

A Study Exploring the Relationship Between Ethnic Identity and School Connectedness in Adolescents

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Abstract

This study advances our understanding on the relationship between ethnic identity and school connectedness in adolescents. Exploration in this research area is fundamental as the UK has shown an increased prevalence for which wellbeing difficulties can be identified, and an increase in ethnic diversity in children and young people (NHS Digital, 2018 and Ainscow et al., 2016). The associated challenges for education provisions are that wellbeing requires more action towards promotion and intervention, and ethnic group differences should be minimised to encourage equality. Applied to an educational setting, research has shown that both school connectedness and ethnic identity can contribute to the prediction of an individual's outcomes, e.g. academic attainment, however, it appears from the results of the study's systematic literature review that little research in the UK has examined the relationship between the two.

Using a cross-sectional survey design, secondary school students (n=295) were able to provide their self-assessed ethnic identity and to consider statements regarding the strength of their ethnic identity, and their feelings of school connectedness.

The results of the study found that strength of ethnic identity was significantly higher for students who were Asian/Asian British compared to their White ethnic group peers. Additionally, strength of identity was significantly higher for Year 10 students compared to Year 7. Students who were Asian/Asian British had significantly higher feelings of school connectedness in comparison to their White or Black/African/Caribbean/Black British peers. Positive correlations were found between all measures of strength of identity (centrality, private, and public regard) and school connectedness. Centrality and private regard, when considered together, were the best predictors of school connectedness.

The results indicate that there are some ethnic group differences for both strength of ethnic identity and feelings of school connectedness. The implications of findings are that educators should give consideration to strengthening ethnic

identity as this will contribute to an increase in school connectedness. An increase for both will help to promote wellbeing and positive individual outcomes.

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CHAPTER 1

1 Introduction

1.1 Personal interest in the research area

This study explores the relationship between ethnic identity, its strength, and school connectedness in adolescents. The author's interest in these areas has stemmed from experiences that have been both personal and professional. A cumulation of these has provided an increased awareness and developing insight that has led to the formulation of the overarching research question. This chapter will describe the evolution of how the author came to the decision to conduct research that has a focus on ethnic identity and school connectedness.

A common question asked to the author from a young age was, "Where are you from?". If a reply such as, "I'm from the UK" was given, it was often followed with a question asking where her parents are from, or receipt of a comment that her appearance suggested differently to the answer she gave. Growing up in Britain with Chinese parents and as a second-generation immigrant, meant that she had to navigate through and respond to similarities and differences of her upbringing in comparison to her peers. Consequently, this allowed her to recognise that over the years, she had combined the values and cultures given to her by her parents and those of the country she had grown up in. Attending predominantly White British schools, the author had to wrestle with the fact that although she enjoyed school, felt supported by teachers, and had many friends, her appearance and ethnic identity meant that she felt that there was always an aspect of her that would be noticed as different to others, and that this would prevent her from fully fitting in. It was in these experiences that a cultivation of her appreciation and interest in ethnic diversity was formed.

Professionally, as a primary school teacher in London the author experienced teaching one class of thirty students, of whom only four were considered to be

White or White British. This context allowed her to observe and wonder how these four students' development of ethnic identity and experience of school connectedness might differ to others in the class. Outside of the classroom these students were part of a majority ethnic group but inside school, their situation was reversed. At the time, it was a reflection of the author's own experiences that drove her motivation to make all students feel a sense of classroom community and a valued member. It felt important that a balance was maintained, that like a jigsaw, there should be recognition that there is difference and that every student is unique, but that they as students also belong together to form a class. Student responses to the author's tried methods of promoting class belonging and growth mindset (Dweck, 2008), made it possible for her to understand the effects of, and address the importance of inclusion, fair academic expectations, and adaptation of teaching practices to promote a positive ethos for all. Appreciation of a cohesive classroom allowed these teaching experiences to develop her pursuit of an academic interest in this area for ethnic minority students.

As a trainee educational psychologist (TEP), the author had the opportunity to work with individuals who were identified as having special educational needs (SEN). A particular interest was working with students who were considered to have difficulties in the area of social, emotional, and mental health and assessing how the effects of this were impacting their education and readiness to learn. Through the role, student and parental views could be gained causing a greater depth in understanding how these might vary as a result of the different cultural values that ethnic groups may hold. However, it seemed that a common challenge for schools was how best to provide support for these children and young people where they felt ethnicity appeared to be a complicating factor.

Doctoral lectures helped the author to gain a theoretical understanding of development and how identity is formed in adolescence and requires the individual to make judgements internally about how they see themselves, and externally about who they feel they relate to. This raised questions pertaining to different ethnicities and the sense of ethnic identity held by individuals within them; how they feel about their ethnic identity and if this is important to them. The application of theory to practice provoked literature searches revealing

differences between ethnic groups on dimensions such as academic outcomes, or the likelihood of receiving support for mental health difficulties. Additionally, research notes the importance of school connectedness in contributing to wellbeing outcomes. Drawing these research findings into parallel made the author question whether ethnic group differences applied to feelings of school connectedness. If differences were found to exist, what might schools need to consider in order to promote school connectedness more effectively, thus potentially influencing the improvement of individual outcomes? Therefore, through collective experience, academic, and professional interest, the genesis of this study was formed.

1.2 Structure of thesis

The thesis is presented over five chapters inclusive of this introduction (Chapter 1).

Chapter 2 - The literature review grounds this study by providing an overview of the current context of wellbeing and ethnic diversity in adolescence in the UK. The literature considered leads to an observation of the omission in available research regarding the relationship between ethnic identity and school connectedness in the UK and enables the development of specific research questions. This has allowed the author to undertake the following study, aiming to contribute towards the development of an evidence base.

Chapter 3 – The methodology outlines the different paradigms of research, with a focus on the post-positivist approach which is adopted for this study. The design will be offered with considerations to procedure, measures adopted, and quality of the research (reliability and validity). The chapter concludes by addressing how the data will be analysed in order to answer the research questions.

Chapter 4 – The results chapter presents the analysed data. For each of the research questions, both descriptive and inferential analyses are conducted. To close the chapter, a summary of the results is given.

Chapter 5 – The findings for each question are discussed in relation to literature reviewed in Chapter 2, as well as drawing upon additional existing literature. A methodological review is then presented, followed by possible implications that the study's findings may have for educational settings and for the work of Educational Psychologists. Reflecting on the study, suggestions for future research is given. The thesis closes with a conclusion of the study and some personal reflections.

Chapter 2

2 Literature Review

2.1 Aim and structure of the Literature Review

The review will begin by setting the research within the current UK national context for psychological wellbeing. Statistics reporting the prevalence of mental health issues for children and adolescents have led to the Media creating headlines that indicate issues such as mental health require addressing in the UK. Public health initiatives and school guidance have been implemented as part of the governmental agenda as a way of responding to these figures. Examining wellbeing statistics and outlining how wellbeing affects children and young people in school presents a picture for why wellbeing recognition requires greater acknowledgement, and why prevention and early intervention are needed to help maintain emotional health.

The concept of wellbeing will be explored, highlighting the different perspectives of what it is and consequently, the difficulty in creating a universal definition. Considering existing research, the association between wellbeing and developmental outcomes will be highlighted, presenting the rationale for its promotion. An aspect of wellbeing in school that can be measured is school connectedness. Therefore, a student's feeling of school connectedness will be the specific focus for this study acknowledging that like wellbeing, an association with an individual's outcomes (e.g. academic) has been identified.

Parallel to the focus on wellbeing, fundamental to this study, is another area that has commanded recognition, the UK's growth in ethnic diversity. Therefore, the review will then consider the current national context, identifying an acknowledgement that ethnic group differences do exist, which presents a challenge for both society and for educational settings to consider how they could respond to reduce inequalities in outcomes. A closer inspection of proposed responses to ethnic diversity finds an allusion to improving inclusion, and to

promoting an awareness of how ethnic groups are not defined by their stereotypes.

The review recognises that ethnic grouping is a social construct, therefore a sense of affiliation is required if an individual feels identification with a group. Thus, 'identity' and 'ethnic identity' will be examined and critiqued to explore when it is developed, the factors that influence identity formation, as well as the significance it may hold in one's life. Drawing on research conducted in this area, methodological difficulties for measuring ethnic identity will also be discussed. The importance of forming ethnic identity in adolescents will be looked at with regards to wellbeing, and more specifically to school connectedness, and its power to predict educational outcomes such as academic attainment. Recognising that both school connectedness and ethnic identity have associations with individual outcomes, the possibility that school connectedness is associated with ethnic identity is questioned.

Consequently, a systematic review of the evidence of ethnic identity and school connectedness will be conducted drawing on the international evidence base from the early adolescent perspective. The findings will be discussed, drawing conclusions and implications for further academic research as well as for professionals who are working with ethnically diverse adolescents in practice. The chapter will conclude with a summary of the rationale for this study drawn from the literature and systematic review, identifying its unique contribution and outlining the research questions the study aims to address.

2.2 The current context for wellbeing

Psychological wellbeing (which will be discussed in section 2.3) appears to be a challenge that has for some time been at the forefront of societal needs. In 2004, a survey completed by the Office for National Statistics reported that 10% of children aged 5 to 16 years old could have a clinically diagnosable mental disorder (ONS, 2004). Of these children, it was found that mental illness was more likely to occur in boys than girls, the prevalence increasing with age for both genders. The study highlighted that mental health difficulties were likely to be

different between the genders: girls present with more emotional difficulties whereas boys were more likely to be related to conduct or hyperactivity. Surveys used in the study were based on Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) and International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10) resulting in their definition of mental disorders as '*a clinically recognisable set of symptoms or behaviour associated in most cases with considerable distress and substantial interference with personal functions*' (ONS, 1999, p. 16). Herein, where the terms mental health difficulties, ill-health, disorders, or problems are used, their meaning will be as the ONS (1999) definition.

Despite growing knowledge in this area, 70% of children and adolescents in the UK who have experienced mental health problems are believed not to have had the necessary intervention at an early enough age (Children's Society, 2008). Research that used two different cross-sectional samples of children aged 11 to 13, in the years 2009 and 2014, found that the levels of mental ill-health remained similar for both years (19.7% and 19% respectively) showing similar difficulties of emotional problems for girls and 'at risk' behaviours for boys (Fink et al., 2015). Although the occurrence seems to remain unchanged, and it appears that problems have not increased, it could also appear that more could be done to improve well-being. Because 50% of mental health problems in adult life are said to start by the age of 13 and 75% by the age of 18 (Murphy and Fonagy, 2012), this indicates the importance of early-life support and intervention for young people. If we assume that the prevalence of mental health-related problems begins at a young age and remain consistent over time, then both early intervention and preventative action are required.

The King's Fund (2005) sought to review projects, the majority of which were school based, taking place in London implemented for children aged 5 to 11 who required emotional wellbeing support. With over 60 projects reviewed through different methods such as focus groups and questionnaire responses, the King's Fund (2005) were able to identify common features such as good leadership in schools and observable improvements in attendance and attainment for students. Difficulties were also raised, such as the positive engagement of families,

securing funding, and methods to gauge intervention effectiveness. It was concluded by the review that whilst there is currently a demonstration of good work being conducted, there are still areas that are unmet and need to be addressed if early intervention for wellbeing is to occur.

In 2013, the United Nations International Children's Emergency Fund (UNICEF) ranked the UK as 16th out of 29 countries for how they are addressing wellbeing for children. Subsequently, in March 2015, the government pledged £1.25 billion to improve mental health services for children and young people for the next 5 years (NHS, 2015). Another recent global research study on wellbeing for young people aged 15 to 21 years old has indicated that the UK is ranked 19th out of 20 countries (Varkey Foundation, 2017). The international rankings help to give a wider picture and understanding which signifies that as a nation not only is there room to improve the support and services that are currently being delivered, but that the improvement can be sizeable.

The present context of mental health in young people has a focus on addressing wellbeing through intervention and support needed to overcome some of the difficulties poor wellbeing bring. Different research outcomes suggest that prevention is better than cure: there needs to be an additional focus on prevention work and the impact this could have on reducing difficulties, rather than waiting to manage them once identified. The importance of prevention and reduction appears vital as the impact of mental ill-health is said to affect life outcomes and increase 'risk behaviours', such as substance misuse or crime (Public Health England, 2016). Thus, it seems unsurprising that media headlines report wellbeing as a concern for the UK should be addressed more urgently. Given the early age at which vulnerability to psychological problems is evident, and in consideration of the context in which children and young people spend the majority of their waking day, it would seem advisable to address schools as the setting most appropriate for an increased focus on promoting, assisting and improving wellbeing outcomes.

2.3 Wellbeing

2.3.1 What is wellbeing?

To understand how wellbeing can be improved, it is important to first understand how wellbeing can be defined and how it is currently being measured. Wellbeing is a well-discussed term but seems to remain a heterogeneous concept in the scientific world (Ryan and Deci, 2001). The term can be seen to have derived from two fields of thought. The hedonic approach is based on subjectivity of increased pleasure and decreased pain focusing on one's assessment of pleasure and happiness (Diener, 1984). In contrast, the eudaimonic approach looks at the human potential, self-realisation of a person's own true functioning (Waterman, 1993). Because the two approaches follow two different trajectories, researchers have developed different tools to measure wellbeing.

For the past few decades, in assessing subjective wellbeing (SWB), the hedonic approach has focused on three prescribed components of happiness: life satisfaction, the presence of positive mood, and the absence of negative mood (Diener & Lucas, 1999). However, the association between hedonism and wellbeing has been questioned, and a eudaimonic view may better explain how SWB is fostered (Ryan and Deci, 2001).

In contrast to the hedonic approach, eudaimonic theories recognise that not everything that is pleasurable promotes wellness, therefore, happiness may not equate to wellbeing (Ryan and Deci, 2001). Waterman (1993) describes wellbeing as relating to activities that reward personal growth and development. Ryff & Singer (1998) used eudaimonic principles in creating their own psychological wellbeing (PWB) measurement that looks at 6 areas of human actualisation which define their specifications of emotional and physical health. However, this was met with criticism by Diener, Sapyta and Suh (1998) who argued that for the PWB model, wellbeing is defined by the experts, whereas SWB allows the individual to offer a subjective definition of wellbeing.

Ryan and Deci (2000) proposed a model of how self-actualisation can be accomplished, self-determination theory, based on three areas of psychological need: autonomy, competence, and relatedness. Ryan and Deci (2000) specified the cultural, contextual and development factors that can influence the expression and growth of wellbeing (at an individual and relational level), and the self-determination process. A subsequent 2001 paper emphasised that their eudaimonic approach highlights factors that foster wellbeing, and in addition to SWB it allows measurement of self-actualisation, vitality and mental health.

Researchers such as Compton, Smith, Cornish, and Qualls (1996) perceive wellbeing as multifaceted, and this is reflected by others who adopt a more holistic approach by taking elements of both the hedonic and eudaimonic views in assessing wellbeing in youth (Keyes, 2002). This has led to updated descriptions of wellbeing stating that it 'is more than just happiness' (Marks and Shah, 2004, p. 2). Studies such as Bauer, McAdams and Sakaeder (2005) found that those who have more self-defining memories (intrinsic) correlated more strongly with self-actualisation, eudaimonic principles, than hedonic principles.

From the plethora of research on wellbeing, it appears that no consensus definition has been derived. Consequently, for this study, the author will use the term with an understanding that wellbeing looks beyond the emotion of happiness and includes a eudaimonic approach and self-actualisation.

Furthermore, the concept of wellbeing continues to evoke further questions such as whether it is a state or a construct (Dodge, Daly, Huyton, & Sanders, 2012; Seligman, 2011). Ryan and Deci (2001) conclude that how one defines wellbeing affects the way in which we perceive and drive our behaviours. Additionally, it can be questioned as to what extent individual difference affects one's own wellbeing and whether it should be considered as a personality variable (DeNeve, 1999). Conducting a meta-analysis, DeNeve and Cooper (1998) found that SWB did correlate with personality, physical health and socio-economic status and age, but not with gender or marital status. Of the first three factors, DeNeve and Cooper (1998) concluded that personality may be the most influential; and of all

personality traits, those that improved personal relationships and accomplishment of goals were most important for SWB.

Researchers have considered whether the concept of wellbeing is similar across cultures, however, the research question appears unresolved. First, wellbeing in different cultures is fundamentally hard to measure as equivalence of constructs are challenging to model across diverse populations (Little, 1997). With regards to cultural research and wellbeing, the extent that cultural factors play a role towards wellbeing versus personality factors is not clear. For example, Diener and Diener (1995) found that self-esteem was related to wellbeing, but this was stronger for cultures that value individualism. Secondly, the tools used to measure wellbeing have largely been created in the West which also limits their potential cross comparative usefulness as cultural differences may lead to different perceptions of terms such as 'happiness' or 'life satisfaction' which would influence a cultural response bias (Lau, Cummins and McPherson, 2005).

Consequently, it appears that there are generally different perspectives of wellbeing, not only as a term but also as a concept across cultures. Therefore, understanding what it means and its effects for different groups of people are not only more difficult to determine, but raises the challenge that there may not be a 'one size fits all' approach in promoting or implementing early intervention practices in social policy.

2.3.2 Wellbeing at school

As children and young people spend a considerable amount of time in school, researchers have found it important to consider how wellbeing plays a role for individual outcomes and how it is being addressed in schools. A Green Paper *Transforming children and young people's mental health provision* (Department of Health and Department for Education, 2017) was issued with a prioritised aim to establish whole school environments that are supportive of mental health and wellbeing. As a way of gathering an understanding of schools' approaches and activities in response to their statutory duty to promote mental health and wellbeing, a recent review published by the DfE (2018) sought to gather this

information by looking at school policies and activities published on school websites. It was found that interventions and strategies for mental health and wellbeing were usually referred to as part of special educational needs or behaviour policy provisions as targeted support as opposed to a whole school approach. Whilst the review recognised that there is no legislative requirement for schools to publish policies or documents relating to mental health and wellbeing, and written information may not wholly reflect school, they nonetheless concluded that schools need to have a more holistic understanding of mental health and wellbeing. This may require greater awareness of and provision for risk factors that contribute to mental health and widening school staff's knowledge of different presentations of mental health, such as anxiety. It was suggested that focus in schools requires a shift towards the promotion of mental health through holistic, whole-school and multi-tiered approaches, including methods such as building emotional resilience (DfE, 2018).

Soutter (2011) considered adolescents' perceptions of the term 'wellbeing'. Interestingly, she found that the adolescents did not consider their school experiences contribute a significant role towards their wellbeing. This raises the question as to why the adolescents in the study did not consider their educational experiences to have affected their wellbeing. Therefore, if wellbeing were to be promoted through schools, how would this be optimised and evaluated? Currently, 370 schools in the UK are completing one of the largest trials in the world to gain a better understanding and gather evidence of what works in supporting mental health and wellbeing (Gov.uk, 2019a). The project led by the Anna Freud National Centre for Children and Families has acknowledged that schools previously may have been committed and willing to help support mental health and wellbeing but have had little guidance on effective approaches. Furthermore, the importance of the teacher's role has been highlighted in the dissemination of knowledge and implement wellbeing approaches, thus the project seeks to improve the understanding of mental health and wellbeing for both staff and students. Because the study is running until 2021, different approaches to increasing awareness, exercises, and techniques taught (e.g. mindfulness exercises, and relaxation techniques) can be explored. This will contribute to and update the existing knowledge on wellbeing approaches and

interventions in school. Whilst not part of the project's aims, it would seem valuable to gauge student perceptions of wellbeing and whether their school experience is seen to play a contributing factor.

2.3.3 School Connectedness

In order to deepen understandings of wellbeing in schools, research has explored individual perceptions and feelings towards the school's environment (the feeling of belonging it brings) and whether it associates with their wellbeing (Lester, Waters and Cross, 2013; Bond et al., 2007). With the school environment being composed of factors such as relationships with peers and teachers, feelings of respect, acceptance, and inclusion, it can be perceived that school connectedness (belonging) is an important contributor to student wellbeing (Blum, 2005 and Goodenow, 1993). Sellström and Bremberg (2006) found that school environment, high expectations and strong leadership were determinants of student wellbeing. However, the explained variance for these determinants on wellbeing were small (8% or less), thus indicating that there were other factors contributing to wellbeing. Similarly, Løhre, Lydersen and Vatten (2010) found that higher wellbeing was experienced when students felt they enjoyed their schoolwork and teachers were available to support them when needed. On the other hand, wellbeing decreased when the classroom environment changed, and when the students felt bothered in class. The methods used in this study meant that demand characteristics could have occurred; some students completed the surveys independently, whilst others completed the questionnaire as an interview. Despite these methodological issues, these study findings suggest that school environment can create both positive and negative feelings for students, and interactions with others have a significant influence.

The need for belonging is not a new concept. Theorists have hypothesised that a way to cultivate a sense of belonging is through our motivations to form and maintain relationships with others (Maslow, 1943; Bowlby, 1969). Baumeister and Leary (1995) proposed two features of belonging. First, that interactions are positive and frequent. Second, that the relationship both holds a future which is stable and an emotional investment. These features show how belonging is

different to affiliation. Considering Deci and Ryan's (2000) SDT, belonging plays a role within a person's psychological need for relatedness (a desire to connect and interact with others) and its application is situated well within the school setting. Shulkind and Foote (2009, p. 21) defined 'school connectedness' as 'a characteristic of school cultures in which students have meaningful relationships with adults within the school, are engaged in the school and feel a sense of belonging to the school'. This definition of school connectedness draws together the concept that it is based on a student's experience of belonging where an aspect of this is fostered by relationships with others, highlighting the particular importance of the role of teachers.

