interviews.

The purpose of this agreement is to make sure that you agree to your child taking part in the above research project and that use of the research material is in strict accordance with your own and your child's wishes. Any further use and storage of the research material will be for research and publication purposes only. Your child's contribution to the research project will not be shared outside of the research team. It is expected that each interview will last about an hour and will take the form of a chat.

Taking part in this project is entirely voluntary. If your child decides to take part, they may change their mind at any time and this will not affect their future treatment in any way.

All the information gathered in the study will be confidential. All the information from the research will be kept securely at the University of Sheffield. No one will have access to it except the researchers. Neither your child's name nor anything that identifies them will be used in any reports of the study. No names or addresses of anyone taking part in the research will be divulged at any time. The only exception to this is if something your child says to me or on the video-diary causes me concern and I think someone's safety is at risk, I will tell my supervisors Dr Philip Benson or Prof Allison James.

As your child will be keeping a video diary, your permission is required regarding the use of these recordings. The video will be transcribed by a researcher at the University. You can request for this to be destroyed immediately or give permission for short clips to be used for research purposes.

If you have any problems or feel you would like to know more, please contact:

Sarah Bell
Academic Unit of Oral Health and Development
School of Clinical Dentistry
Claremont Crescent
Sheffield S10 2TA. Telephone: 0114 2261 097 Email: s.j.bell@sheffield.ac.uk

Consent form

Name of the young person to be involved in the research:

Participant Identification Number for this project:

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. _____
2. I understand that video and voice recordings will be made and that the purpose for which the material will be used has been explained to me in terms which I have understood. _____
3. I understand that my child's participation is voluntary and that they are free to withdraw at any time, without giving any reason, without our medical care or legal rights being affected. _____
4. I understand that any information will be used for research purposes only, including research publications and reports, and that anonymity and confidentiality will be preserved at all times. _____
5. I agree for my child to take part in the above study. _____
6. Yes. I consent for video recordings of my child to be retained, on password protected computers, for the purposes of research for 5 years. _____
No, destroy the videos at the end of the study after they have been transcribed. _____
7. Use of the video diaries in presentations
Yes, I will let Sarah show short clips of my child's diary in presentations for research or educational purposes for up to 5 years _____

**No, please destroy all the video recordings at the end of the study
after they have been transcribed**

Name of parent/ guardian: _____ Signature: _____

Date: _____

In what capacity are you the legal guardian? (if applicable): _____

Name of researcher: _____ Signature: _____

Date: _____

Appendix 4 Participant Information Sheet



Academic Unit of Oral Health and Development
School of Clinical Dentistry
Claremont Crescent
Sheffield S10 2TA
Tel: 0114 2261097

Exploring young people's perspectives of undergoing orthodontic treatment

Participant Information Sheet
04/03/2013 version 3

Part 1 – information about the project

This information sheet will tell you all about a study we are doing, which you are invited to take part in. My name is Sarah Bell and I am a researcher at the University of Sheffield. Before you decide if you would like to take part it is important for you to know why the research is being done and what it will involve. Please take time to read this information and talk with friends or family if you want.

What are you researching and why?

We are carrying out research exploring what it is like for young people to have dental braces. Not very much is known about what young people think about having braces. If we knew more about what our patients' thought, we may be able to improve the treatment we provide for future patients.

Why do you want me to get involved?

You have been invited because you are going to have braces. We are hoping to get up to 20 young people involved in this project – you are not the only one!

What will I be asked to do?

If you decide to take part, I will arrange a time where I can meet you, probably at your house. At this meeting we will talk about what you think it will be like to wear braces. I will record this interview so I can remember everything that we say. This meeting will probably last for about an hour.



At the same time I will lend you a camcorder and ask you to record video-diaries on anything you like to do with having braces. You can make the video-diaries as often as you like.

I will meet you every few weeks to swap memory cards with you. Sometimes I will arrange for us to talk for longer with you about how you find having braces; when we do this I will record our conversations.

Do I have to take part?