Several different measures have been created to assess feelings of school connectedness through students' self-report. Whilst the use of self-reporting can produce bias, by identifying the connectedness a student has with their teacher, peers, and towards school, it is possible to reveal areas that require support and in turn inform the development of intervention (Hodges, Cordier, Joostem, Bourke-Taylor and Speyer, 2018). Previously, school connectedness was seen as a simplistic construct that considered students' feelings as a global measure such as 'Psychological Sense of School Membership' by Goodenow (1993). Now, researchers have identified that school connectedness can be considered as multi-faceted (Chung-Do, Goebert, Chang and Hamagani, 2015; You, Ritchey, Furlong, Shochet and Boman, 2011). Conducting a systematic review on the properties of school connectedness measures, Hodges et al. (2018) concluded that school connectedness encompasses three properties which are affective, behavioural, and cognitive. This suggests measures may differ in how school connectedness is conceptualised, thus making them hard to compare.

Despite variations of which aspects of school connectedness is measured, research has considered school connectedness by its association with individual outcomes. First, it has been found to have positive correlations with self-esteem (Millings, Buck, Montgomery, Spears and Stallard, 2012) and productive coping (Frydenberg, Care, Chan, and Freeman, 2009). A strong sense of school connectedness has also been found to associate with lower levels of depression and higher self-efficacy for Somalian refugees in America (Kia-Keating and Ellis,

2007). In contrast, poor connectedness has been linked to predict negative outcomes such as depression and anxiety (Shochet, Dadds, Ham and Montague, 2006; Lester et al., 2013), substance abuse, (Bond et al., 2007) and bullying (Goldweber, Waasdorp and Bradshaw, 2013). Thus, the effect of positive school connectedness appears to largely affect a student's aspects of wellbeing.

Second, because individuals spend so much of their time at school, research has sought to understand the relationship between school connectedness and factors such as academic success (Blum and Libbey, 2004). Layous et al. (2017) found that students with low school connectedness declined academically over the course of 3 semesters. However, those who had a low sense of school belonging and then completed a self-affirming writing activity found that their academic achievements rose. Whilst Niehaus, Rudasil and Rakes (2012) found that students' positive perceptions of school decreased over the academic year, those who reported higher levels of school connectedness had higher academic achievement than those who did not. In addition to academic achievement, Klem and Connell (2004) conducted a longitudinal study which found that students were more likely to engage in school than students who did not experience teacher support.

Other longitudinal studies have investigated how school connectedness can change over time. Anderman (2003) found that school connectedness declined from childhood into adolescence. Much research has reported declines in school connectedness with age, however, it must be noted that these studies have been conducted outside of the UK, so it is not possible to assume that the results are generalisable (Whitlock, 2006; Ding and Hall, 2007; Witherspoon and Ennett, 2011). In the UK, less longitudinal research has been conducted. However, Hebron (2018), who researched school connectedness in students with Autism Spectrum Conditions (ASC), did conduct a longitudinal study. Hebron (2018) was able to identify that although school connectedness remained positive during the transition from primary to secondary school, i.e. did not decline over time, because their school connectedness scores were lower than their typically developing peers, this indicates that different groups of students may experience school connectedness differently. Gillison, Standage and Skevington (2008)

concluded that support for autonomy and relatedness would be most beneficial for students transitioning to secondary school in order to maintain both their physical and mental health. With regards to mental health, Shochet et al. (2010) conducted a longitudinal study found that feelings of school connectedness were predictive of future mental health problems. This presents a potential opportunity for further research in this area to examine how feelings of school connectedness may increase or decline for students in the UK over time.

These studies illustrate aspects of the relationship that can be understood between school connectedness, wellbeing, and educational outcomes. Ultimately, it appears that a sense of school connectedness is an indication of students' wellbeing, which needs to be maintained over time. Since classrooms comprise of diversity, the unique and individual aspects contributing to a student's identity, for example, ethnicity or socioeconomic status could be understood, to enable schools to enhance school connectedness more effectively. This process can be supported by better understanding some characteristics of UK population diversity, as well as its presentation in the school setting so that appropriate steps can be taken to improve feelings of school connectedness for all.

2.4 The current context for ethnic diversity

The growing diversity and need to adapt to the changing demographics seen in schools reflects an increase in ethnic diversity in the UK and attitudes of the wider society. Whilst individuals belonging to the White ethnic group (White British and White Irish) remain the majority, the percentage decreased from 91% of the population in 2001 to 86% in 2011 (Office for National Statistics, 2011a). Currently, there are several regions in the UK where the population is notably ethnically diverse, e.g. London and the Midlands. It is projected that over the next few decades the spread of diversity will become more visible, with more affluent areas seeing a rise in ethnic minorities (Rees, 2017). With the UK's current political climate and the uncertainty around Brexit (Vasilopoulou, 2016), it is not known as to how the outcomes will affect the UK's future ethnic diversity.

Internationally, 'World Day for Cultural Diversity' has been celebrated annually since 2001 to recognise and celebrate the commonalities and differences that cultural diversity brings. Despite the UK population being predominantly White British, a survey completed by Lord Ashcroft (2013) found that of 2037 adults of an ethnic minority who completed the survey, 70% were in favour of multiculturalism and 90% believed that Britain had become a multicultural country. Further Government figures show that between 70% to 85% of individuals from different ethnic groups, e.g. White, Black, Asian and Mixed ethnic groups, felt a strong sense of belonging to Britain (Gov.uk., 2017). It has been found that an ethnically diverse population holds its benefits: for example, Hunt, Prince, Dixon-Fyle and Yee (2018) found that workplaces that have ethnic diversity generally outperformed those that do not. Nathan (2014) concluded that ethnic minority inventors in the UK provide a net positive for patenting due to an increase of skills within the community. However, multiculturalism is not seen by everyone as positive and it is noticeable that some inequalities have emerged between ethnic minority groups and their White British counterparts. In a nation that welcomed 627,000 immigrants into the UK in 2018 (ONS, 2019), the Equality Act 2010 is a prominent piece of legislation that is well placed within the workplace and wider society to reduce discrimination on the basis of certain personal characteristics such as race, age, or gender. For example, statistics show that in 2016, ethnic minorities had higher unemployment rates, higher custody rates, and were up to 50% less likely to be receiving treatment for mental health or emotional problems compared to White British (Gov.uk, 2019b). Recognition of these inequalities and the divide created has led to proposals being put forward through a Green Paper titled *Integrated Communities Strategy*, to integrate communities and young people in education with the aim to reduce segregation (HM Government, 2018). It appears that there is disparity between policy promotion of ethnic diversity, and educational outcomes of an ethnically diverse population and that these are needing to be addressed (Stokes, Rolfe, Hudson-Sharp and Stevens, 2015). To work towards positive outcomes for all children and young people in education, schools must increasingly include and support students from a range of diverse ethnic backgrounds.

2.4.1 Ethnic diversity in schools

Between 2005 and 2015, the number of minority ethnic students in primary schools in the UK increased from 19.3% to 30.4% (Ainscow, Dyson, Hopwood, and Thomson, 2016). The biggest increase was in London with 81% of the primary cohort classified as having a minority ethnic background. In education, legislation outlines that there should be equality and inclusion for all (Unesco, 2009; DfE, 2003; and DfE, 2014a). Whilst the Swann Report (1985) drew attention to the need for a multicultural approach, questions about the implications of this were raised, such as how school practitioners can understand their students' diverse backgrounds and experiences, and meet the challenges of a changing demography (Richmond, 1985; Ainscow et al., 2016). With a right of access to the National Curriculum, it is important that ethnic minorities are provided for as an integral part of any school's offer (Department for Children, Schools and Families, 2007). Aiding this, schools have the approval to adapt their practices to meet the needs of students regarding what is taught in the National Curriculum, and indeed how it is taught (DfE, 2014b).

Conversely, the introduction of national assessments in the primary phase could be seen as reducing the school's ability to respond to their diverse student populations, as teachers may narrow their focus due to the priority on assessments (UKLA, 2012; DfE, 2016; Gov.uk, 2015). Moreover, the diversification of types of school establishments has created a shift in focus away from Local Authority (LA) structures for tackling disadvantage in childhood. In fact, Ainscow et al. (2016) state that this could instead give schools control to develop their own systems in a way that may contribute to segregation. Whilst legislation promotes 'mutual respect and tolerance of those with different faiths and beliefs' in schools (DfE, 2014a, p. 5), government directives also promote 'British values' by means of 'challenging opinions or behaviours in school that are contrary to fundamental British values¹' (HM Government, 2011, p. 34). This seeming conflict has the potential for hindering the extent to which diversity is

¹ 'British values: democracy, rule of law, equality of opportunity, freedom of speech and the rights of all men and women to live free from persecution of any kind.'

tolerated in schools. Thus, the pertinence of addressing such challenges that diversity brings should be discussed in relation to the effects the pull of these competing influences may have on the students, particularly as individuals.

The increase in ethnic diversity in the UK has been considered to reveal some of the difficulties education provisions may be confronted with regards to inclusion, and the negotiation educators face between creating a society that accepts multiculturalism as well as promotion of 'British values' (Ainscow et al., 2016). However, this difficulty can be seen as being enhanced further through factors such as the socioeconomic status of students and through teacher expectations for different ethnic groups (Strand, 2014). By highlighting common trends in outcomes such as academic attainment and psychological wellbeing for student populations, awareness may be developed, and targeted support can be given to particular groups of students in school (Blair and Bourne, 1998). For example, 'White British' and 'White Other' students have been identified as the lowest performing ethnic group in primary and secondary schools in the UK (Social Mobility Commission, 2016). Therefore, school strategies may be developed to improve outcomes for those students such as gaining parental views on education and clear setting and monitoring of targets.

Although ethnic group differences can be identified, there are further factors recognised as influencing attainment contributing to the attainment gap (McCallum and Demie, 2001), e.g. teacher expectations (Strand, 2014) and socioeconomic status (Sirin, 2005). The achievement gap has been said to bring about lifetime consequences and ethnic inequality has been a particular concern for a number of decades (Haycock, 2001). Whilst socioeconomic status (SES) has been used most often to explain ethnic attainment gaps (Sultana, 2015), Strand (2014) found that the effect of SES was not the same for all ethnicities and could only account for gaps for Black African, Bangladeshi, Pakistani, but not Black Caribbean students (Strand, 2011). Strand (2014) and Gillborn, Rollick, Vincent and Hall (2012) suggest that the underachievement of ethnic minority students with average to high SES may be due to teacher expectations.

A classic study by Rosenthal and Jacobson (1968) argued that teachers' beliefs and expectations of students can affect student performance. Despite critiques of this study (Elashoff and Snow, 1970) it is nevertheless thought that teachers play a significant role in shaping their students' beliefs about their own academic abilities (Burgess and Greaves, 2013; Dee, 2015). When a teacher's expectations of students may be biased, e.g. based on ethnic stereotypes or socioeconomic status, challenges may then arise. Findings by Turner, Rubie-Davies and Webber (2015) revealed that teachers' expectations of students differed depending on their ethnicity, even when achievement was taken into account. Similarly, Gershenson, Holt and Papageorge (2015) found that Black teachers had higher expectations of Black students than teachers from other ethnic groups. Expectancy effects have been found to appear most strongly for minority and low SES students and this can lead to a student's self-fulfilling prophecy effect (Gill & Reynolds, 1999; Jussim, Eccles and Madon, 1996; Madon, Jussim, and Eccles, 1997). Whilst some expectations may be driven by ethnicity stereotypes, this is not said to occur for all ethnic minorities (Glock, Krolak-Schwerdt, & Pit-ten Cate, 2015; Rubie-Davies, Hattie and Hamilton, 2006).

If students are vulnerable to teacher biases, some students may fail to meet their academic potential. Since research suggests that teacher expectations may be influencing academic outcomes (Benner and Mistry, 2007; Rubie-Davis, et al., 2006; Strand, 2014), it should be recognised that not every individual within any single ethnic group will follow perceived group norms. Furthermore, although students may be categorised or compared on the basis of their ethnicity, the extent to which students self-identify with their given ethnic label (or educational identity) is not known. How perceived identity might affect other aspects of students' school experiences e.g. school connectedness or academic achievement is therefore also not understood. Before considering ethnic identity and how this might associate with a student's experience of school connectedness (in sections 2.6 and 2.7), the next section considers the concept of identity; as adolescents have to resolve their own identity as a part of understanding how they fit in with others.

2.5 Identity

2.5.1 What is identity?

An aspect of growing as a person is understanding oneself better. Rogers (1995) terms the valuing of personal growth as self-actualisation. Individuals make sense of their lives through 'narrative identity', i.e. through making sense of their life stories and integrating their reconstructed past with an imagined future. Identity is a topic that is of high interest because it is affected by situations encountered by individuals and it shapes future behaviours (Oyserman, Elmore and Smith, 2012). Identity itself is a social construct that can be seen to have two parts: personal and social identity.

With regards to personal identity, there are theoretical assumptions that individuals care about themselves thus wanting to know who they are. It is understood that identity is not a fixed construct but dynamic as it can change over time. As individuals form their own identity, it is thought that they make use of it to make further choices. Consequently, over time, predictions can be made about further actions an individual will take, what motivates them, and their ability to regulate and control emotions (Oyserman et al., 2012).

Tajfel (1981) describes social identity in reference to belonging to a group where the individual has knowledge about their group membership as well as the status of their group compared with others. An element of social identity is self-categorisation; it requires the individual to identify themselves as part of that group (Ashmore, Deaux and McLaughlin-Volpe, 2004). Social and personal identities differ as personal identity focuses on traits or characteristics that may be separated from, or different to, their social identity.

Oyserman et al. (2012) identified 3 ways in which identity is a social construct. First, the definitions an individual gives themselves are dependent on time or place. For example, what is important in a culture or social hierarchy may determine group membership of a religion or family role. Second, endorsement from others is required to make the individual feel as though they matter to

reinforce self-hood. Third, identity at a given moment can be defined by what matters to the individual at that moment in time. Therefore, identities are formed and reinforced when behaviours are shown to others because these are the behaviours that the individual wants other people to endorse and see in themselves. Self-judgments are typically measured as self-esteem or self-efficacy (Bandura, 1977).

2.5.2 Identity formation

Erikson (1968) created a theory of psychosocial development depicting 8 developmental periods that an individual goes through in life. The theory postulates that whilst development occurs in a linear fashion, stages are built upon, allowing for overlapping of stages of development. At each stage, the individual is said to face a conflict that they are required to resolve or overcome in order to adjust successfully to the environment. It is possible to move to further stages having conflicts unresolved; however, it is thought that they will cause an impact on the individual's overall psychosocial development.

One stage of development is the formation of identity, which is said to happen during adolescence around the age of 12-18 years. During adolescence, individuals begin to form their own identity wrestling with finding their uniqueness as well as achieving a sense of sameness and belonging with those around them, e.g. their families. Erikson (1968) believed that development, and thus the development of identity, is formulated from an individual's everyday social experience and cultural exchange – or from lack of the same. Adults in the social or family sphere are seen as an important influence on an adolescent's understanding and evaluation of adult roles and societal standards, so that adolescents can make their own informed decisions about the future. Therefore, such reciprocal relationships are an important aspect of identity development. Application of Erikson's theory may vary due to factors such as cultural differences in the interpretations of freedom and responsibility. Nevertheless, the theory has provided much general guidance about the implications for supporting development in areas such as teaching and parenting (Batra, 2013).

Erikson's theory (1968) also considers society's role of meeting the needs of adolescents. Looking at the theory from an educational perspective, teachers are the adults who play the most prominent role in their students' lives. Through interviewing adolescent females, Raphael (1978) was able to conclude that a learning environment that integrates aspects of the 'real occupational world' would help provide an atmosphere that would assist all individual identity types. Batra (2013) and Hamman and Hendricks (2005) recognised that Erikson's framework of development can aid teachers on how best to respond to adolescent development through formulations of a positive two-way relationship. Receiving a positive evaluation from a teacher will help the adolescent understand their own capabilities, whereas a negative evaluation may adversely affect their academic initiative. Teachers can also be role-models for adolescents, both in how they behave and how they approach situations. Erikson suggested that a way of ensuring that adolescents value teacher evaluations is by creating a suitable environment that responds well to the adolescents' needs and opportunities for social development. Hamman and Hendricks (2005) state that if teachers understand that adolescents are facing the developmental challenge of forming an identity for themselves, they should create safe environments in which adolescents are able to 'try on' different identities and provide teaching and learning opportunities that allow them to become active learners in school so that they understand more about who they are and their own capabilities. Therefore, for adolescents to experience a sense of autonomy, Batra (2013) proposes that curriculum practices should create an environment where students can share their thoughts and ideas, thus enabling them to have a sense of purpose.

In Western culture, individualism is promoted, meaning that young people are being seen as responsible for creating their own life paths with more focus on external milestones such as marital status and less on the inner self (Cote, 2000). With increasing numbers of young adults attending university and finding work afterwards, this can result in reaching adult commitments later nowadays compared with Erikson's time. This may be an explanation as to why identity exploration and consolidation is said to be occurring later (Arnett, 2000; Côté, 2000; Schwartz, 2006).

2.5.3 Identity status

Erikson's developmental stages look at adolescents facing the challenge of forming an identity or remaining in identity confusion. Marcia (1966) built on Erikson's initial theory of development by recognising that identity forming requires the aspects of exploration and commitment, although the occurrence of these can vary. Marcia's research led him to propose 4 statuses of psychological identity development:

- 1) Achievement – exploration has occurred, and the adolescent is committed to an identity;
- 2) Foreclosure – commitment has been made with no prior exploration;
- 3) Moratorium – no commitment has been made as exploration is still occurring;
- 4) Diffusion – neither exploration nor commitment has occurred.

It appeared that achievement was considered the most adaptive and desired status, diffusion as the least adaptive, with two stages in the middle. This paradigm was originally created to understand the adolescent's identity at that moment in time whilst acknowledging that there are individual differences in the ways that adolescents would approach and resolve conflicts to reach identity status. Marcia's paradigm has undergone criticism because the statuses do not follow an order to move from one status to another (Waterman, 1982). Furthermore, each status refers to an identity outcome rather than the process in which identity formation takes place (Crocetti, Rubini and Meeus, 2008).

Whilst it could be argued that identity consists of developmental shifts (Waterman, 1999), researchers such as Van Hoof (1999) have found that identity can also remain relatively stable over time. A meta-analysis conducted by Kroger, Martinussen and Marcia (2010) concluded that developmental changes and stability both occurred almost as frequently as each other. Additionally, where developmental changes did take place, these were more likely to be progressive rather than regressive changes, thus making change positive. It can be questioned as to what causes an individual to construct and reconstruct their

identity. Adams and Marshall (1996) believe that this occurs when there is an incongruity between who they are (real self) and who they would like to be (ideal self) and so resolution is required.

To form an identity, an understanding of their own values and beliefs will be established with an awareness of alternatives which may consist of choices and goals (Luyckx, Soenens and Goossens, 2008). Since Marcia's work on identity status, other models have developed taking into consideration identity status changes. For example, Crochetti (2017) proposed a 3-factor identity model which allows the adolescent to compare their present commitments with other more appealing alternatives. The reconsideration is seen as an important aspect of identity formation as it can lead to more satisfying commitments being formed despite the potential for temporary difficulty during the exploration period. Identity formation has been regarded as positive as it can serve as a protective factor against outcomes such as delinquency, substance abuse, and psychological dysfunctions including low self-esteem and poor peer attachments (Adam et al., 2001; Berzonsky, 2003; Good, Grand, Newby-Clark and Adams, 2008).

2.5.4 Ethnic identity

Ethnicity considers groups of people where differences may be seen in aspects such as cultural values or practices. Ethnicity, as a term, is distinct from race. The latter implies that there is power or authority of one group over another (Markus, 2008). However, both hold commonalities in that they are socially constructed terms to describe a set of practices and ideas to distinguish one group from another. It is common for the two terms to be used in combination or interchangeably, but for the purpose of this literature review, the term ethnicity is used.

For some individuals, ethnicity may be an additional factor significant in forming their identity. Schwartz, Zamboanga and Weiskirch (2008) state that an individual is likely to consider their ethnic identity separately to their personal identity. Phinney's (1992) model of ethnic identity depicts a similar picture to that of Erikson's (1968), whereby the individual explores what their ethnicity means to

them before deciding their commitment based on definition implications and their regard for the ethnic grouping. However, having knowledge or understanding of an ethnicity alone does not formulate an identity, since ethnic identity formation is also based on one's experiences. Like personal identity formation, ethnic identity is formed over time and is based upon the choices and actions the individual has made. Therefore, it is described as dynamic, since it can change with time and context (Phinney and Ong, 2007).

Ethnic identity can be seen as an aspect of social identity (Tajfel, 1982) in which multi-dimensionality can be inferred, as self-concept about membership of the group is required as well as the emotional attachment that is felt towards the group. Achieved ethnic identity was described by Phinney (1989) as committing to an ethnic group where negative views based on stereotypes have been explored and resolved, thus, not dependent on what other people think. Achieved identity has been found to be associated with positive feelings such as pride and happiness (Roberts et al., 1999; Kiang, Yip, Gonzales-Backen, Witkow and Fuligni, 2006). However, it has been noted that positive and negative attitudes towards their ethnic group can occur independently of the individual's commitment, i.e. it is possible to commit to a group with negative feelings yet with a desire to belong to a different group (Umana-Taylor, Yazedjian and Bámaca-Gómez, 2004). Sellers, Smith, Shelton, Rowley and Chavous (1998) outlined that ethnic identity can be central to the individual (i.e. how important ethnic identity is to the individual's self-concept) and that this is different to and separate from regard, which is how individuals actually feel about the ethnic group and how they think others perceive it.

Individuals may consider the importance of ethnicity to their own identity differently. Sellers et al. (1998) have conceptualised the significance of ethnic identity through the term 'centrality', i.e. the extent to which ethnic identity membership is emphasised in an individual's self-concept. In addition to this, they also state that the individual will carry a sense of public and private regard towards the ethnic group, i.e. how the individual views the group and how they think others perceive it, whether positively or negatively. It appears that ethnic identity is multifaceted, and exploration of these different aspects needs to be

considered when assessing ethnic groups. Shelton and Sellers (2000) believe that different levels of centrality and regard can help to understand psychological wellbeing and may act as a buffer against discrimination (Neblett, Shelton and Sellers, 2004). It has also been found that a stronger sense of ethnic identity is positively related to attitudes towards education and higher academic attainment (Rivas-Drake et al., 2014; Fuligni, Witkow and Garcia, 2005; Oyserman, 2008, Chavous et al. 2003).

2.5.5 Self-assessed ethnic identity

As mentioned previously, the UK's ethnic diversity is changing. With only 13% of the total UK population being born outside of the UK, over one third of ethnic minority individuals (in 2011) were born in the UK (ONS, 2011b). Because of this, people are required to acculturate or assimilate to different cultures, e.g. their parents' culture in addition to their new local culture, further associations with ethnic identities may occur. Therefore, an important consideration is the notion of self-categorisation or self-labelling as individuals may use different labels for themselves at different times (Phinney, 1992; Portes & Rumbaut, 2001). Individuals may not necessarily associate themselves with a single identity or ethnic group (Gunaratnam, 2003). Hill, Graham, Caulfield, Ross and Shelton (2007) found that some students described themselves as having dual identities, e.g. Scottish-Chinese. Ghuman (1997) interviewed 20 British-born Asian children aged 7 and 8 and found that 70% of them chose British as their identity even when given Indian and Pakistani as the two other options. However, some responses appeared to show that the children felt obliged to call themselves British because they lived in the UK rather than they identified with White British people.

It appears that even young children can consider biculturalism and form a label of identity for themselves. Therefore, it is important to consider an individual's perception of their own identity which may differ from society's assumptions. Additionally, giving people a set of identities to categorise themselves may not be a good measure as the individual may not feel that labels can best describe them. This highlights the need for self-assessments among ethnic identity and the

importance of this construct. Consequently, measures have been developed to assess ethnic identity. However, the measures are often created with a focus on particular homogenous groups. Despite this, when measures such as Multigroup Ethnic Identity Measure (Phinney, 1992), Collective Self-Esteem Scale–Race (Luhtanen & Crocker, 1992), and the Multidimensional Inventory of Black Identity (Sellers et al., 1998) were used with different ethnic groups across America, it was concluded that these measures can be used across different ethnicities, genders and ages due to their analyses of differences between groups being less than 5% significant (Casey-Cannon, Coleman, Knudtson, and Velazquez, 2011).

Using these ethnic identity measures, researchers have been able to investigate how strength of ethnic identity may be related to school outcomes such as educational motivation and engagement (Byrd and Chavous, 2011). Although Fordham and Ogbu (1986) have stated that students may view their ethnicity as incompatible to school expectations which may cause the student to devalue their self-concept, it has been argued by Smalls, White, Chavous and Sellers (2007) that providing meaning to ethnic identity can help to maintain a strong self-concept, which in turn correlates with higher academic motivation and achievement.

Both theory and research have shown the importance of forming identity and ethnic identity. It appears that ethnic identity holds different meaning and strength and is based on an individual's own experiences. Furthermore, an individual's ethnic identity is seen as being multidimensional as it holds meaning with regards to self-concept as well as his or her own thoughts about how they perceive their ethnicity and other's perceptions of it. Simply being a member of an ethnic minority can be associated with certain expectations e.g. academic performance. However, the strength of this identity may also have protective factors e.g. higher levels of academic engagement and motivation. This raises the question of whether, if strength of identity can be seen as benefitting the individual, how does strength of ethnic identity associate with other individual outcomes such as wellbeing, and more specifically school connectedness, particularly when they involve possible inclusion or exclusion by others.

2.6 Ethnic identity and wellbeing

The sense of growth and development (self-actualisation) is said to correlate with positive wellbeing (Bauer, McAdams and Pals, 2008). Furthermore, according to Erikson (1968), forming an identity is seen as positive psychosocial development. Therefore, it is possible to infer that where there is a lack of identity commitment, negative associations with wellbeing may occur. Wong, Eccles and Sameroff (2003) found this in their longitudinal study for African American adolescents.

Research suggests that the stronger an individual's ethnic identity, the stronger their self-concept and this can have an influence on adaptive functioning (Brittian et al., 2013). For example, Crocker, Luhtanen, Blaine and Broadnax (1994) found that high group identity among Black students positively correlated with self-esteem, and private and public regard for the group. Similarly, this was also discovered for Latino adolescents where high levels of self-esteem were established for adolescents who had explored and come to a resolution for their ethnic identity (Umana-Taylor and Updegraff, 2007). A meta-analysis was conducted in America which focused on wellbeing and ethnic identity in adolescents. From the 184 studies reviewed, Smith and Silva (2011) found a modest positive correlation between ethnic identity and positive wellbeing even when factors such as socioeconomic status or gender were considered.

Rivas-Drake et al. (2014) reviewed a body of research looking at ethnic and racial identity (ERI) across psychosocial, academic and health risk outcomes. Studies were grouped and reported by ethnicity. Psychosocial outcomes and ERI were generally found to have positive associations, however some findings for Latino adolescents indicated that there may be an indirect association between ERI and mental health. Similarly, their findings for ethnicity positively associated with academic outcomes. It was concluded that when positive ERIs are formed for ethnic minority adolescents the implications for academic achievement outcomes is likely to be positive. This was for all ethnic groups studied except for Native Americans. Health risk outcomes were found to be least consistent overall. Rivas-Drake et al. (2014) highlighted a limitation that measurements for ERI were

inconsistent, as some studies focused on identity status whereas others may have looked at identity dimension.

Pantzer et al. (2006) conducted a cross-sectional study in Spain to compare native and immigrant adolescents on health-related quality of life. They found that between the two groups there were differences in three areas: psychological distress, discrimination perception, and lack of social support. Whilst immigration status was considered, Pantzer et al. (2006) recognised that further research could be conducted on the different ethnic groups to see how their immigration experiences differed, thus providing a better understanding for how this might affect adolescent health. Considering the number of immigrants who come to the UK each year, knowledge in this area may be pertinent for students who are newly arrived.

Overall, research has shown that wellbeing and ethnic identity are correlated as ethnic identity formation and ethnic centrality appear to relate to positive outcomes. These studies have been conducted outside of the UK, therefore, it is not known if similar findings would emerge if the studies were to be replicated in the UK. Moreover, it does appear that schools can play a significant role in developing a student's identity and feelings of school connectedness. Thus, it seems appropriate that these factors should be considered closely by schools as a way of enhancing student outcomes.

2.7 Ethnic identity and school connectedness

Brodkin (2006) raised the question of how students can fit in whilst taking pride in maintaining their ethnic origins? With studies showing students having conflicts in developing their own identities, how does this contribute to, or hinder, their feeling of connectedness to school? It was identified in Section 2.3.3 that feelings of school connectedness are formed from the individual's combined experiences of the environment and their interactions with peers and teachers (Goodenow, 1993). Similarly, for ethnic identity, Section 2.5.1 stated that as individuals develop, they need to adapt in order to successfully adjust to their environment. Additionally, a sense of belonging to the community of people around them can

also influence their development of identity (Oyserman et al., 2012). For ethnic identity, it has been found that the individual's perception of its strength can be affected by the ethnicity of the people they are interacting with as well as the type of activity taking place at the time (Kiang & Fuligni, 2009; Kiang, Harter, & Whitesell, 2007; Yip & Fuligni, 2002).

Therefore, for the development of both school connectedness and ethnic identity, it appears that an individual's environment and interactions with others play an important role in helping to form part of one's self-concept, and a sense of belonging is central to this. Despite school connectedness and ethnic identity requiring similar features for development, little research has investigated their relationship on each other. For adolescents, does the development of one strengthen the development of the other, do they both influence each other, or not at all? As adolescents understand more of their ethnic identity, are they then able to understand how they fit in with their wider community at school? Do adolescent's interactions at school shape how they perceive themselves and influence their ethnic identity? Furthermore, the development of either school connectedness or ethnic identity may influence the development of the other. Where relationships are considered, it is not always possible to infer causality and can raise the question of whether bi-directionality occurs (Hernandez et al., 2017). In section 2.5.1, it was stated that group memberships are dependent on time and place, therefore, the identity an adolescent gives themselves may be reflective of what is important to them at that moment in time (Oyserman, 2012). Consequently, it could be concluded that the time at which school connectedness and ethnic identity are developed may differ for each individual depending on which they wish to endorse first.

Interestingly, research has considered both school connectedness and ethnic identity as moderators for outcomes such as academic attainment and school engagement (Santos and Collins, 2016; Abubakar and Dimitrova, 2016). Therefore, if both strength of ethnic identity and school connectedness play an important role in contributing towards individual outcomes such as academic attainment, it seems pertinent to understand whether strength of identity has a relationship with school connectedness within education. If a link is present,

schools may be able to address and adapt their ethos at a classroom and systemic level. This may improve school connectedness and strengthen identity which can then act as a protective factor and have a positive impact on student outcomes. A systematic review of studies between school connectedness and ethnic identity is examined more closely in the next section.

2.8 Systematic review

2.8.1 Purpose of the review

Systematic reviews consider literature on a specific chosen topic. The reviewer aims to analyse certain elements of the topic, such as what is known already, gaps in research and the effectiveness of particular interventions or methods (Petticrew and Roberts, 2006). Through the review an overall picture can be provided for researchers to draw conclusions from in order to initiate further research (Gough, Oliver and Thomas, 2012). Systematic reviews do this by following a set of rules that makes the enquiry more scientific; this can be done through 'identifying', 'synthesising' and 'appraising' all the studies that specifically help answer the review question (Petticrew and Roberts, 2006). In setting out the scientific method beforehand, the aim is to overcome biases which other literature review methods do not address. For example, narrative literature reviews aim to summarise research-based evidence to answer a question. However, researchers may neglect the details, or ignore some of the studies that are directly related to the research area being reviewed (Robson and McCartan, 2015).

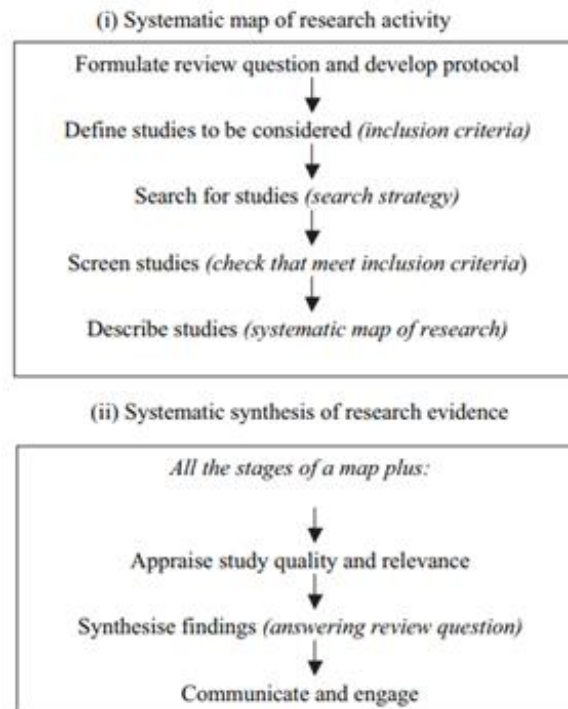


Figure 2.1 Systematic review process (Gough, 2007, p. 5)

There are many ways in which a systematic review can be approached. Typically, it follows the process outlined by Gough (2007) as shown in Figure 2.1. Gough (2007) describes the process of a systematic review as having two distinct parts. The first is identifying and researching relevant articles to use for review and the second is to appraise and synthesise the findings from the articles. Despite the rigour of methodology, systematic reviews are not without limitations. Scientific objectivity can be affected through the review's screening process, omitting research that could lead to different conclusions. Furthermore, analysis of the data needs to be considered thoroughly to avoid biases when drawing conclusions. This applies even for numerical data where statistical significance has been found, as interpretation of findings and how this leads to decision making needs to be made clear (Petticrew and Roberts, 2006). Despite the limitations that the systematic review methodology has, it has been accepted as being beneficial for synthesising all relevant research in a transparent way, giving reliable and valuable evidence from which sound conclusions can be drawn. Where decisions need to be made, e.g. policy formations, systematic reviews can help guide decision making and support practice (Petticrew and Roberts, 2006).

2.8.2 Research question and conceptual framework

This systematic review focuses on ethnic identity, its strength and its association with school connectedness in adolescents. The review describes the method undertaken to search for appropriate academic articles using different databases. After narrowing the articles down to 6 studies, they are carefully analysed to provide a synthesis. Conclusions are then formed and discussed.

The following systematic review aimed to identify and evaluate research that is pertinent to this study and aims to answer the question: Is strength of ethnic identity associated with school connectedness in adolescents?

2.8.3 Methodology

First, papers were searched in databases and filtered using inclusion and exclusion criteria. Only studies that fitted the inclusion criteria fully was included in the review. As strength of ethnic identity and school connectedness have been primarily researched using questionnaires, the datasets tend to be quantitative in nature, so the conclusions drawn from larger sample sizes are more generalizable. Quantitative data allows the employment of statistical methods, enabling reliable interpretations of findings and allowing comparisons to be made where needed (Robson and McCartan, 2015). Second, the selected papers were weighted as low, medium or high depending on their quality of study. Lastly, this systematic review provides a synthesis of the findings to understand the association between ethnic centrality and school connectedness. Key features of the selected studies are evaluated and discussed in section 2.8.5.

2.8.3.1 Inclusion criteria

The inclusion and exclusion criteria for the selection of studies are outlined in Table 2.1.

Table 2.1 Inclusion and exclusion criteria for study selection

	Inclusion Criteria	Exclusion Criteria
Type of participant	Adolescents who are aged 11 to 18 and in attendance at school.	Individuals who are not in educational provision as they will not experience school connectedness.
Type of study	Studies that aim to assess centrality of ethnic identity and school connectedness. Studies that use measures such as questionnaires or surveys to produce quantitative data. This will also reflect measures relevant to this study. Published and unpublished studies to reduce publication bias (Rosenthal, 1979).	Studies that do not consider strength of ethnic identity and school connectedness. Studies that use measures such as interviews as these will provide qualitative data.
Design and outcomes	Data that is reported quantitatively to reflect the approach that is taken in this study. Studies that use a non-experimental design method.	Data that is reported qualitatively. Studies that have designs where a variable is manipulated.
Type of article	Written in English so that translation is not required. Primary source	Studies that are not written in English. Secondary sources may offer interpretations on the original study.

2.8.3.2 Search Strategy

The systematic search was conducted in July 2018 using the University of Nottingham student portal. Four databases were searched:

- ERIC (Education Resources Information Center) – a database of literature in education.
- PsychINFO – a database of psychology articles.
- Web of Science – a database of articles in the field of sciences, social sciences and arts & humanities.
- OpenTheses – a database of theses and dissertations.

The key search terms used are presented in Table 2.

Table 2.2 Key search terms used

Concept group	Search terms
Adolescent	“adolescents” OR “students” OR “pupils” OR “children”
AND	
School connectedness	“school connectedness” OR “school belonging”
AND	
Ethnic identity	“ethnic identity” OR “racial identity” OR “ethnic centrality”

2.8.3.3 Search results

The search yielded 893 results that could potentially be relevant for review. Once duplicates and results that were neither articles nor theses were removed, 569 items remained. Using the inclusion criteria, the titles and abstracts of the items were read to determine the suitability of the studies for review. Consequently, 543 articles or theses were removed, with 26 remaining. The majority of the studies were excluded as they considered ethnic identity and school connectedness to individual outcomes (such as at risk behaviours), rather than the interplay between the two. Studies that focused on older adolescents were excluded from consideration since the participants were no longer at school. Several studies

were removed because they considered perceptions of ethnic identity and school connectedness from the teachers' or parents' perspective as opposed to that of the students. Other studies related school connectedness by looking specifically at peer relationships.

The remaining 26 papers were read in full. In addition to the reasons for excluding papers by title and abstract, it emerged that despite article titles or abstracts using words such as 'belonging', those words were not always used in relation to school belonging or connectedness as described by Deci, Vallerand, Pelletier and Ryan (1991) but instead were used as descriptors for wellbeing. For these additional reasons, further articles were removed. Six papers were identified as appropriate for review. Figure 2.2 shows the stages taken to identify them.

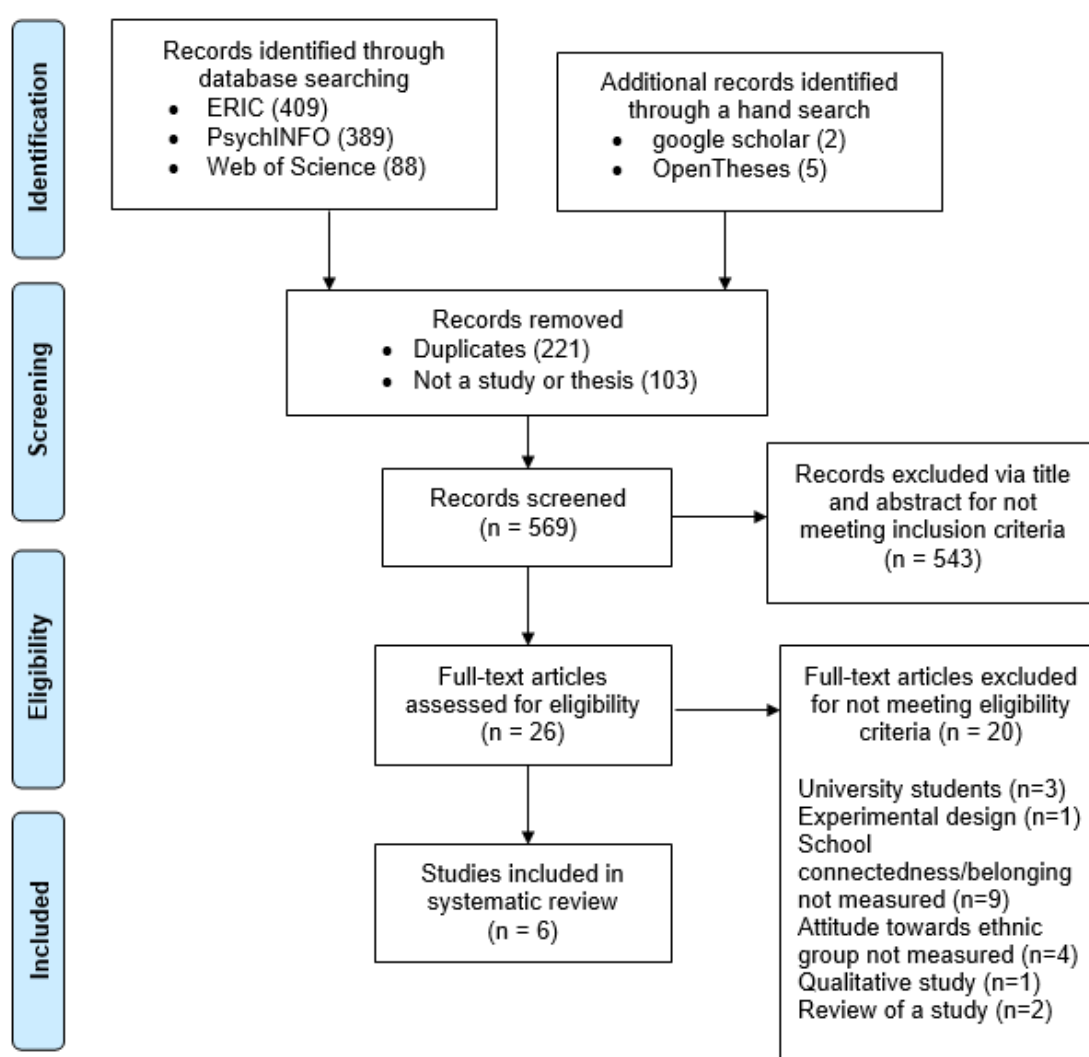


Figure 2.2 A flow diagram of the results of the search strategy

2.8.4 Data extraction

Key information from studies

For the 6 studies identified as relevant for answering the proposed review question, key information from the studies has been taken and presented in Tables which can be found in Appendix 1. In the following section, a critical analysis of the studies is given.

2.8.5 Critical analysis

A critical analysis of the six studies chosen for the review is given below.

1. Aldridge et al. (2016) - Students' perceptions of school climate as determinants of wellbeing, resilience, and identity. *Improving Schools*, 19(1), 5-26.