No! It is up to you. If you do, you:

- will be asked to sign a form to show you want to get involved
- **will be free to stop taking part at any time during the research without giving a reason.** If you decide to stop, it will not affect the treatment you receive.

What would be good about taking part?

I hope you will find it fun making video-diaries and explaining to me what it is like having braces. Taking part in the project will not change the treatment that you receive. Although things you tell us could make us change what we do so treatment for other people is better.

What do I do next?

I will phone you and answer any questions you have about the project. If you would like to take part in the project and your parent/ guardian are happy for you to take part, your parent/ guardian will sign a consent form and you will sign a form as well to make sure you have all the information you need.

If you would like to speak to me about this project, please contact me by e-mail: s.j.bell@sheffield.ac.uk or by telephone 0114 2261097 (Mondays, Tuesdays and Fridays).

Alternatively if you have already decided you do not wish to participate in the project and you would prefer not to meet me again please let me know as above.

When does the project finish and what will happen?

The project finishes when you have your braces taken off. I will have one more meeting with you. We will talk about what it was like having braces compared to what you thought it would be like, again I will record our conversations. At this visit I will collect the camcorder from you.

I will look at all of the information that has been collected from you and others involved. I will write a report and will send you a copy.

Part 2 – more detail – information you need to know if you take part.

What if there is a problem or something goes wrong?

We cannot see anything going wrong during this project. But if you feel unhappy about anything to do with the project, we will be very happy to talk to you about it at anytime. You are free to stop being in the project at any time and can still continue to have your brace treatment.

If you want to complain please contact me by e-mail: s.j.bell@sheffield.ac.uk or by telephone (0114) 2261 097 (Mondays, Tuesdays and Fridays) or Doctor Philip Benson, email p.benson@sheffield.ac.uk or by telephone on (0114) 2717 895.

Will anyone else know I am taking part?

No. All of the information I collect will be kept securely at the University of Sheffield. The only people who will see the information will be the researchers. What you say in the video-diaries and during the interviews will be written down but nothing will have your name on it. The reports from this research will not have your name on them either.

It is normal for all interview tapes and written information to be stored securely for 5 years before being destroyed; the information kept will not have your name on it. This is done in case more research can be done with the data collected from you. The videos do not have to be kept for 5 years so you can decide if you want your videos destroyed straight after the study or stored for 5 years.

It may be useful to use some of your video clips to illustrate your views of treatment to medical professionals who are not involved in your care, for example in a presentation I will give about the research I have done. However, this is entirely up to you, if you do not want your videos used in a presentation I won't use them.

Who has reviewed the study?

Before any research goes ahead it is checked by an Ethics Committee. They make sure that the research is safe to do. This study has been reviewed but the Derby 2 Research Ethics Proportionate Review Sub-Committee.

Thank you for reading this – if you have any questions please write them down and bring them with you to your next visit.

Appendix 5 Topic Guide for First Interviews

Icebreaker - conversation

How did you end up going to the Dental Hospital/ Orthodontic black?

Do you want a brace?

Why?

Do you know other people with braces?

What do you think might be good about having a brace?

What do you think might be bad about having a brace?

Colours (of modules on brace)

Additions

What has the dentist told you about the brace?

Appendix 6 Topic Guide for Final Interviews

Icebreaker conversation

When did you have your brace taken off?

How was it?

What do you think about how your teeth look?

What is different now you have had your brace taken off?

Additions

Do you think our teeth have changed since the brace has been removed?

Appendix 7 Topic Guide for Mid-Treatment Interviews

Icebreaker conversation

How does it compare to what you thought it would be?

Were there things you would have like to have been told by the dentist?

Colours (of modules)

Eating

Have you noticed any difference in how your teeth look?

Cleaning teeth

An example of specifics for participant (Interview 2 with Emma)

Last time I saw you, you said you wished the brace was all being put on in one go, did you mind having the top first, then the bottom later?

In one of your videos (4), you said you've had ulcers which were really annoying and they made you change what you're eating and hurt when you brush. How much did that happen?/ bother you?

Additions

Is it any different at school having a brace?