An aspect of Aldridge et al.'s study (2016) aimed to investigate how student perceptions of their school climate was associated with wellbeing and ethnic identity. Additionally, they hoped to investigate how these variables affect one another. The participant sample was of a large size and taken from 6 different schools in Perth, Australia across a wide adolescent age range. Whilst the researchers noted that the schools were located in a metropolitan area, the range of ethnicities is not mentioned. Therefore, it is not possible to relate the results to specific mix of ethnic groups.

Scales used in the study, such as the student wellbeing scale, were adapted from already existing scales, such as WHO-Five wellbeing index (WHO, 1998). However, how the scale was adapted was not described. Whilst an example item of each of the scales is given, it would be difficult for others to replicate the study without the full scales. For all the measures used in the study, except for WHO-Five wellbeing index (where internal consistency was not stated), Cronbach's alpha was reported with values above 0.87. Therefore, there is a good level of internal consistency. School connectedness in this study did not have any significant correlations with ethnic identity, which may be because the school

climate measure used placed peer connectedness and teacher support as separate scales to school connectedness. In the study peer connectedness and teacher support were seen as social support within school, whereas school connectedness was seen as belonging to the school environment. However, school connectedness measures in some other studies, such as Goodenow (1993), include all these aspects as a whole. This may explain why school connectedness had no significant correlations with ethnic identity in this study.

2. Boston and Warren (2017) - The Effects of Belonging and Racial Identity on Urban African American High School Students' Achievement. *Journal of Urban Learning, Teaching, and Research*, 13, 26-33.

The study aimed to understand whether there are any relationships between 3 variables: sense of belonging with racial identity, racial identity with academic grades, and sense of belonging with academic grades. Participants were of later adolescence who were completing their final years of school. Only African American students were included in the survey, leaving a considerably smaller participant size (n=105) compared with the original recruited number (n=216). Whilst refining the participants down to one ethnic group makes the study more specific, it might have been interesting for the researchers to compare African Americans with the other ethnic groups. It was not stated in the article how students were identified as African American; it could only be assumed that it was through self-reporting.

The measures used for ethnic identity and school connectedness are well used in research. The survey given to the participants consisted of 69 items. However, only 41 items were reported, with no justification given as to why some measures were not used in the analysis. Additionally, internal consistency was not reported. Therefore, the method transparency and integrity checks have not been made clear, making the study difficult to replicate. Correlations and regressions were produced and clearly presented in tables but without written analysis or pointers for readers to draw particular focus on. Therefore, key findings could only be gained by the readers from their own interest in analysing the tables or the conclusions drawn by the researchers in the discussion section. From the

conclusions drawn by Boston and Warren (2017), importance of student-teacher relationships is given as a recommendation as well as the need for acceptance for all ethnic groups to enhance school belongingness. However, development of peer support is not mentioned even though it is an element of the sense of belonging.

3. Byrd and Chavous (2011) - Racial Identity, School Racial Climate, and School Intrinsic Motivation Among African American Youth: The Importance of Person–Context Congruence. *Journal of Research on Adolescence*, 21(4), 849-860.

The study investigated the direct associations between racial identity, school racial climate and motivation. One hypothesis of the study was that adolescents' feelings of school belonging would mediate the association between racial identity and intrinsic motivation for school. The participant sample was greatly reduced due to incomplete surveys. It was noted by the researchers that the participants who had incomplete surveys had a lower socioeconomic status, come from families of lower educational background, and reported a lower private regard. Because participants from this demographic were not represented in the study, findings may be less generalisable to the overall African American population as there may be differences between the two groups. Participant data was taken from a larger longitudinal study. The longitudinal study collected its data from participants in waves. Because Byrd and Chavous (2011) did not report when participant data was collected, it is difficult for readers to know where to look regarding the participants' demographics.

The measures used for school racial climate and school belonging were not referenced: perhaps the researchers developed them specifically for the study. Whilst an item example was given for each measure, it would be difficult for another researcher to replicate the study as the full survey has not been given in text or as an appendix. In addition, participants were said to have face to face and self-administered interviews, but the process was not outlined, making it unclear as to which aspects of data collection were face to face and which were self-administered. Furthermore, details of who collected the data from the

participants were not reported, making the methodology unclear and research integrity ambiguous.

Internal consistency of measures was not reported in the article. Whilst a correlation table was produced for the different measures used in the study, school belonging (peer and teacher support and acceptance) was inexplicably not reported. Therefore, it is not possible to understand the associations between school belonging and ethnic identity for this study.

Despite the hypothesis mentioned above, school belonging was not reported as a whole measure. Instead, belonging was considered as two separate parts - peer acceptance, and teacher support and acceptance - in their hierarchical regression analyses. Also, whether the hypothesis was accepted or rejected was not reported. Instead, reference to teacher support and acceptance was referred to as being the outcome of teacher racial climate, mediated by levels of private regard.

4. Fuligni, Witkow and Garcia (2005) - Ethnic Identity and the Academic Adjustment of Adolescents from Mexican, Chinese, and European Backgrounds. *Developmental psychology*, 41(5), 799-811.

This study sought to understand the association between ethnic identity and academic attitudes in 3 different high schools. Each of the schools had no dominant ethnic group. Therefore, despite being in an ethnic group which may be considered a minority in America generally, this was not the case in their schools. Thus, it could be questioned as to whether this had affected the students' desire to associate their identity with the national identity (American) when that social group was not seen as dominant (in population) in the schools that took part. Three ethnic groups were considered in the study: Mexican, Chinese, and European. Each participant gave information on whether they were a first, second or third generation American citizen. As second-generation adolescents were 46% of the participant population, it may be interesting to consider if this had an effect on the overall outcomes.

The measures used in this study showed at least adequate internal consistency with Cronbach's alpha. Adaptations were made to some measures, and these were clearly explained with the new items reported in the article. With such transparency, study replication would be possible for other researchers. The measures 'identification with school' and 'school respect' contained items in these scales that had questions very similar to school belonging/school connectedness scales. This study labelled these measures as part of academic attitudes which implies that they show the participants' feelings towards academia rather than their feelings about the school environment and support.

5. Hernandez, Robins, Widaman and Conger (2017) - Ethnic Pride, Self-Esteem, and School Belonging: A Reciprocal Analysis Over Time. *Developmental Psychology*, 53(12), 2384-2396.

This study aimed to investigate whether ethnic pride positively influences school belonging. The researchers also hypothesised that ethnic pride would be more strongly associated with school belonging for boys than for girls. The majority of participants in the study were immigrants, so the data may not be generalisable to Mexican adolescents who are second and third generation migrants born in America. Participant data collection procedures are presented in the article. Data were collected through interviews, and the answers were entered by the researchers into a laptop. It could be questioned whether this might have led to demand characteristics, as participants might have answered in relation to how they assumed the researchers wanted, e.g. to report high ethnic pride. Additionally, participants themselves might have answered the questions in ways that made them look more socially desirable compared to completing questionnaires anonymously. For example, participants could describe themselves as having higher self-esteem than they actually felt they did. These factors could be particularly affected because the participants were paid as a reward for taking part in the study.

Cronbach's alpha was reported for the different measures used and these ranged from questionable internal consistency (0.68) to good internal consistency (0.88). Because the study was longitudinal, attrition of participants occurred thus

reducing the participant sample by 10%. The researchers noted that those who left the study compared to those who remained were not significantly different. The longitudinal nature of the study also allowed the researchers to take the same measurements at 3 point in each participant's life. This enabled the researchers to analyse whether any changes had taken place over time with regards to ethnic identity and school belonging. It was found that ethnic pride predicted school belonging for boys and girls at a significant level and this increased with age.

6. Santos and Collins (2015) - Ethnic Identity, School Connectedness, and Achievement in Standardized Tests Among Mexican-Origin Youth. *Cultural Diversity and Ethnic Minority Psychology*, 22(3), 447-452.

This study sought to investigate the association between school connectedness, ethnic identity and academic achievement. The study used participants from a metropolitan school where socioeconomic status is considered to be low. By administering surveys to the pupils, hierarchical linear regression was used to analyse the data.

The participants were taken from a larger study and had already been identified as Mexicans. In contrast to other studies, Mexicans were the largest population in the school of this study. It may therefore not be possible to generalise the findings from this study to other situations where Mexican ethnic groups are the minority.

The measures of ethnic identity and school connectedness are well referenced in the research field. The measures showed acceptable internal consistency, with reported Cronbach's alpha of at least 0.76. Academic achievement was measured via standardised tests. It has to be recognised that standardised tests are a snapshot of an individual's performance on that day. Additionally, individuals in the study were required to pass the tests before they left high school, therefore, it is unknown how familiar the participants might have been with that tests already. If the participants had taken the tests before, the results might be skewed due to practice effects.

Integrity of the study was clear; the method was clearly described outlining how long the participants were given to complete the survey as well as who conducted data collection. Furthermore, recognising that there was missing data in their dataset, Santos and Collins (2015) explained how they overcame this using multiple imputation procedure.

2.8.5.1 Weight of Evidence

The weight of evidence created by Gough (2007) is a framework primarily used to assess the quality of quantitative research. Using the criteria outlined by Gough (2007), weight of evidence for this systematic review was created. Having reviewed the selected articles, each item of the Weight of Evidence Framework (Gough, 2007) was applied so that the quality of research could be considered when synthesising the results. Appendix 2 outlines the evidence criteria used and other sources drawn upon to form the criteria. Appendix 3 shows the appraisal of the studies in light of the evidence criteria for each of the studies. The results are presented below in Table 2.3.

Table 2.3 Weight of evidence of the studies

	Weight A Quality of study	Weight B Appropriateness of method	Weight C Appropriate evidence	Weight D Overall weighting
Aldridge et al. (2016)	medium	high	medium	medium
Boston and Warren (2017)	low	high	medium	medium
Byrd and Chavous (2011)	low	high	low	low
Fuligni, Witkow and Garcia (2005)	medium	high	high	high
Hernandez et al. (2017)	medium	high	high	high
Santos and Collins (2015)	medium	high	high	high

2.8.6 Synthesis of findings

The research in this review included 5 studies that were conducted in America and 1 study that was conducted in Australia. This selection of studies illustrates where research in ethnic identity and school connectedness is currently occurring, which also illustrates the growing need for this research in this area to be conducted in other countries. A growing body of research in other countries may provide an insight into cross-cultural differences. In addition, studies conducted within the same country may be more generalisable to one another than those internationally. For example, the ethnic groups highlighted in the American studies may face different challenges in other countries. Furthermore, the highlighted ethnic groups themselves may be different due to the makeup of the local populations.

The number of participants used in the studies varied from 105 (Boston and Warren, 2017) to 2202 (Aldridge et al. 2016). On the other hand, the ratio of boys to girls appears to be similar in all the studies. Participants recruited for the studies were all within adolescent age with the exception of Hernandez et al. (2017). Their first data collection occurred with individuals on the cusp of being referred to as late childhood to early adolescence. Four of the studies collected data from more than one year group which allows for generalisation across adolescents. The researchers appeared to focus their studies on particular ethnic groups. The ethnic groups were formed of African Americans, Mexicans, Chinese and Europeans. Of these ethnic groups, African Americans and Mexicans were the focus of at least 2 studies. It seems that this is because these are the ethnic groups in America that have been highlighted as facing the most challenges with regards to individual wellbeing and academic outcomes and may have previously faced racial discrimination. It seems important to note that 5 of the 6 studies conducted studies on ethnic groups that are considered to be ethnic minorities. With the exception of Fuligni et al. (2005) and Aldridge et al. (2016) only one ethnic group was considered per study.

All studies were of non-experimental design and used surveys to collect their data. Each study measured ethnic identity using either Multigroup Ethnic Identity

Measure (Phinney, 1992), Multidimensional Model of Black Identity (Sellers et al., 1997) or Multidimensional Model of Black Identity-teen (MIBI-t; Scottham, Sellers, and Nguyen, 2008). The only exception is the study by Hernandez (2017) which only partially used Multigroup Ethnic Identity Measure (Phinney, 1992) in addition to other measures. Therefore, it is apparent that these measures are popular and widely used in research to assess ethnic identity. On the other hand, the measures for school connectedness were different for every study. A closer look at the measures shows that school connectedness measures generally incorporate the same elements, but that school connectedness questions can be asked in several different ways.

Internal consistency of measures was reported for studies conducted by Aldridge et al. (2016), Fuligni et al. (2005), Hernandez et al., (2017) and Santos and Collins (2015) with all producing consistency of 0.68 or higher. Whilst the analytic methods appeared to differ across studies, correlations were used consistently in all studies. The exception to this was Byrd and Chavous (2011); they produced a table of correlations but did not include the factors of school connectedness (peer support, and teacher support and acceptance). The tables of correlations from the studies presented the data clearly for the reader and it is possible to see which factors are associated at a significant level.

- Aldridge et al. (2016) did not find a significant correlation between school connectedness and ethnic identity ($r = -.02, p > .05$).
- Boston and Warren (2017) found significant positive correlations between centrality and sense of belonging ($r = .38, p < .01$), and between private regard and sense of belonging ($r = .28, p < .01$). No significant correlation was found between public regard and sense of belonging ($r = .04, p > .05$). Overall, the sense of belonging and grades were found to have a significant association ($t = 2.35, p < .05$).
- Byrd and Chavous (2017) did not report correlation associations for their measures of racial identity (centrality, private, and public regard) with school belonging.
- Fuligni et al. (2005) found significant correlations between school respect, with centrality and regard ($r = .12$ and $r = .24, p < .01$ respectively), and

significant positive correlations between identification with school with centrality and regard ($r = .18$ and $r = .32$, $p < .01$ respectively).

- Hernandez et al. (2017) found positive and significant correlations between school belonging and ethnic pride at each data collection point for grade 5, 7 and 9 ($r = .31$, $r = .26$, $r = .25$, $p < .001$ respectively).
- Santos and Collins (2015) found significant correlations between ethnic private regard and school connectedness ($r = .34$, $p < .01$). On the whole, it appears that ethnic identity does associate positively with school connectedness and at a significant level.

The conclusions and implications drawn from the studies aim towards fostering ethnic identity and relationships within schools to enhance school connectedness.

Of the associations found between ethnic identity and school connectedness, Hernandez et al. (2017) found that ethnic pride was a stronger predictor of school connectedness rather than the other way around. The implications of their findings suggest that schools should embrace and make more of a conscious effort to celebrate ethnic identities as this will increase school connectedness and general wellbeing. In addition to ethnic identity and school connectedness having a significant positive association with each other, Santos and Collins (2015) found that they both correlated with academic outcomes. High levels of school connectedness were seen to play a protective role against lower levels of ethnic identity when predicting high levels of achievement. Thus, the benefits of high levels of ethnic identity and school connectedness are identified as important factors in the school context. Similar to Santos and Collins (2015), Boston and Warren (2017) found ethnic centrality to be a strong predictor of school belonging, and school belonging to be a predictor of academic outcomes. Therefore, they concluded that in the school context the importance lies in cultivating an environment where all ethnicities are accepted through positive peer and teacher relationships. In Aldridge et al.'s (2016) study, peer connectedness influenced ethnic identity, therefore, they concluded that peer relationships should be promoted so that student identity would also develop. Fuligni et al. (2005) found that those who had stronger ethnic identity felt more positively about school.

Because there were differences between ethnic groups, it was suggested that specific ethnic groups might need more motivation to achieve the same level of academic success as others. Furthermore, Byrd and Chavous (2011) concluded that because they found higher private regard had a relationship to school connectedness, an inclusive school environment would promote positive relationships between students and their teachers and such an environment should be fostered.

Lastly, the studies chosen for review were all conducted within the past 15 years which suggests that the body of research focusing on ethnic identity and school connectedness is quite a recent topic of interest among researchers. Therefore, it can be seen that there is a need to continue researching further into the challenges that a diverse ethnic society brings to education.

2.8.7 Summary of evidence

In light of the research question, the studies that were selected for review have shown that ethnic centrality and school connectedness are positively related. The studies not only show that the two factors are significantly associated with one another but also show associations with other outcomes such as wellbeing and academic achievement. Therefore, it could be recognised that promoting ethnic identity and school connectedness will be beneficial for schools generally, but that it may also contribute towards acting as a protective factor for other desirable individual outcomes such as academic achievement.

Additionally, the different number of ethnic groups researched in these reviews are small in number, thus, further research may hope to expand this field by studying more ethnic groups to contribute to findings that are already existing.

Limitations

A limitation with this review is that it was conducted by one person therefore reviewer biases might have occurred. Although the review is systematic and follows a process, biases could be reduced in several areas with more than one

reviewer. The areas where bias could be reduced are in article search and deciding on the weight of evidence for the studies as subjectivity might play a part.

2.9 Rationale and research question

Improving wellbeing is a prominent focus in today's society and is a complex construct to measure with many contributing factors, e.g. socioeconomic status and personality traits. On the other hand, school connectedness is a more salient measure of wellbeing that is pertinent to an adolescent's experience of school and a prominence in contributing to individual outcomes. With regards to the increasing diversity within the population, research findings iterate the importance of recognising diversity and in particular the formation of ethnic identity for adolescents. The systematic review highlighted the implications for schools in promoting school connectedness through the establishment of positive relationships and the strong association that ethnic centrality and regard have with school connectedness.

To further existing research, this study will consider students' self-assessment of their ethnic identity and how it associates with school connectedness in the UK. A major consideration for this project is the importance of self-assessed ethnic identity. Many ethnic minority students are attending schools which have a culture that is different from that of their parents. By considering the strength of the identity label given by individual adolescents, an understanding can be gained of how much value they ascribe to their self-assessed ethnic identity. Therefore, unlike previous studies that have focused on particular ethnic groups, this study aims to use the self-assessment of identity to allow self-assessed ethnic groupings to form. A better understanding of the connection between strength of identity and school connectedness is important because they are both said to be linked with individual outcomes such as academic attainment and well-being. It may also be important to identify whether there are differences between ethnicities which may give schools information to reflect on how to better accommodate the different groups.

Thus, this study aims to answer the following questions:

1. How strongly do students identify with their self-assessed ethnic identity?
2. Are there differences among ethnic groups regarding feelings of school connectedness?
3. Do students who associate strongly with their identity feel more connected to school than those who do not?

Chapter 3

3 Methodology

3.1 Introduction to the chapter

This chapter considers the theoretical position and methodological approach taken by this study. First, an overview of the key theoretical frameworks (paradigms) in research will be considered, followed by the study's theoretical position of post-positivism where this perspective will be explored in greater detail. Methodological considerations for the study's non-experimental design will be discussed, with regard to procedures to be undertaken and measures to be employed, alongside any threats to reliability and validity, and how the design will help to overcome them. Throughout this chapter, the central theme of diverse ethnicities will be highlighted in relation to how it has influenced the study's design. The chapter will conclude with a description of the data analysis method that is to be applied.

3.2 Theoretical Considerations

Research is seen as a process that has scientific attitudes as it is supposed that certain values are held, e.g. research conducted is systematic (i.e. there is explicit reasoning for research and a clear role the researcher plays within the research process), sceptical (i.e. the researcher accepts that alternative hypotheses and interpretations should be considered if initial predictions and conclusions are rejected), and ethical (i.e. a code of conduct is followed so that those taking part in the research are safeguarded) (Robson and McCarten, 2016). It is the aim that research will help to provide an understanding, explanation or prediction of the real world. In education, it is intended that research will provide an evidence base to influence and enhance practice.

Understanding theoretical paradigms is an important element of research as it places a researcher's theoretical positioning of the "intent, motivations, and

expectations” for the research alongside its implications for decisions regarding the research process (Mackenzie and Knipe, 2006, Mertens, 2014). Therefore, to guide the research process, theoretical paradigms and philosophical assumptions should be considered. Mackenzie and Knipe (2006) describe a paradigm as being the researcher’s ‘worldview’. The adoption of a school of thought helps to inform the researcher of the research methods to be used and the way in which data should be analysed (Kivunj and Kuyini, 2017). In educational research, there are four major paradigms: post-positivism, constructivism, transformative and pragmatic. Mertens (2014) suggests that, whilst in practice the four paradigms may have some similar characteristics, choosing one that fits most closely with the researcher’s beliefs is thought to be central, as their position will guide their research practice on how to answer the research question.

Within each paradigm, the set of shared beliefs are based on ontological, epistemological, methodological, and axiological assumptions. Ontology asks questions about the nature of reality, epistemology asks about the nature of knowledge and the relationship between knowledge and reality, methodology provides approaches in which knowledge is sought, and axiology looks at the nature of ethics (Guba and Lincoln 1994). To support explanation of this study’s choices, the four major paradigms are presented in Table 3.1 with accounts of their shared features.

Table 3.1 Research paradigms in education (adapted from Mertens, 2014)

Beliefs	Post-positivism	Constructivism	Transformative	Pragmatic
Ontology (nature of reality)	Single reality, knowledge assumed through probability rather than certainty.	Multiple socially constructed realities.	Accepts different perceptions equally and that reality is based on social positioning. Rejects factors that give privilege to one version of reality over another.	There is a single reality, each individual has their own unique interpretation of this.
Epistemology (nature of knowledge and the relationship between knowledge and reality)	Objectivity is valued.	Interactive process between the researcher and participants.	Interactive process between the researcher and participants; considers the positioning of power and trust.	Approach is driven by the researcher and what they deem to be appropriate.
Methodology (the approach to systematic inquiry)	Primarily quantitative; interventionist; decontextualized.	Primarily qualitative; dialectical; considers contextual factors.	Primarily qualitative, quantitative and mixed methods may also be used; considers contextual and historical factors.	Methods used are matched to the research question and purpose; often mixed methods are used.
Axiology (nature of ethical behaviour)	Looks for: Informed consent Beneficence – minimise harm Justice Equal opportunity	Balance of views. Raises participant awareness.	Shows respect for cultural norms. Beneficence – promotion of human rights and social justice. Reciprocity.	Researcher's values and politics influence how knowledge is gained.

3.2.1 The chosen paradigm: Post-positivist

This study aims to answer the overarching research question: '*How do self-assessments of ethnic identity relate to school connectedness in early adolescents?*'. Consideration of the paradigms lead to the post-positivist paradigm being adopted to answer the research question.

The post-positivist paradigm was born from positivism. In post-positivist there is acknowledgement of potential researcher biases even where there is a commitment to objectivity, whereas in positivism the researcher and the participants are seen as independent of each other (Reichardt and Rallis, 1994). Robson and McCarten (2016) identify the difficulty of independence in real world research, as it is unrealistic to maintain absolute control and objectivity even for the researcher themselves, e.g. through invested emotional involvement in the research. Despite this critique, the post-positivist paradigm recognises that knowledge can be obtained through observable facts and experimentation (Comte, 1975). From the ontological perspective, the post-positivist paradigm is based on realism; reality can be tested and measured to describe a 'true state of affairs' (Guba and Lincoln, 1994; 109). Based on this, the epistemological viewpoint is that knowledge can be obtained objectively; it is possible to understand the conditions and relationships in which this knowledge exists (Cohen, Manion and Morrison, 2011). Regarding ontology and epistemology of the post-positivist paradigm, the methodology would aim to employ deductive reasoning by applying theory to create testable hypotheses and obtaining observable results to confirm or reject the hypotheses. Therefore, quantitative data would be obtained to enable empirical testing to confirm theoretical predictions (Shadish, Cook and Campbell, 2002). Moreover, the post-positivist approach should hold good internal reliability as the data directly relate to the phenomena being tested. External validity for generalisability and reliability for stability should occur in line with the 'benchmark of rigour' (Guba and Lincoln, 1994, p. 114).

Whilst it is recognised that other paradigms would offer interpretations and meanings for the individual, the proposed research aims to understand self-

identity in a realist manner. Thus, considering the research question and purpose for this study, the postpositivist paradigm is adopted.

3.3 Research Design

The research design considers the following components: purpose, theory, research questions, method, sampling procedures, and ethical considerations. It is important for the researcher to balance these components and coordinate how they interrelate in order to develop the research process (Mertens, 2014).

The purpose for research design is to ensure that the research conducted is well-considered and trustworthy. Therefore, besides considering the components above, it is expected that the research design gives attention to factors such as validity and generalisability (Robson and McCarten, 2016).

Designs can be fixed, flexible and mixed. Which design to use is informed by the researcher's chosen paradigm (Robson and McCarten, 2016). As the post-positivist paradigm is closely linked with fixed designs, elements of fixed designs will now be considered more closely.

3.3.1 Fixed Designs

Fixed designs are theory driven, which helps to articulate why an area may be of interest and what the research aims to find out. It is expected that the procedure for data collection and analysis, and the variables to be controlled and manipulated are outlined prior to the study taking place. Because a procedure is stated beforehand, pilot studies are found to be useful for identifying any procedural issues. For studies using surveys, pilot studies are particularly useful for identifying any questions that are ambiguous or hard to understand (Robson and McCarten, 2016).

Considering the importance of methodological rigour, a fixed design has the advantage of minimising experimenter effects as the researcher has less direct involvement than in a flexible design. Fixed designs can range from experimental,

(i.e. impact of variable manipulation is measured) to non-experimental (i.e. causality or relationship between variables is measured). Because this study aims to investigate a relationship between ethnic identity and feelings of school connectedness, two types of non-experimental design appear to be the most appropriate, namely, comparative and correlational designs.

3.3.2 Non-experimental designs

Non-experimental designs do not require the independent variable to be manipulated. Whilst it can be argued that for experimental designs, the manipulation of the independent variable leads to the differences found for the dependent variable, in some cases, the manipulation of the independent variable is neither possible nor desirable.

Where two or more groups are compared, e.g. age or gender, this can be considered as a comparative design. This enables the researcher to conclude whether differences lie between the different groups. Where two or more non-manipulated groups exist, e.g. strength of ethnic identity and feelings of school connectedness, correlational design can be adopted to determine if there are linear relationships between the given variables. For non-experimental designs, the data collected can be longitudinal, i.e. data is collected over several given points of time, or cross-sectional where data is collected at one specific point in time. Considering the research question for this study, a correlational design appeared to be most suitable as relationships between non-manipulated groups would be investigated. The data would be cross-sectional, collected once, showing student views at that given point in time.

3.3.3 Rationale for employed research design

This study investigates early adolescent students' views towards their ethnic identity, strength of their ethnic identity, and school connectedness. Having considered the ontology, epistemology, and methodology of the different research paradigms, the post-positivist paradigm was adopted. The study would collect data using a survey. As the independent variable would not be

manipulated, the study required a non-experimental design. Furthermore, there would be more than two non-manipulated groups, so a correlational design was adopted. As the survey would be administered once, the data would be cross-sectional providing data of the students' feelings at a specific time.

3.4 Data collection

Surveys are typically used as a method of data collection in non-experimental fixed designs (Robson and McCarten, 2016). It is important that the questions asked give answers for the information the researcher aims to obtain. Surveys, as a form of data collection, generally have many advantages. Since the questions are pre-determined, the collection of data can occur in a standardised form and questions can be expressed appropriately according to the sample population, e.g. adults or children. Surveys can also be administered to a large and representative sample of participants on a group basis and completed anonymously. Therefore, participants are more likely to complete the survey even if it involves sensitive topics. Overall, surveys can be seen as a simple, straight forward and time efficient method for collecting data, compared to other methods such as interviews. On the other hand, because they rely on closed questions where answers are usually selected from a list of given options, the amount of detail obtained from participants can be seen as restricted. Further information can only be obtained using follow up questions or in conjunction with a mixed design method. It is possible for response bias to occur when surveys are completed, as participants may answer questions in a way that they feel is socially desirable as opposed to their actual thoughts or feelings. Furthermore, it is essential that questions are worded in ways which are unambiguous, or participants may struggle to interpret and answer accurately. (Cohen et al., 2011; Mertens 2014). These issues in survey design will be considered in more detail below, when outlining design processes.

3.4.1 Quality of research

It is important to understand the relative contribution research can bring to the real world. For example, compelling conclusions can be drawn from quantitative

data to inform policy change. Without research being conducted, creating and implementing credible changes may not be possible (Bentz and Shapiro, 1998, p. 124). In quantitative research, consideration should be given to reliability and validity so that there is confidence in the rigour of the research process, trustworthiness of data and the conclusions made. Therefore, when developing and carrying out this study, considerations were given to the following factors: reliability, construct validity and external validity. A brief description of each of these terms are given below. A more detailed evaluation of how they relate to the study will be discussed in Chapter 5.

Reliability considers the stability of a measure. It is to ensure that each time the items of a measure are used they give consistent results. Part of reliability is internal consistency, i.e. the items are related as a group. Cronbach's alpha will be used in this study to determine the internal consistency of the measures.

Construct validity considers whether the variable measures what it intends to. As the survey was created from pre-existing measures, it was important for the study to follow the sample and context for whom the measures were designed for and this was tested through a pilot study. Construct validity is often determined on the results produced following data collection and analysis.

External validity considers whether the conclusions drawn can be applied to other settings. If yes, then the results are said to be externally valid or generalisable.

3.4.2 The study's variables

The constructs and function of the variables used in this study, as part of the research design, are shown in Table 3.2. Further details regarding the measures used for each construct will be discussed in section 3.8.

Table 3.2 The study's variables

Variable - function	Construct
Predictor	Ethnic identity
	Strength of identity
Outcome	School connectedness
Covariate	Gender
	Year Group

3.5 Characteristics of the Current Study

3.5.1 Stakeholders

During the design, implementation and evaluation of the study, a number of stakeholders were considered in accordance to the British Psychological Society's 'Codes of Ethics and Conduct' (2018). The stakeholders of this study are described below.

The Local Authority

The researcher is on placement in an educational psychology service (EPS) in the East Midlands, UK, in the role of trainee educational psychologist (TEP). At the time of developing the research proposal, the EPS expressed an interest in a study that involves ethnic groups. The service has recognised that the city has seen growth in the number of new arrivals from different ethnic groups to the UK, as well as changes to the city's long-standing ethnic diversity, and this having an effect on the makeup of school students. The EPS was supportive of looking at how this might have an impact on students in school. This study was, therefore, important in providing evidence that would help to explore this.

The University of Nottingham

This study fulfils a research requirement of the Doctorate in Applied Educational Psychology (DAEP). As well as preparing its students' professional capacity to become Educational Psychologists (EP), an aim of the Doctorate Programme is to equip the students with academic knowledge and research skills that can be used professionally to advance complex situations, such as with stakeholders.

3.5.2 The participating schools

Two schools within the LA took part in the research. One school piloted the survey and the other school was used for the study's main data collection. Both schools were mainstream secondary schools for students from years 7 to 11. The researcher had no prior relationship with either school. Details of the recruitment process for the schools can be found in section 3.9. Table 3.3 shows the characteristics of the school used for the main data collection.

Table 3.3 A table to show the key characteristics of the participating school

Features	Description
Type of school	This secondary school is part of an academy trust with two other secondary schools and 5 primary schools.
School size	1148 students
Pupil characteristics	<u>Age range</u>: 11 – 16 year olds <u>Gender</u>: 51.47% male, 45.65% female <u>SEN</u>: 10 students in the school with Education Health and Care Plans, 53 students known to the Local Authority's Educational Psychology Service. <u>Pupil Premium students</u>: 37.2% <u>Ethnicity groups</u>: White/White British – 47.6% Mixed/Multiple ethnic group – 7.9% Asian/Asian British – 38.8% Black/African/Caribbean/Black British – 4.2% Other ethnic group – 0.8% Did not specify – 0.7%
Recent Ofsted grading	N/A due to recent academy status change

3.6 Statistical significance

Statistical power looks at the probability that a false null hypothesis will be rejected, i.e. the probability of obtaining a statistically significant result (Cohen, 1988). The four factors that affect statistical significance are: power, effect size, sample size and significance criterion. Therefore, it is important to consider the sample size required in order to give a power that will produce a statistically significant result. Tabachnick and Fidell (2007) have put forward a formula for calculating the minimum sample size required.

$$N > 50 + 8m$$

N = number of Participants

m = number of IVs

This study has 6 variables (self-assessed ethnic identity, centrality, private regard, public regard, year groups, and gender) and a measure of school connectedness as its outcome. Therefore, the calculation for the minimum sample size for this study is as follows:

$$N > 50 + (8 \times 6)$$

$$N > 98$$

The minimum sample size calculated for this study is 98 participants, and the number of participants included for the study's research analysis is 295.

3.7 Research procedure

3.7.1 Survey design

The study used a survey design to collect data. The method used to plan and create the survey considered the stages outlined by both Cohen et al. (2011) and Mertens (2014) to provide a 6 stage process which is presented in Figure 3.1. Giving careful attention to each stage helped to guide the survey design so that

the pilot and administration stages could occur smoothly. The description of, and decisions taken at, each stage are given in more detail below.

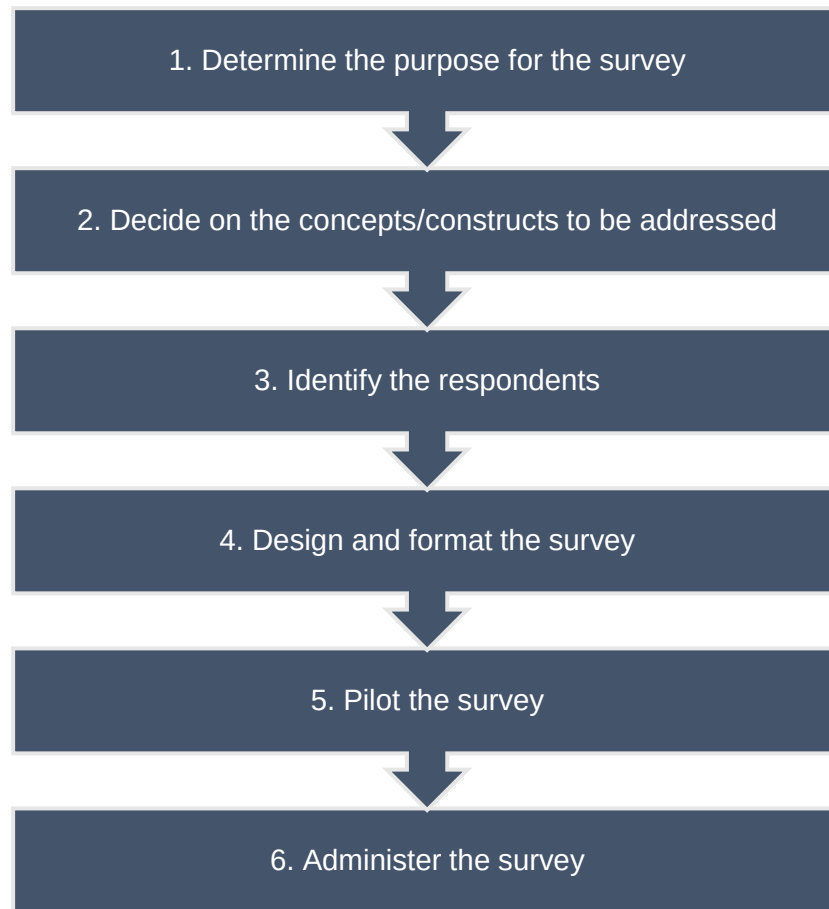


Figure 3.1 A flow diagram to show the steps taken to design the study survey (adapted from Cohen, Mannion and Morrison (2011) and Mertens (2014))

Stage 1 – The purpose of the survey was established after reflecting on the literature review in Chapter 2. The rationale for the study and research questions led to the post-positivist paradigm where a survey was identified as suitable method for collecting data.

Stage 2 – The literature reviewed explored the subjects of ethnic identity and school connectedness as constructs to be measured and analysed. The consideration of measures typically used for these constructs were identified in the systematic review in Chapter 2. The measures were chosen to ensure their appropriateness for answering the research question as well as their use with the identified participant group.

Stage 3 – With regard to its application to education, and particularly within the school environment, the participants for the research were naturally identified as being secondary students. Recognising that students differ in age and ability, it was important to select measures that had been used with secondary aged students to ensure reliability as well as accessibility. The measures selected are described in section 3.8.

Stage 4 – The design and format of the survey considered the layout and organisation of the questions. The survey needed to be presented in ways that students would be able to access with ease. Whether the students were completing the survey electronically or on paper, there would be little difference between both types for consistency. Furthermore, the use of language needed close attention so that instructions were clear and that students were given appropriate information so that questions could be answered with a proper understanding.

Stage 5 – Given that the survey is designed with the accessibility of secondary school students in mind, it was important that the survey was piloted to identify any unforeseen difficulties and the survey amended and improved accordingly. It was piloted with 14 secondary school students (who provided informed consent (see section 3.10.1)) from years 7 to 11 to provide a representative sample. to introduce the pilot process to the students it began with the researcher offering an overview of the purpose of the research and an explanation of the pilot process. Students were encouraged to note their experiences of completing the questionnaire which would be shared through a feedback discussion. Students were briefed on their right to withdraw from the pilot process at any point. They had the opportunity to be prompted with key things to consider when completing the questionnaire to provide points for reference. These prompts can be found in Appendix 4. The students were invited to take part in a group discussion about their experience. For those who were less confident to do so, a written response was also welcomed.

The following feedback was received and addressed:

1. Goodenow's (1993) measure for school connectedness uses a Likert scale from 1 to 5 where 1 is labelled 'not true at all' and 5 'completely true'. No label is given for the other numbers on the scale. This format was used in the pilot survey. However, students fed back that they would like the midpoint, i.e. the number 3, to be labelled 'somewhat true' to make it clear what the middle of the scale represented.
2. The electronic version of the survey had a technical error that prevented the selection of one option presented.

Stage 6 – Once the appropriate adaptations were made, the survey was ready for administration to students of the participating secondary school. Students could choose to complete the survey electronically or on paper. For uniformity, the paper version was the printed electronic survey, which kept the layout and formatting consistent.

3.8 Measures

3.8.1 Demographic information

Students were asked to give their age, year group and gender (which had the given options of male, female, and prefer not to say).

3.8.2 Self-assessed ethnic identity

In this study, ethnic identity was captured in a one item measure completed by the participant and not taken from the existing school records. The Office for National Statistics (ONS) (2003) has given guidance on how to gather data about ethnicity through self-report measures for England and Wales. The ONS (2003) website specifies that guidance is for people such as social researchers '*who hope to collect and present ethnic group, national identity and religion data from social surveys in the UK*'. The ethnicity measure is described as a self-identification measure that is intended for respondents to identify how they

perceive themselves. Therefore, this measure should be completed by the participant themselves and not by someone on their behalf. Whilst the question is typically given to those who are over the age of 16, the guidance does specify that those who are under the age of 16 can complete the question. The ONS (2003) guidance recommends that the question and the options available are not to be edited for the under 16s as this can be seen as limiting the young person's response. The ONS (2003) have presented researchers with a list of ethnic group options. These options were presented to the participants in this study and can be found in Appendix 5. It was later realised by the researcher that since 2003, some ethnicities have been regrouped with Chinese being part of the Asian/Asian British group and Arab being an option in Other ethnic group. Therefore, when analysis took place, ethnicities were grouped with respect to the groupings given by ONS (2011).

3.8.3 Ethnic centrality and regard

Strength of ethnic identity was measured using an adapted version of the Multidimensional Inventory of Black Identity-teen (MIBI-t) developed by Scottham et al. (2008). The MIBI-t measure was developed to use with teenage individuals of early to middle adolescence and is a shortened version of the full adult scale Multidimensional Inventory of Black Identity developed by Sellers et al. (1998). The MIBI-t looks at 3 identity dimensions: centrality, regard (split into two subscales: private and public), and ideology (split into 4 subscales: nationalism, humanism, assimilation and oppressed minority). The centrality scale and each of the subscales contain 3 items each measured using a 5-point scale (1 = strongly disagree, 5 = strongly agree). Construct validity was supported, as it was found that the internal structure of the measure was consistent with the original adult measure.

For this study, the MIBI-t was adapted following the same format as conducted by Fuligni et al. (2005) who replaced the words 'black people' with 'ethnic group' so that participants from any ethnicity could complete the scale. After adapting the scale, Fuligni et al. (2005) used the scales for centrality and private regard and found a good internal consistency of $\alpha=0.77$ and $\alpha=0.79$ respectively in their study. Furthermore, for this study, the number of items administered to

participants included only the scales that measured centrality, private regard and public regard. The ideology scale was excluded due to them not contributing to answering the research question. For each of the scales (centrality, private, and public regard), the item scores are averaged. A higher score indicates more positive feeling towards their ethnicity.

3.8.4 School connectedness

The Psychological Sense of School Membership scale (PSSM) developed by Goodenow (1993) was used to measure students' feelings of school connectedness. This measure was chosen as it considers the student's perceptions of inclusion, respect and the response they receive from their peers and teachers in school. The PSSM was developed for students aged 10 to 14 years old. Therefore, this measure seemed appropriate for use in this study where students were aged 11 to 16 years old. The scale has 18 items with 13 positively phrased items (e.g. the teachers here respect me) and 5 negatively phrased items (e.g. I wish I were in a different school). Each statement is rated on a 5-point scale (1 = not at all true to 5 = completely true). To calculate the student's feelings of connectedness, the negatively phrased items were reverse coded. The scores for each of the 18 items were then totalled and divided by 18 to give each student a mean connectedness score. A score of below 3 is said to indicate a low connectedness to school. It is thought that a score below the midpoint of 3 indicates the student being at the tipping point where their perception of school is more negative than positive, which can have risk implications for their social inclusion or commitment to education. The internal consistency for PSSM was ranged from 0.77 to 0.88 for different samples of populations of adolescents in America of students from urban and suburban areas that included a range of ethnic groups (Goodenow, 1993). When creating the measure, Goodenow (1993) assessed for construct validity testing hypotheses using a contrasted groups validation procedure.

3.9 Ethical considerations

The postpositivist paradigm has an axiological stance for beneficence and the researcher's moral obligation to the participant. Therefore, the study was designed following the BPS guidelines (2014) giving particular attention to informed consent, confidentiality, deception and debriefing.

Ethical approval for this study was sought from The Nottingham's School of Psychology Ethics Committee and approval was obtained on 12th October 2018. Following discussions with schools, it was highlighted that surveys often give poor return rates. Following BPS (2014) guidance and considering typical practice in schools, the researcher proposed the adaptation to the procedure of consent from 'opt in' to 'opt out'. This amendment was accepted by Chair action on 13th November 2018 (Appendix 6). As part of the ethics submission process, other main ethical considerations were given to this study and these are outlined sub-sections below.

3.9.1 Informed consent

A research letter was disseminated to schools. Following this, for the interested school, verbal consent was given from the Headteacher allowing the study to take place in their school. Information about the research was sent home to parents and forms of contact were offered to parents should they wish to opt their child out of the study (Appendix 7). Information sheets and consent forms were given to the students to complete before they themselves took part in the study (Appendix 8 and 9). The consent forms also informed students of their right to withdraw from the study at any given time.

3.9.2 Confidentiality

As advised by the UK Data Service, the participant's name was not asked for thus keeping the survey anonymised. The school and participants were informed that the data would only be used for the purposes of the study. Once the surveys

were completed, the data from the electronic and paper surveys were entered into a spreadsheet which was password protected. Following the entering of data, the paper surveys were shredded, the online electronic survey data was deleted, and the survey was taken offline.

3.9.3 Deception

Before completing the survey, the teacher read out the student information sheet to the class. During survey completion, a printed copy was also available for each student to refer to at any time (Appendix 8). Opportunities throughout data collection (during and post survey completion) were provided to students to ask questions about the study. The debrief form, post survey completion, also stated to the students what the survey they had just completed was about (Appendix 10).

3.9.4 Debriefing

As stated, after completion of the survey, students read a debrief form which reminded the students of what the study was about. If the students had any questions or concerns about the research, details of the appropriate people available to contact were provided. Additionally, a debrief for the study was arranged with the school's Headteacher and Special Educational Needs Coordinator (SENCo) to discuss the study's results and their potential implications for the school's principles and practice.

3.10 Recruitment and Implementation procedure

Once ethical approval for the study had been obtained, letters seeking expressions of interest were sent to secondary schools. Follow up emails were sent and phone calls were conducted. Meetings were conducted with the schools considering participation to explain the rationale of the study as well as discuss the practicalities of the study procedure in their school. Once these were agreed between the researcher and the schools, the study was able to take place. The procedure conducted can be found in Figure 3.2.

1. Obtain ethics approval (September 2018)

- Following ethics approval, Chair amendments were submitted to change the procedure from 'opt in' parental consent to 'opt out' parental consent.
- Chair amendments approved on 13.11.18.

2. Meet with the pilot school (October 2018)

- Rationale of study discussed.
- Consent obtained from school.
- Students identified.
- Information regarding research and the option to opt out was sent to student's parents.

3. Conduct the pilot study (January 2019)

- 14 students from years 7 to 11 took part in the pilot study.
- Amendments to the survey were made according to the results from the pilot study.

4. Discuss with main school for data collection (February 2019)

- Rationale of study discussed.
- Consent obtained from school.
- Students identified.
- Information regarding research and the option to opt out was sent to student's parents.
- Arrangements for main school data collection were discussed.

5. Collect survey data (March 2019)

- Survey data was collected over the course of two weeks.

6. Debrief the main school (scheduled for July 2019)

- Following data collection, a debrief meeting was organised with school to discuss the results from the study and the implications for the school.

Figure 3.2 The study's timeline

3.10.1 Survey implementation

The data collection took place in school during morning or afternoon registration times. As the school's forms are vertically tiered, each form taking part had a range of students from Years 7 to 11. Information sheets about the purpose of the study and the right to withdraw were provided to form tutors to read out to their form before starting the survey. The same information was also presented on the front page of the survey. Before starting the survey, the students were required to tick a box on the page to indicate that the information had been

provided to them and they consented to completing the survey. To allow time for careful completion, the students were given 15 minutes, as the pilot study indicated that students only took on average 7 minutes. The students completed the survey either electronically or using printed copies and pen if they preferred. The final page of the survey was a debriefing page (see Appendix 10) reminding them of the purpose of the study as well as details of relevant persons to contact should they have remaining questions or felt affected by the study in any way.

3.10.2 Pupil characteristics

A total of 295 students (139 Male, 150 female, 6 preferred not to say) took part in the study. The students were 11 to 16 years old ($M = 13.56$, $SD = 1.42$) from year 7 to year 11. The rationale for the students being from all year groups was to obtain information across the adolescent period. Furthermore, it would allow analysis to see if there are differences between year groups, rather than a particular age or year group in isolation. The number of students included in the survey represent 25.6% of the whole student school population. The students' self-assessed ethnic identity can be found in Table 3.4. The split of ethnicities appears to give a fair representation of the reported ethnicities for the whole school population as already shown in Table 3.3. A more comprehensive comparison of the reported ethnicities for this study with the whole school, other schools in the same city and other mainstream secondary schools in the UK will be discussed in section 4.2.2.

Table 3.4 Percentage of students in each ethnic group

Ethnic Group	% of study's students
White/White British	50.2
Mixed ethnic group	7.8
Asian/Asian British	34.2
Black/African/Caribbean/Black British	5.1
Other ethnic group	2.7

Table 3.5 Percentage of students in each year group

Year Group	% of study's students
Year 7	19.0
Year 8	16.3
Year 9	21.4
Year 10	31.5
Year 11	11.7

3.11 Method for data analysis

3.11.1 Data cleaning

A total of 338 students took a survey or logged on electronically to complete the survey. Of this number of students, 36 chose to withdraw after reading the information sheet leaving 302 completed surveys. A further 7 surveys were removed due to incomplete survey entries. Therefore, a total of 295 completed survey data was entered into a spreadsheet and imported into the Statistical Package for the Social Sciences (SPSS), version 24, for analysis. Once the data was imported, a final screening was completed for anomalous data. As no anomalous data was found at that stage, the final number of 295 students were included in the overall statistical analysis.

3.11.2 Data preparation

To prepare the data it was first reviewed. It was found that 36 students had selected the category 'Other' for their self-assessed ethnic identity. If the category 'Other' was selected, students were required to state their chosen ethnic identity. Each of these answers were re-categorised into their known ethnic grouping, e.g. a participant who wrote their ethnicity to be Scottish was placed in the White/White British ethnic group. The full list of the student's ethnicities stated as 'Other' can be found in Appendix 11. Secondly, the mean scores for each

subscales of the MIBI-t were calculated. Thirdly, the negatively worded items in the PSSM were reverse coded so that the scores were in the same direction as positively worded items, e.g. a score of 1 is reverse coded as 5. Finally, the average was calculated to give an overall score for feeling of school connectedness for each student.

3.11.3 Approach to data analysis

3.11.3.1 Assumption testing

To ensure whether the data allowed for parametric tests rather than non-parametric tests it was checked to see whether:

1) The data was normally distributed. Normal distribution assumes the probability distribution for a given variable. Normally distributed data would give a bell-shaped curve, with the same mean, median and mode value. It is assumed that using a student population of a school, the data would naturally be normally distributed.

2) The measures produce interval level data. This study used measures that required an average score to be calculated, thus for data analysis, scores produced were treated as interval data. Finding the mean is found to be common practice when measuring less concrete concepts. It is recommended that Cronbach's Alpha is used to calculate intercorrelation of the grouped items (Sullivan and Artino, 2013). Whilst Likert scales have been argued to produce ordinal data, in fields of research such as educational, it has been debated as to whether Likert scales can be treated like interval data. A review using real data samples conducted by Norman (2010) tested the statistical assumptions and found that parametric methods can be used on ordinal data and were more robust than non-parametric tests. Therefore, in light of this review and the common practice adopted in educational research, the data sample collected will be treated as interval data.

3) There is homogeneity of variance. This assumes that comparison groups have the same levels of variance. It is common for a violation of the assumption is calculated using a Levene's test whereby the p value < 0.05. Typically, homogeneity of variance is calculated when statistical analysis includes t-tests or analysis of variance (ANOVA).

Statistical significance was calculated to <0.05 to indicate that the result produced had less than 5% likelihood of it being due to chance. Additionally, effect sizes were calculated to provide information about the size of differences between two groups. These are reported alongside each statistical test in the results section (Chapter 4).

Multicollinearity was checked by calculating the Variance Inflation Factor (VIF) to ensure that the predictors are not too highly correlated before regression analysis was conducted. Field (2009) suggests that a VIF score below 10 is acceptable for statistical analysis.

3.11.3.2 Analysis procedure

Descriptive statistics were first conducted in order to give an overview of the mean scores for each of the measures as well as reporting internal consistency. The research questions are stated below, and the analysis conducted to address each question is described.

Research question 1: How strongly do students identify with their self-assessed ethnic identity?

This research question made comparisons between groups for how strongly students identify with their self-assessed ethnic identity. Analysis of variance (ANOVA) was used to consider whether there are significant differences in each of the strength of identification measures (centrality, private regard and public regard) among the different groupings (ethnicity, year group, and gender).

Research question 2: Are there differences among ethnic groups for feelings of school connectedness?

This research question reviewed differences between ethnic groups for school connectedness scores, thus ANOVAs were conducted to compare the ethnic groups. To establish whether year groups or gender groups contributed to differences in school connectedness scores, these were also explored using ANOVAs.

Research question 3: Do students who associate strongly with their identity feel more connected to school?

Relationships between the measure outcomes for strength of identity and school connectedness were explored. Initially, correlations were run to detect any associations between the strength of identity measures and connectedness. For the correlations that were significant, simple linear regressions were conducted to assess if feelings of connectedness could be predicted from each of the strength of identity. Multiple regressions were then carried out to see the effect of using more than one measures together to predict the outcome. To further test for interaction between variables, regression analysis was conducted using the PROCESS macro for SPSS (Hayes, 2013).

3.12 Summary of methodology

This chapter outlines the methodological approach undertaken by this study. The rationale led to a postpositivist perspective thus employing a non-experimental cross-sectional design where a survey was the chosen method for data collection. The survey was conducted in a multi-ethnic secondary school across year groups 7 to 11. To address the research questions, a number of statistical tests were identified for use on the data set and Chapter 4 will present the results found.

Chapter 4

4 Results

4.1 Introduction

In this chapter, the data collected will be analysed and the findings presented. Analysis will begin with descriptive statistics, followed by exploration of the distribution of data to see if the requirements of normality are met for parametric testing. Inferential analyses are then presented in relation to each of the research questions. The chapter concludes with a summary and interpretation of the results.

4.2 Descriptive statistics

The descriptive statistics for the whole data set are shown in Table 4.1 depicting the number of students, mean, and standard deviation (SD) for each of the study's variables. Table 4.2 presents the percentage of students within each ethnic group for this study, for the school, children and young people within the study's city, and nationally in English secondary schools so that there is an understanding of the generalisability of findings to the wider society. Later in the chapter, additional tables will be presented to provide more details by splitting the data into groups according to ethnicity, year, and gender. Further analysis for those groupings are carried out in relation to answering the study's research questions.

As shown in Table 4.1, private regard has the highest mean in comparison to the two other ethnic identity measures (centrality and public regard). School connectedness has a mean score of 3.49. This score is above 3 which shows that on average students think of school more positively than negatively (Goodenow, 1993).

Cronbach's alphas for private regard, public regard, and school connectedness all indicate good internal consistency. It is accepted that with a small number of items in a scale (lower than 10), Cronbach's alpha scores generally tend to be low (around .5). Therefore, the Cronbach alpha for centrality (.59) is within the expected range (Cortina, 1993).

Table 4.1 Descriptive statistics for each measure used in the study

Study's variables	N	Mean	S.D.	Min range	Max range	Cronbach's Alpha
Centrality	295	3.09	0.84	1	5	0.59
Private regard	295	3.86	1.10	1	5	0.92
Public regard	295	3.05	0.98	1	5	0.77
School Connectedness	295	3.49	0.69	1.5	4.8	0.88

4.2.1 Assumption testing

Skewness and kurtosis were calculated (Appendix 12). Analysis found that the skewness scores for centrality, private, public regard and school connectedness all fell within the range of -.5 to .5 indicating that the distribution is approximately symmetric (Bulmer, 1979). The kurtosis calculations found that the data had a platykurtic distribution as the scores for centrality, private, public regard, and school connectedness were all less than 3 (Balanda and MacGillivray, 1988). The Shapiro-Wilk tests for normality found significance indicating the distribution is non-normal (Appendix 13). Ghasemi and Zahediasi (2012) state that where large sample sizes are used (>200), even with small deviations from normality, significant results would be derived. It has been found that even if distribution is not normal, for sample sizes that are bigger than 30, the use of parametric tests can still be valid (Ghasemi and Zahediasi, 2012; Elliott and Woodward, 2003) and the central limit theorem can be applied when means are being used alongside a large sample size. Therefore, as recommended by Field (2009) and Tabachnick and Fidell (2007), data was visually examined using histograms, QQ plots, and boxplots to assess normal distribution. Consequently, the deviations from normality were considered not too far away from the norm to affect analysis and assumptions for normality were assessed as being met.

4.2.2 Percentage of students in each ethnic grouping

Table 4.2 Percentage of students in each ethnic group for the study, the school, city of study, and UK secondary schools

Ethnic Groups	% of students in this study's sample	% of the whole school population in this study	% of age 5-19 years old in schools in the city of the study ¹	% in the UK's mainstream secondary schools ²
WH	50.2	47.6	43	75.2
MI	7.8	7.9	7	5
AS	34.2	38.8	39	11.1
BL	5.1	4.2	9	5.6
OT	2.7	0.8	2	1.7
Did not specify	0	0.7	0	1.5

1 – Data obtained from Leicester City Council website (2011)

2 – Data obtained from DfE (2017)

Note: WH – White, MI – Mixed/Multiple ethnic groups, AS – Asian/Asian British, BL – Black/African/Caribbean/Black British, OT – Other ethnic group

The students in the study self-assessed their ethnic identity. By putting them into their respective ethnic groups and calculating the percentage of students in each group, it appears that they are fairly representative in proportion in relation to the whole school population (Table 4.2, columns 2 and 3). In comparison to the total percentage in the whole school, the study's sample had a higher percentage of students in the White, Black/African/Caribbean/Black British, and Other ethnic groups, but had a smaller percentage of students in the Asian/Asian British ethnic group (-4.6%).

The percentages published by the local authority for the city are for 5 to 19 years old rather than just secondary school students (Table 4.2, column 4). It appears that the school used in this study is fairly representative of other schools in the city as the percentages are similar.

Comparing the percentage of students in the ethnic groupings for mainstream secondary schools in the UK to the school in the study shows that the latter is more diverse. On average in mainstream secondary schools in the UK, three-quarters of the school population are White, whereas in the school of this study less than half of the students were White (47.6%). The percentage of Asian/Asian

British students in mainstream schools in the UK were three times less than the school in the study.

4.3 Research Question One - How strongly do students identify with their self-assessed ethnic identity?

To address this research question, the data are presented first using descriptive analysis for each student grouping (ethnicity, year and gender) followed by inferential statistics.

4.3.1 Ethnic groups

Table 4.3 Mean scores of strength of identity for ethnic groups

Ethnic Group	N	Study Variable					
		Centrality		Private regard		Public regard	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
WH	148	3.00	0.77	3.64	1.05	3.00	0.97
MI	23	2.81	0.76	3.70	1.23	2.86	1.07
AS	101	3.30	0.89	4.19	1.05	3.16	0.95
BL	15	3.20	1.06	4.33	1.15	3.07	1.06
OT	8	2.71	0.77	4.29	1.31	2.92	1.12

Note: WH – White, MI – Mixed/Multiple ethnic groups, AS – Asian/Asian British, BL – Black/African/Caribbean/Black British, OT – Other ethnic group

4.3.1.1 Descriptive analysis

Looking at the different ethnic groups, it is clear that every ethnic group has a stronger sense of private regard in comparison to centrality or public regard. Students in the White ethnic group appear to have more neutral views of their ethnic identity with their mean scores for both centrality and public regard centred on 'neither agree nor disagree', i.e. the middle score of 3.

The students who identify themselves as being in the Mixed/Multiple ethnic group have scores for all three measures (centrality, private regard, public regard) in the fourth position, out of five ethnic groups. Therefore, when compared with the other ethnic groups, they appear to agree less strongly with the ethnic identity

statements, i.e. giving low scores, for the statements when completing the survey for each of the measures.

The Asian/Asian British group had mean scores of at least 3.16 for all measures. For centrality and public regard, the Asian/Asian British group scored the highest. Whereas the Black/ African/Caribbean/Black British group came second in these two measures and has highest mean score for private regard.

Students who identified themselves as being in the Other Ethnic group were found to have the smallest mean scores for centrality and public regard. On the other hand, their private regard mean score was higher than the other ethnic groupings, except for the Black/ African/ Caribbean/ Black British group.

In summary, it is found that the Asian/Asian British group have the strongest ethnic identity. The next is the Black/African/Caribbean/Black British group. The White ethnic group is in the middle with a neutral view of their ethnic identity. The Mixed group and the Other ethnic group have weak ethnic identity as their mean scores are below 3 for centrality and for public regard. However, they do have higher private regard.

4.3.1.2 Inferential analysis

To explore differences between ethnic groups, one-way ANOVAs were conducted. To avoid type I errors occurring, i.e. incorrectly rejecting the null hypothesis, statistical significance was calculated to <0.05 and power was set at 0.8 (Cohen, 1992). Given these conditions, the suggested sample size for each group is 30 or bigger (VanVoorhis and Morgan, 2007). As the sample size for three of the ethnic groups are less than 30, it was possible that a type II error might occur, i.e. the null hypothesis was not rejected but should have been. Therefore, it will be highlighted where analysis showed that ethnic groups had no effect on the dependent variable.

Analysis of variance showed a main effect of ethnic groups for centrality, $F(4, 290) = 3.22, p = .013, \omega_p^2 = .03$. The effect size was found to exceed Murphy and

Myors' (2004) convention for a medium effect ($\omega_p^2 = 0.03$). Post hoc analyses using Tukey's HSD (honest significant difference) indicated that the mean score for centrality was significantly higher for students who identified themselves as Asian/Asian British compared to students who identified themselves as White/White British ($p = .041$).

Analysis of variance also showed a main effect of ethnic groups for private regard, $F(4, 290) = 4.102, p = .003, \omega_p^2 = .04$. The effect size was found to exceed Murphy and Myors' (2004) convention for a medium effect ($\omega_p^2 = 0.03$). Post hoc analyses using Tukey's HSD indicated that the mean score for private regard was significantly higher for students who identified themselves as Asian/Asian British compared to students who identified themselves as White/White British ($p = .007$).

Analysis of variance showed no main effect of ethnic groups for public regard, $F(4, 290) = 0.678, p = .608, \omega_p^2 = -.004$. This indicates that all ethnic groups felt similarly towards the ethnic identity statements for how they felt others perceived their ethnic group (public regard). In this case, it is possible that no significant differences were found due to type II errors.

4.3.2 Year groups

Table 4.4 Mean scores for strength of identity for Year groups

Year Group	N	Study Variable					
		Centrality		Private regard		Public regard	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
7	56	3.00	0.83	3.48	1.08	3.00	0.93
8	48	2.97	0.89	3.88	1.20	3.01	1.01
9	63	3.04	0.77	3.74	1.05	3.06	0.90
10	93	3.22	0.90	4.16	1.02	3.17	1.05
11	35	3.13	0.73	3.91	1.11	2.83	0.97

4.3.2.1 Descriptive analysis

For centrality, the scores appear to be centred around the middle implying that across all year groups there were no strong feelings towards ethnic centrality. Despite all the scores being relatively close together, Year 10 score the highest for centrality, and Year 8 scored the lowest.

Private regard scores seemed to fluctuate up and down between year groups. This fluctuation is discussed below, section 5.3.2. The difference between the minimum mean score (Year 7) and maximum mean score (Year 10) is 0.68.

As was the case for centrality, the scores for public regard appear to be centred around the middle score of 3 with Year 10 scoring the highest and Year 11 the lowest.

4.3.2.2 Inferential analysis

One-way ANOVAs were conducted to investigate whether there were differences between Year groups for the three ethnic identity measures: centrality, private regard, and public regard.

Analysis of variance showed no main effect of Year groups for centrality, $F(4, 290) = 1.050$, $p = .382$, $\omega_p^2 = .001$.

For private regard, analysis of variance showed a main effect of Year groups, $F(4, 290) = 3.752$, $p = .005$, $\omega_p^2 = .036$. The effect size was found to exceed Murphy and Myors' (2004) convention for a small effect ($\omega_p^2 = 0.01$). Post hoc analyses using Tukey's HSD indicated that the mean score for private regard was significantly higher for students in Year 10 ($M = 4.16$, $SD = 1.02$) compared to students in Year 7 ($M = 3.48$, $SD = 1.08$, $p < .002$).

For public regard, analysis of variance showed no main effect of Year groups, $F(4, 290) = 1.050$, $p = .382$, $\omega_p^2 = -.002$.

4.3.3 Gender

Table 4.5 Mean scores for strength of identity for gender groups

Gender	N	Study Variable					
		Centrality		Private regard		Public regard	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
Male	139	3.12	0.83	3.80	1.14	3.10	0.93
Female	150	3.08	0.84	3.96	1.04	3.02	1.00
Prefer not to say	6	2.83	1.07	2.83	1.24	2.44	1.64

4.3.3.1 Descriptive analysis

Data are presented in Table 4.4. The students who preferred not to state their gender identity consistently scored lower on all measures of ethnic identity in comparison with those in the male and female groups, although it should be noted that the number of students who preferred not to identify their gender is small and only represent 2% of the student sample for the study. As the scores for the gender group 'prefer not to say' were below 3, this indicates that students generally tended to disagree more with the identity statements than agree. The variation in scores for gender groups on private regard has the biggest range in the study of .97 between males and students who preferred not to specify their gender. Both males and females scored the highest on private regard when compared with their centrality and public regard scores, and Females scored the highest for private regard. Males were found to score most highly for centrality and public regard.

4.3.3.2 Inferential analysis

To see if there were differences between gender groups, one-way ANOVAs were conducted. Analysis of variance showed no main effect of gender for centrality, $F(2, 292) = 0.38$, $p = .687$, $\omega_p^2 = -.004$.

An Analysis of variance showed a main effect of gender for private regard, $F(2, 292) = 3.50$, $p = .031$, $\omega_p^2 = .017$. The effect size was found to exceed Murphy and Myers' (2004) convention for a small effect ($\omega_p^2 = 0.01$). Post hoc analyses

using Tukey's HSD indicated that the mean score for private regard was significantly higher for students who were female ($M = 3.96$, $SD = 1.04$) compared to students who preferred not to specify their gender ($M = 2.83$, $SD = 1.24$, $p = .05$).

Analysis of variance showed no main effect of gender for public regard, $F(2, 292) = 1.41$, $p = .247$, $\omega_p^2 = .003$. Due to the sample size of students who preferred not to specify their gender being small, it is possible that type II errors might have occurred.

4.4 Research Question Two - Are there differences among ethnic groups for feelings of school connectedness?

To address this research question, the data will be presented first using descriptive analysis for each student grouping (ethnicity, year and gender) followed by inferential statistics.

4.4.1 Ethnic groups

Table 4.6 Mean scores for school connectedness for each ethnic group

Ethnic Group	N	School connectedness	
		Mean	S.D.
WH	148	3.39	0.69
MI	23	3.46	0.82
AS	101	3.75	0.56
BL	15	3.01	0.77
OT	8	3.21	0.86

Note: WH – White, MI – Mixed/Multiple ethnic groups, AS – Asian/Asian British, BL – Black/African/Caribbean/Black British, OT – Other ethnic group

4.4.1.1 Descriptive analysis

Every ethnic group scored above 3 indicating that students generally had more positive feelings of school. The Asian/Asian British group scored most highly for

feelings of school connectedness, with the smallest SD, whilst Black/Black British group scored the lowest.

4.4.1.2 Inferential analysis

Analysis of variance showed a main effect of ethnic group on feelings of connectedness, $F(4, 290) = 6.83, p < .001, \omega_p^2 = 0.073$. The effect size was found to exceed Murphy and Myors' (2004) convention for a medium effect ($\omega_p^2 = 0.06$). Levene's test showed that the variances of connectedness for ethnic groups were not equal, $F(4, 290) = 2.55, p = .04$ indicating that the assumption of homogeneity of variance was not met. Therefore, Games-Howell post hoc procedure was used. Games-Howell analysis indicated that the mean score for school connectedness was significantly higher for Asian/Asian British ($M = 3.75, SD = 0.56$) compared to White ($M = 3.39, SD = 0.69, p < .001$) and Black/African/Caribbean/Black British ($M = 3.01, SD = 0.77, p = .02$).

4.4.2 Year groups

Table 4.7 Mean scores for school connectedness for year groups

Year Group	N	School connectedness	
		Mean	S.D.
7	56	3.55	0.60
8	48	3.27	0.80
9	63	3.44	0.60
10	93	3.57	0.73
11	35	3.59	0.71

4.4.2.1 Descriptive analysis

Feelings of school connectedness were highest for Year 11 and lowest for Year 8. It is possible to notice that feelings of school connectedness were very similar for years 7, 10 and 11.

4.4.2.2 Inferential analysis

Analysis of variance showed no main effect of Year groups on feelings of connectedness, $F(4, 290) = 1.90$, $p = .111$, $\omega_p^2 = .012$.

4.4.3 Gender

Table 4.8 Mean scores for school connectedness for gender groups

Gender	N	School connectedness	
		Mean	S.D.
Male	139	3.50	0.70
Female	150	3.50	0.68
Prefer not to say	6	2.94	0.88

4.4.3.1 Descriptive analysis

There is no difference in mean scores for feelings of school connectedness for males and females. The scores for the students who preferred not to identify their gender ($n = 6$) scored lower than the other two groups.

4.4.3.2 Inferential analysis

Analysis of variance showed no main effect of gender on feelings of connectedness, $F(2, 292) = 1.98$, $p = .140$, $\omega_p^2 = .01$. A lack of significant difference between students who preferred not to specify their genders compared with those who did, could be explained through type II errors as the sample size for 'prefer not to say' was small.

4.5 Research Question Three - Do students who associate strongly with their identity feel more connected to school?

To address this research question, the data will be presented first using Pearson's correlations for strength of identity measures with school connectedness, followed by linear regressions for correlations that are statistically significant. Following that, multiple regressions were conducted to

explore how much strength of identity accounts for variance in predicting school connectedness. The same analyses were then calculated for each student grouping (ethnicity, year and gender) to see how each covariate in combination with strength of identity may increase or decrease variance for the regression models. A closer consideration was given to the effect of the role of ethnic group on strength of identity, therefore moderation analysis was conducted to see if ethnic group influenced the relationship between strength of identity and school connectedness scores.

4.5.1 Strength of identity

Table 4.9 Pearson's correlation between strength of ethnicity measures and school connectedness

School Connectedness	
Ethnicity strength (n = 295)	<i>r</i>
Centrality	.35***
Private regard	.35***
Public regard	.27***

****p* < .001 are two-tailed.

4.5.1.1 Association between strength of identity and school connectedness

Initially correlations were conducted to identify if there were significant associations between ethnic identity outcomes and school connectedness for the whole school sample. Results of the Pearson correlation indicated that there was a significant weak positive association for all strength of ethnic identity measures (centrality, private, and public regard) and school connectedness. Centrality and private regard have the same strength of association to school connectedness. Public regard had the weakest association. As all correlations are positive, this suggests that as ethnic identity increases, school connectedness also increases.

4.5.1.2 Strength of identity as a predictor of school connectedness

Because all correlations were significant, to investigate if feelings of connectedness can be predicted from strength of identity, simple linear regressions were performed for centrality, private, and public regard. Significant regression equations were found to predict school connectedness based on

centrality ($F(1, 293) = 53.49, p < .001, R^2 = .155; \beta = .39, p < .001$), to predict school connectedness based on private regard ($F(1, 293) = 41.36, p < .001, R^2 = .124; \beta = .35, p < .001$), and to predict school connectedness based on public regard ($F(1, 293) = 22.81, p < .001, R^2 = .072; \beta = .27, p < .001$). Based on these regressions, centrality accounted for the most variance in predicting feelings of school connectedness.

To explore if the explanation of the variance (R^2) could be improved, and to test each variable of strength of ethnic identity whilst controlling for the other ones, multiple regressions were conducted. A multiple regression using centrality and private regard to predict students' feelings of connectedness was carried out. The results of the regression indicated that the model explained 18.5% of the variance and that the model was significant ($F(2,292) = 33.17, p < .001, R^2=0.185$). This model improved R^2 by 0.03 (3%) and 0.061 (6.1%) when compared to using centrality and private regard as predictors separately. Both centrality and private regard contributed significantly to the model ($\beta = .29, p < .001; \beta = .201, p < .001$ respectively). Another multiple regression was conducted to investigate whether centrality, private, and public regard together could improve the model. The results of the regression indicated that the model explained 18.6% of the variance and that the model was a significant predictor of school connectedness ($F(3,291) = 22.23, p < .001, R^2 = 0.186$). While centrality and private regard both contributed significantly to the model ($\beta = .276, p < .001; \beta = .19, p = .005$ respectively), public regard did not ($\beta = .04, p > .05$). Although the inclusion of public regard increased R^2 by 0.001 (0.1%), it was not a significant predictor for school connectedness. Models using private regard and public regard, and centrality and public regard were also explored. Variance explained by these models (centrality and public regard = 16.3%, and private regard and public regard = 13.6%) were not as high as centrality and private regard. Also, for the centrality and public regard model, the β value for public regard is not significant, and the β value is low for the private regard and public regard model. Therefore, the models are not reported.

In addition to considering strength of ethnicity identification for the whole student sample, further analyses were conducted for different student groups, split by ethnicity, year group, and gender to give a better understanding of which

covariate may contribute to associations of strength of ethnicity to predict feelings of school connectedness. As public regard did not contribute significantly in creating models to predict students' feelings of school connectedness, further statistical analysis only considers centrality and private regard.

4.5.2 Ethnic groups

Table 4.10 Pearson's correlation between ethnicity measures and school connectedness split by ethnicities

Ethnicity measure	Ethnic group	n	School connectedness
			<i>r</i>
Centrality	WH	148	.41***
	MI	23	.35
	AS	101	.32***
	BL	15	.48
	OT	8	.53
Private regard	WH	148	.36***
	MI	23	.34
	AS	101	.33***
	BL	15	.19
	OT	8	.77*

* $p < .05$ are two-tailed. ** $p < .01$ are two-tailed. *** $p < .001$ are two-tailed.

Note: WH – White, MI – Mixed/Multiple ethnic groups, AS – Asian/Asian British, BL – Black/African/Caribbean/Black British, OT – Other ethnic group

4.5.2.1 Ethnic centrality as a predictor of school connectedness

Results of the Pearson correlation indicated that there was a significant positive association between centrality and school connectedness for the White and Asian/Asian British ethnic groups. To investigate if feelings of connectedness can be predicted from strength of centrality for these two groups, simple linear regressions were conducted. Significant regression equations were found to predict school connectedness based on centrality for the White ethnic group ($F(1, 146) = 29.65, p < .001, R^2 = .169; \beta = .41, p < .001$) and the Asian/Asian British group ($F(1, 99) = 10.96, p < .001, R^2 = .10; \beta = .32, p = .001$). These regressions show that reducing the student sample to just the White ethnic group for the centrality measure as a predictor for school connectedness, the variance increases from 15.5% to 16.9%.

4.5.2.2 Ethnic private regard as a predictor of school connectedness

Results of the Pearson correlation indicated that there was a significant positive association between centrality and school connectedness for White, Asian/Asian British, and Other ethnic group. To investigate if feelings of connectedness can be predicted from strength of private regard for these groups, simple linear regressions were conducted. Significant regression equations were found to predict school connectedness based on private regard for the White ethnic group ($F(1, 146) = 21.51, p < .001, R^2 = .128; \beta = .36, p < .001$), the Asian/Asian British group ($F(1, 99) = 11.65, p < .001, R^2 = .11; \beta = .33, p = .001$), and Other ethnic group ($F(1, 6) = 8.52, p = 0.027, R^2 = .587; \beta = .77, p = .027$)². These regressions show that reducing the student sample to just the White ethnic group for the private regard measure as a predictor for school connectedness, the variance increases from 12.4% to 12.8%. Additionally, the model also increased for private regard measure when Other ethnic group was considered independently. The variance for the model increased from 12.4% to 58.7%.

4.5.2.3 Ethnic centrality and private regard as a predictor of school connectedness

To test the use of strength of centrality and private regard together as predictors for connectedness for White, Asian/Asian British, and Other ethnic group, three separate multiple regressions were conducted. The results of the regression for the White ethnic group indicated that the model explained 18.8% of the variance and was a significant predictor of school connectedness ($F(2,145) = 16.83, p < .001, R^2 = 0.188$). Whilst centrality contributed significantly to the model ($\beta = .306, p = .001$), private regard did not ($\beta = .175, p > .005$). The results of the regression for the Asian/Asian British ethnic group indicated that the model explained 14.5% of the variance and was a significant predictor of school connectedness ($F(2,98) = 8.32, p < .001, R^2 = 14.5$). Centrality and private regard both contributed

² It must be noted that the sample size for this ethnic group is small, therefore the likelihood of a type II error is increased.

significantly to the model ($\beta = .219, p = .035, \beta = .234, p = .024$ respectively). The results of the regression for the Other ethnic group indicated that the model explained 58.8% of the variance but was not a significant predictor of school connectedness ($F(2,5) = 3.563, p > .05, R^2 = 58.8$). Neither centrality or private regard contributed significantly to the model ($\beta = -.041, p > .05, \beta = .795, p > .05$ respectively).

Narrowing the centrality and private regard predictors to the White ethnic group, rather than the whole sample, increased R^2 for the model by 0.003, i.e. an additional 0.3% of the variance of connectedness can be explained by the model. However, only centrality was a statistically significant contributor to the model. Whilst the model for Asian/Asian British was significant, R^2 did not improve. The model for Other ethnic group was not significant. A further regression was conducted to explore the possible moderation effects ethnicity may have on strength of identity in predicting school connectedness scores.

4.5.2.4 Moderation analysis

Table 4.11 Influence of ethnicity on strength of identity³

		ΔR^2	<i>b</i>	<i>t</i>
Centrality	Constant		2.28	11.10***
	Centrality	.01	.37	5.54***
	W1		.10	.17
	W2		.81	2.56**
	W3		-.38	-.67
	W4		-.68	-.77
	Int_1		.02	.10
	Int_2		-.17	-1.75
	Int_3		-.02	-.13
	Int_4		.22	.71
Private regard	Constant		2.53	13.52***
	Private regard	.01	.24	4.78***
	W1		.14	.31
	W2		.50	1.59
	W3		-.07	-.10
	W4		-.11	-1.79
	Int_1		-.02	-.17
	Int_2		-.06	-.80
	Int_3		-.11	-.70
	Int_4		.27	1.43
Public regard	Constant		2.81	16.22***
	Public regard	.01	.19	3.52***
	W1		-.08	-.19
	W2		.66	2.35
	W3		-.88	-1.60
	W4		-.61	-.88
	Int_1		.07	.46
	Int_2		-.11	-1.22
	Int_3		.16	.95
	Int_4		.15	.69

****p* < .001 are two-tailed

Moderation analysis was conducted to investigate whether ethnicity moderates the relationship between strength of identity and school connectedness. The moderated regression model for centrality ($F(9,285) = 9.36$, $p < .001$, $R^2 = 22.82$), private regard ($F(9,285) = 8.34$, $p < .001$, $R^2 = 20.84$), and public regard ($F(9,285) = 6.07$, $p < .001$, $R^2 = 16.08$) are statistically significant. The significance of the

³ Because moderation analysis involves multiple regression with a categorical variable, i.e. ethnicity, with five possible values, ethnicity has to be recoded. Four indicator variables (W1 to W4), or dummy variables, were created by the Process software automatically for recoding, and four interaction variables (Int_1 to Int_4) were also created to test for interaction.

coefficients seen in Table 4.10 is due to the significant associations between strength of identity and school connectedness as found in section 4.5.1. However, no significant interactions were found between ethnicity and centrality, private regard, or public regard, as all coefficients for the interaction variables are not statistically significant. This indicates that the relationship between strength of identity and school connectedness is not moderated by ethnicity. Visual examination of graphs was also conducted to confirm that ethnicity does not influence strength of identity's prediction of feelings of school connectedness (Appendix 14).

4.5.3 Year Groups

Table 4.12 Pearson's correlation between ethnicity measures and school connectedness split by year

Ethnicity measure	Year group	n	School connectedness
			<i>r</i>
Centrality	7	56	.28
	8	48	.45***
	9	63	.15
	10	93	.52***
	11	35	.42*
Private regard	7	56	.14
	8	48	.45**
	9	63	.36**
	10	93	.40***
	11	35	.42**

* $p < .05$ are two-tailed. ** $p < .01$ are two-tailed. *** $p < .001$ are two-tailed.

4.5.3.2 Year grouped centrality as a predictor of school connectedness

Results of the Pearson correlation indicated that there was a significant positive association between centrality for the Year groups 8, 10 and 11 and school connectedness. To investigate if feelings of connectedness can be predicted from strength of centrality for these year groups, simple linear regressions were

conducted. Significant regression equations were found to predict school connectedness based on centrality for Year 8 ($F(1, 46) = 11.48, p = .001, R^2 = .20; \beta = .45, p = .001$), Year 10 ($F(1, 91) = 32.79, p < .001, R^2 = .265; \beta = .52, p < .001$), and Year 11 ($F(1, 33) = 6.86, p = .013, R^2 = .172; \beta = .42, p = .013$). These regressions show that reducing the student sample to Years 8, 10, and 11 for using centrality measure as a predictor for school connectedness, the variance explained increases from 15.5% to 20%, 26.5%, and 17.2% respectively.

4.5.3.2 Year grouped private regard as a predictor of school connectedness

Results of the Pearson correlation indicated that there was a significant positive association between private regard for the Year groups 8, 9, 10 and 11 and school connectedness. To investigate if feelings of connectedness can be predicted from strength of private regard for these year groups, simple linear regressions were conducted. Significant regression equations were found to predict school connectedness based on private regard for Year 8 ($F(1, 46) = 11.35, p = .002, R^2 = .198; \beta = .45, p = .002$), Year 9 ($F(1, 61) = 8.80, p = .004, R^2 = .126; \beta = .36, p = .004$), Year 10 ($F(1, 91) = 17.46, p < .001, R^2 = .152; \beta = .40, p < .001$), and Year 11 ($F(1, 33) = 7.14, p = .012, R^2 = .178; \beta = .42, p = .012$). These regressions show that reducing the student sample to Years 8, 9, 10, and 11 for using centrality measure as a predictor for school connectedness, the variance explained increases from 12.4% to 19.8%, 12.6%, 15.2%, and 17.8% respectively.

4.5.3.3 Year grouped centrality and private regard as a predictor of school connectedness

To test the use of the strength of centrality and private regard together as predictors for connectedness for each year group (8, 9, 10, 11), multiple regressions were conducted.

For Year 8, the results of the regression indicated that the model explained 25.1% of the variance and that the model was a significant predictor of school connectedness ($F(2,45) = 7.56, p = .001$). However, neither centrality nor private regard contributed significantly to the model ($\beta = .284, p = .08, \beta = .279, p = .085$ respectively).

For Year 9, the results of the regression indicated that the model explained 12.6% of the variance and that the model was a significant predictor of school connectedness ($F(2,60) = 4.34, p = .017$). Private regard contributed significantly to the model ($\beta = .364, p = .01$), however, centrality did not ($\beta = -.018, p = .89$).

For Year 10, the results of the regression indicated that the model explained 29.2% of the variance and that the model was a significant predictor of school connectedness, $F(2,90) = 18.53, p < .001$. Centrality contributed significantly to the model ($\beta = .419, p < .001$), however, private regard did not ($\beta = .190, p = .069$).

For Year 11, the results of the regression indicated that the model explained 23.4% of the variance and that the model was a significant predictor of school connectedness ($F(2,32) = 4.89, p = .014$). However, neither centrality nor private regard contributed significantly to the model ($\beta = .273, p = .136, \beta = .286, p = .118$ respectively).

Narrowing the centrality and private regard predictors to years 8, 9, 10, and 11, found the models for years 8, 10 and 11 increase R^2 , from 0.185 for the whole sample, to 0.251 for Year 8, 0.292 for Year 10 and 0.243 for Year 11. For Year 10, only centrality was a statistically significant contribution. Neither centrality nor private regard contributed significantly to the models for Year 8 and Year 11.

Table 4.12 shows that neither centrality nor private regard were significantly correlated with school connectedness for Year 7 students which may seem like a surprising result given that the other year groups correlated with either centrality or private regard (or both). This could be due to the transition from primary to

secondary school with many changes. This is further discussed in Chapter 5, section 5.5.3.

4.5.4 Gender

Table 4.13 Pearson's correlation between ethnicity measures and school connectedness split by gender

Ethnicity measure	Gender group	n	School connectedness
			<i>r</i>
Centrality	Male	139	.42***
	Female	150	.39***
	Prefer not to say	6	.045
Private regard	Male	139	.32***
	Female	150	.35***
	Prefer not to say	6	.69

* $p < .05$ are two-tailed. ** $p < .01$ are two-tailed. *** $p < .001$ are two-tailed.

4.5.4.1 Gender grouped centrality as a predictor of school connectedness

Results of the Pearson correlation indicated that there was a significant positive association between male and female scores for centrality and school connectedness. To investigate if feelings of connectedness can be predicted from strength of centrality for these gender groups, simple linear regressions were conducted. Significant regression equations were found to predict school connectedness based on centrality for Male ($F(1, 137) = 29.01, p < .001, R^2 = .175; \beta = .42, p < .001$) and Female ($F(1, 148) = 26.07, p < .001, R^2 = .150; \beta = .39, p < .001$).

4.5.4.2 Gender grouped private regard as a predictor of school connectedness

Results of the Pearson correlation indicated that there was a significant positive association between male and female scores for private regard and school connectedness. To investigate if feelings of connectedness can be predicted from strength of private regard for these gender groups, simple linear regressions were

conducted. Significant regression equations were found to predict school connectedness based on private regard for Male ($F(1, 137) = 15.07, p < .001, R^2 = .099; \beta = .32, p < .001$) and Female ($F(1, 148) = 21.16, p < .001, R^2 = .125; \beta = .35, p < .001$).

4.5.4.3 Gendered Centrality and private regard as a predictor of school connectedness

To test the use of the strength of centrality and private regard together as predictors for connectedness for each of the gender groups Male and Female, multiple regressions were conducted.

The results of the regression indicated that the model explained 18.9% of the variance and that the model for Male was a significant predictor of school connectedness ($F(2,136) = 15.81, p < .001$). Centrality contributed significantly to the model ($\beta = .349, p < .001$), however, private regard did not ($\beta = .136, p = .134$).

The results of the regression indicated that the model explained 18.1% of the variance and that the model for centrality, private regard for Female was a significant predictor of school connectedness ($F(2,147) = 16.22, p < .001$). Both centrality and private regard contributed significantly to the model ($\beta = .28, p = .002$ and $\beta = .207, p = .002$ respectively).

Narrowing the centrality and private regard predictors to Male and Female found an improvement only in the model for Male with the percentage of variance explained increased to 18.9% from 18.5% for the whole sample. However, only centrality was a statistically significant contributor to the model.

4.5.4.4 Summary of centrality and private regard as a predictor of school connectedness

As a result of exploring the data to investigate which covariates contribute to predicting school connectedness, it was found that for centrality, being a student

in the White ethnic group, in Year 8, 10, or 11, and male, increased the percentage of variance explained. When a hierarchical regression was conducted for students who satisfied these conditions, R^2 increased to 0.287 ($F(1,33) = 13.27, p = .001; \beta = .54, p = .001$).

By investigating which covariates contribute to predicting school connectedness, it was found that, for private regard, being a student in the White or Other ethnic group, in Year 8, 9, 10, or 11, and female the percentage of variance increased. When a hierarchical regression was conducted for students who satisfied these conditions, R^2 increased to 0.243 ($F(1,57) = 18.28, p < .001; \beta = .49, p < .001$).

However, the models of regression did not find any increase in R^2 for any of the covariates when placed in the model with centrality and private regard together. Whilst the percentage of variance explained is 18.5% which is lower than the two models mentioned above, it is worth noting that all students can be included in this model, rather than being specific to subsets of the student sample.

4.6 Summary of results

Through exploration of the descriptive and inferential statistics, it has been possible to answer the research questions and gain a better understanding of strength of identity and its relationship with school connectedness.

4.6.1 Research Question One: How strongly do students identify with their self-assessed ethnic identity?

The first set of analyses found that generally, strength of identity was stronger for private regard than for centrality and public regard. ANOVAs found that there were few differences between ethnic groups for strength of identity. The only finding that was statistically significant difference was between Asian/Asian British students and their White ethnic group peers, with the former group scored more highly for both centrality and private regard. When considering year groups, the only statistically significant difference was found between Year 7 and Year

10, where Year 10 were found to have a higher strength of identity for private regard. No gender differences were found. With regard to the research question, analysis found that strength of identity was felt more strongly for private regard than centrality and public regard, and differences for strength of identity occurred for two ethnic groups and two year groups.

4.6.2 Research Question Two - Are there differences among ethnic groups for feelings of school connectedness?

The second set of analyses considered differences between groups (ethnicity, year and gender) for feelings of school connectedness. Whilst school connectedness was not negative for the Black/African/Caribbean/Black British ethnic group, they were the lowest of all the ethnic groups. The students who identified themselves as Asian/Asian British felt the most connected to school. The difference in range between these two groups was confirmed by an ANOVA as statistically significant. Additionally, an ANOVA also found a statistically significant difference between Asian/Asian British students and those in the White ethnic group. Therefore, with regard to the research question, some ethnic group differences have been found. Whilst the mean scores appeared different between some year groups for their feelings of connectedness, no significant statistical difference was found. Again, like strength of identity, no significant difference was found between genders for feelings of school connectedness.

4.6.3 Research Question Three - Do students who associate strongly with their identity feel more connected to school?

The third set of analyses aimed to understand the relationship between strength of identity and school connectedness. Pearson's correlation found that there is a weak but statistically significant relationship between strength of identity and school connectedness. As the relationship was positive, it appears that as strength of identity increases, so does school connectedness and vice versa. Following Pearson's correlation, multiple regression analysis found that both centrality and private regard contributed to the model for predicting feelings of school connectedness. It was found that whilst public regard did also contribute

.01% to the model, this contribution was not statistically significant. Further analyses sought to strengthen the model's explanation of variance in being able to predict school connectedness. It was found that for centrality, students who were part of the White ethnic group, in Year 8, 10, or 11, and male created a significant model with improved accuracy. Similarly, a significant model was found for private regard for students who were part of the White or Other ethnic group, in Year 8, 9, 10, or 11, and female. However, these models are of limited because they only apply to very specific groups.

Moderation analysis investigated whether ethnicity moderates the relationship between strength of identity and school connectedness. This was conducted for centrality, private regard and public regard. No statistically significant interactions were found for any of the models.

Overall, in response to the research question, there is a relationship between strength of identity and school connectedness, and predictions for school connectedness for the whole student sample are best made when centrality and private regard are considered together.

Chapter 5

5 Discussion

5.1 Overview of the chapter

The aim of the current study is to consider self-assessed ethnic identity for adolescent students, the strength of their identity, and how strength of ethnic identity may relate to feelings of school connectedness for them. The literature review in Chapter 1 found that both ethnic identity and school connectedness had relationships with individual outcomes, in terms of both psychological (e.g. wellbeing) and educational (e.g. academic achievement). Therefore, in this study it was conjectured that a relationship may exist between ethnic identity and school connectedness. If this does exist, then it may provide a better understanding of the importance of fostering both an individual sense of ethnic identity and a feeling of belonging in school, so that they can impact positively on each other as well as helping to promote positive individual outcomes.

The chapter begins by reviewing the results for each research question in relation to existing literature. A summary of the outcomes is then given, and the theoretical implications of these results are discussed. The limitations of the methodology of this study are then considered and suggestions for future improvements are made. Reflections of how these findings could impact educational provision and be applied in practice is given. Based upon the theoretical and practical review, suggestions for future research are presented. Finally, a conclusion of the study is given, closing with personal reflections.

5.2 Self-assessed ethnic identity

Student participants selected an ethnic identity from the list of options provided by ONS (2003) or wrote a description that they felt best described themselves. That some students selected the option 'other' and specified their own ethnicity

meant that they did not feel confined by the options offered on the list, and showed that they were able to recognise and identify with a group in which they felt they belonged (Tajfel, 1981; Ashmore et al., 2004). However, it was not possible to know if there were any students who felt unable to state a different ethnic identity, if it was not provided on the list given. Oyserman et al. (2012) highlight that identity can change with time and experiences, thus, the self-identification that the students gave should be seen as a snapshot of how they perceived themselves at that particular point in time. By noting their ethnicity, an outward statement was given. As ethnicity was self-selected or self-defined by the students, this was a good indication of which ethnicity is subjectively meaningful to them at that time, and how they want others to perceive them (ONS, 2011).

The majority ethnic group in this study was White/White British (n = 148). The second largest ethnic group was Asian/Asian British (n = 101). As the number of participants in each ethnic group were known, percentages of participating students in each ethnic group could be calculated and could be compared with other known ethnic group percentages in the city and UK mainstream secondary schools (Table 4.2). Whilst the Asian/Asian British ethnic group is considered a minority in many areas of the UK, the city in which this study took place hosts the largest number of Asian/Asian British people in the UK (Leicester City Council, 2011). Therefore, in this study, this group is seemingly large differing in size to the White/White British by 16% which makes the group seem much less like a minority in comparison to the other ethnic groups. Considering the ethnic group makeup for the school, city and nation, the results from this study are likely to be generalisable to other schools in the LA and other cities in the UK that have a similarly diverse population, such as some regions in London and in the West Midlands (ONS, 2011). However, since most of the UK has a much larger proportion of White/White British students and a much smaller proportion of Asian/Asian British students than the school that took part in the study, generalisation to other parts of the UK will require caution.

5.3 Research Question One – Strength of identity

As each student gave their own ethnic identity, the first research question considered was how strongly they identified with the ethnicity they gave. Analysis was conducted with students split into their ethnic groups, year groups, and gender. The following sections will discuss outcomes for these splits separately, considering literature and then reviewing the implications for the school context and wider society.

5.3.1 Strength of identity among ethnic groups

In this study it was found that all students, for every ethnic group, identified more strongly with how they felt about being a member of their ethnic group (private regard) than either the emphasis they placed on ethnic group membership as part of their overall self-concept (centrality), or how they felt others viewed their ethnic group (public regard). This finding is notably similar to other studies carried out in the USA, where private regard was felt more strongly in comparison to centrality and public regard (Byrd and Chavous, 2017; Fuligni et al., 2005). However, further data is needed to understand the extent of the wider international picture, and its relevance for the UK.

In order to understand better why private regard is the strongest ethnic identity measure for all students, a point to consider is where the students are in their developmental stage of identity formation. It could be that private regard is formed earlier than the development of centrality, or of public regard. Therefore, adolescents may be required to identify their feelings towards their own ethnic group before doing so in relation to how it is viewed by others. Phinney (1990) postulates that where ethnic identity is salient, more psychological effort and exploration is required when forming an identity. Thus, recognising this study was conducted in the UK where there is a growing ethnic diversity, many of the students may need to consciously explore the notion of ethnic identity. To reconcile their feelings toward ethnic identity, and how it is viewed by others, schools could consider how to provide students with time and opportunities to that support the formation of ethnic identity.

Strength of ethnic identity was further explored by considering each ethnic group separately in this study. For the White ethnic group, the centrality and public regard scores were mostly populated around the middle of the scale indicating a neutral view. This suggests that, for this group of students, their expression of ethnic group identity and others' perceptions of their ethnic group had a little influence on how they feel about their membership to the group. Even though the White ethnic group is only the marginal ethnic majority in the school, (see Table 4.2), in the UK they are said to be seen as the ethnic group 'norm' (Gillborn, 1996). For research conducted on adults, it was found that White participants felt that ethnic background was less important than those from other ethnic groups, with the reasoning attributed to the 'normality of whiteness' and of low salience (Aspinall and Song, 2013, p. 559; Phinney, 1989). However, Erikson's stages of development theory states that all adolescents pass through an identity formation stage. It could therefore be suggested that the White students face fewer challenges regarding group membership (centrality) and how they are perceived (public regard) as part of their identity formation process. Thus, it could be hypothesised that adolescents from ethnic minority groups might have to negotiate these factors more consciously. This may explain why compared to other ethnic groups, the private regard scores for the White ethnic group were the lowest which signifies that these students felt less strongly about what their ethnic group means to them compared to their ethnic minority peers. Again, further research would deepen understanding of the external validity of this data for the UK.

Students who identified themselves with the Mixed/Multiple ethnic group ($n = 23$) generally had lower strength of ethnic identity than the other groups. This may relate to the fact that their identity consists of more than one ethnic group category, with more factors to consider and personal conflicts to resolve. For example, they have to resolve which aspects of each of the group membership means something to them, how others may perceive this and how much the ethnic groupings are part of their own self-concept. When association occurs with more than one ethnic group, a student may not feel as though they specifically fit in one group, so ethnic identity may be more difficult to foster. According to

Marcia's (1966) stages of identity formation, this group of students may have taken longer to move from identity exploration to identity commitment. Poston (1990) suggested that more than one ethnicity might make ethnic identity less clear. However, whilst conducted in America, Spencer, Icard, Harachi, Catalano, and Oxford (2000) found that of 2184 students between the ages of 11 and 15, single ethnic group and multiple ethnic group scored similarly on overall ethnic identity. This suggests that even if forming an identity is more difficult for those who are mixed ethnicities, there is potential for their strength of identity to be as strong as those who are associated with one ethnic group. Therefore, when promoting identity in schools, more support may need to be given to Mixed/Multiple ethnic students.

Students in the Other ethnic group (n=8) had a sense of private regard which was higher than all other ethnic groupings. Conclusive inferences, given the small numbers involved, are difficult. It could be reasoned that because they are the smallest ethnic minority group in the school, understanding what ethnic identity means to them is more important than it is for the other ethnic groups. It should also be acknowledged that there are no qualitative aspects to this data to inform judgements. For example, it is not known whether any students had arrived recently or had recent geographical transitions, which might enhance or challenge a sense of identity (Yuen, 2010).

The Asian/Asian British and Black/African/Caribbean/Black British groups in this study appeared to have the strongest overall sense of ethnic identity. For high school and college students in the US, previous research has explained difference in strength of identity between majority and minority groups to be due to the salience of ethnicity (Phinney & Alipuria, 1990, Aries & Moorehead, 1989). Aries & Moorehead (1989) found that for Black adolescents in America, ethnicity was the most frequently reported factor for self-definition. Umaña-Taylor, Bhanot and Shin (2006) found that within Asian cultures in the US, families play a critical role in ethnic identity formation. Thus, for this study, even though the Black/African/Caribbean/Black British students are in an ethnic minority group and the Asian/Asian British students are not a clear minority ethnic group, culture and family may play an important role in helping them to form their self-concept,

views on how other groups perceive them and feelings towards their own group (Reynolds, 2006).

Interestingly, although the descriptive analysis shows several differences among ethnic groups, inferential analysis on the data only found statistically significant difference between the White and Asian/Asian British ethnic groups for feelings of strength of identity for centrality and for private regard, where Asian/Asian British students had a stronger sense of ethnic identity than their White ethnic group peers. No significant difference was found between any ethnic groups for public regard. Existing studies have compared the strength of identity between ethnic minority groups in America and European Americans and found that ethnic minority groups tend to have a stronger sense of ethnic identity (Farver, Xu, Bhadha, Narang and Lieber, 2007; Martinez and Dukes, 1997). Whilst findings here show ethnic group differences, without an evidence base in the UK, it is difficult to know what is typical of student populations here.

The implication of these findings is that each ethnic group may have to make different considerations when forming an ethnic identity, such as accounting for multiple ethnicities and family influence (Poston, 1990; Reynolds, 2006). In UK educational settings, an awareness of these differences may helpfully be developed so that approaches for strengthening ethnic identity can be adapted accordingly.

5.3.2 Strength of identity among year groups

When student data in this study was analysed by Year group, there was little fluctuation or movement away from the neutral feelings for centrality and public regard. Similar to the ethnic group split, year groups also had slightly higher private regard scores. A statistically significant difference was found between Year 10 and Year 7 for private regard with Year 10 showing a stronger sense of pride in this area. This could be because Year 10 students had more time to establish a sense of identity, as ethnic identity is said to increase into adolescence (Eccles and Roeser, 2011; Oyserman et al., 2012). As no other

statistical differences were found between year groups, this finding suggests that ethnic identity development is at a similar stage across year groups.

5.3.3 Strength of identity among gender groups

Males scored higher than females for centrality and public regard, whereas females scored higher than males for private regard. For students who preferred not to specify their gender, their strength of ethnic identity scores was generally the lowest for all three measures. The only significant difference was found between females and the students who preferred not to specify their gender. The number of students in the non-specified gender group was very small ($n=6$), therefore, the difference may not be a true representation of other students in the school who may have chosen not to specify their gender. Cramer (2000) recognises that many researchers have tried to explore gender differences in identity formation. A review conducted by Kroger (1997) found that there are few gender differences in identity structure and process. A more recent study on college students in America also found no gender differences in identity formation (Lewis, 2003). Therefore, it appears that gender is not a significant factor to consider when supporting adolescent identity development

5.3.4 Summary of strength of identity

Descriptive analysis of strength of identity found observable differences such as private regard scores being consistently higher than centrality and public regard scores, indicating that students felt more strongly about their own feeling towards ethnic group rather than self-concept or other's perceptions. Therefore, for this group of students, private regard could be considered the most important factor in forming ethnic identity, or that this element of identity is developed earlier than centrality and public regard. Private regard being felt more strongly supports the research conducted in America (Byrd and Chavous, 2017; Fuligni et al., 2005). Ethnic group differences were found for the two largest ethnic groups in the school (White and Asian/Asian British), and previous research has suggested why these differences may exist, such as family influence. For this study, because

no other significant ethnic group differences were found, it suggests that the development of strength of identity is at a similar stage for all students.

The wider implication is that it seems important for schools to recognise that research has found that strength of identity is linked to positive individual outcomes such as wellbeing and academic attainment (Rivas-Drake et al., 2014; Smith and Silva, 2011; Santos and Collins, 2016). Therefore, understanding the challenges and factors that each ethnic group faces when forming ethnic identity, schools may wish to consider them when planning how best to support the strengthening of identity.

5.4 Research question 2 – Feelings of school connectedness

Feelings of school connectedness were explored by splitting the sample into ethnic groups, year groups, and gender. Using ANOVAs, groups of students were compared to identify whether there were differences in the school population.

5.4.1 School connectedness among ethnic groups

With UK school populations showing increasing diversity, it was important to understand whether feelings of school connectedness differ among the ethnic groups. When students were divided into the five ethnic categories (White, Mixed/Multiple ethnic groups, Asian/Asian British, Black/African/Caribbean/Black British, and Other ethnic group) as proposed by ONS (2011), it was found that every ethnic group scored above three for school connectedness (Table 4.6), on a 5-point Likert scale, indicating that students generally felt positively towards school. It could be argued that a positive feeling towards school is different to a connection with school. In the broader sense, there could be a difference between affect and cognition. A student may have a feeling such as connectedness towards school but may be unable to identify the specific reasons for their emotion. Similarly, a student may understand or recognise the positives of school without feeling an emotional connection to school. Goodenow (1993) suggests that students scoring below three may mean that they are at risk of social exclusion. Therefore, the findings indicate that the students in this study

are not at risk. However, it is unclear as to whether it is the student's positive affect or cognition (or both) that aids the reduction of social exclusion. As mentioned in section 2.3 the PSSM measures school connectedness as a global measure; others have characterised school connectedness as multi-faceted (You et al., 2011). Therefore, whilst the students' overall levels of school connectedness were positive, it is not possible to identify whether there were elements of school connectedness that were particular aspects of school connectedness, such as connections with teachers or sense of membership in the school environment, that the students value more than others. Consequently, future research may wish to consider school connectedness as a multi-faceted construct (Hodges et al., 2018).

In this study, although all feelings of school connectedness were positive, data indicates that school connectedness might be experienced differently between ethnic groups. Asian/Asian British students were found to have significantly higher feelings of school connectedness in comparison to White and Black/African/Caribbean/Black British students. Regarding rates of exclusion, Asian/Asian British students had the lowest rates of exclusion in the UK, whereas Black Caribbean pupils had permanent exclusion rates that were almost three times higher than the UK school population (DfE, 2018). Where school connectedness considers factors such as acceptance and inclusion, school exclusions have been described as a form of rejection (Munn and Lloyd, 2005). Considering persistent disruptive behaviour was reported to be the most common cause for exclusion (DfE, 2018), causal attribution studies have found that teachers attribute challenging behaviour to home and parent factors whereas students attribute causes as external to themselves e.g. teachers' unfairness (Miller and Black, 2001; Miller, Ferguson and Byrne, 2000). Therefore, with differing perceptions between students and teachers, it is possible to recognise how Black/African/Caribbean/Black British students might feel less included and teachers' attributional responses might affect the attitudes they adopt towards their students (Brophy and Rohrkemper, 1981). In combination, it is possible that these factors both contribute to producing lower feelings of school connectedness in particular ethnic groups.

Research has indicated a relationship between higher levels of school connectedness and academic outcomes (Niehaus et al., 2012). Where academic outcomes are concerned, teachers are found to play a role particularly in relation to their expectations of students (Strand, 2013). Considering the role of teachers in both school connectedness and how their expectations can influence students' concept of their academic attainments, a possible explanation of differing sense of school connectedness could be partially due to the student's experience of teachers (Rubie-Davies et al., 2006). In the UK, it has been identified that some Asian/Asian British students are among the higher academic performing groups, whereas some students from the White and Black/African/Caribbean/Black British ethnic groups are among the lowest academically performing groups (Social Mobility Commission, 2016). Research has found that teachers' expectations can differ depending on their own ethnicity and this can influence academic outcomes and their response to students (Turner et al., 2015; Strand, 2015). Students who are academically attaining may show higher levels of engagement and motivation to learn than students with poorer academic outcomes. As a result, the latter group may disengage from learning and receive less teacher support, which in turn may contribute to student feelings of not being supported (Klem and Connell, 2004). Therefore, whilst teachers may not explicitly show disrespect for, or disinterest in students, students' feelings of disconnection from teachers may be related to the teachers' perceptions of student motivation, engagement, or achievement (Turner et al., 2015; Gershenson et al., 2015). Despite the possible contribution of teacher expectations and student academic success in student feelings of school connectedness, it should be remembered that both of these factors do not account for all feelings of school connectedness (Glock et al., 2015).

Although the White ethnic group students in this study did not have the same feelings of school connectedness as their Asian/Asian British peers, the findings are similar to Voight's (2013) study in California. There it was found that both White and Asian students had higher levels of connectedness compared to African American students. Because Voight (2013) reported differences between schools as well as within schools, it was suggested the consistent school connectedness disparity among these ethnic groups may be due to something

happening within schools that is cultivating a different experience for ethnic groups, or that out of school experiences are affecting students' in school experiences, e.g. stressors within their neighbourhoods and communities.

Several implications can be drawn from the findings. First, a closer assessment of school connectedness may be required. In order to understand how school connectedness can be improved, it should be approached as a multi-faceted construct to determine if there are areas of school connectedness that are felt more strongly than others, e.g. teacher expectations compared to the school's environment. Second, consideration should be given to factors outside of ethnic identity that may contribute to a student's feeling of school connectedness, such as school ethos or community connectedness (Voight. 2013).

5.4.2 School connectedness among year groups

Feelings of school connectedness were lowest for Year 8 and highest for Year 11 and there was a noticeable increasing trend from Year 8 to Year 11. Year 7 students showed similar school connectedness levels to Years 10 and 11. Previous research conducted in the US (Whitlock, 2006; Ding and Hall, 2007; Witherspoon and Ennett, 2011) has found that school connectedness declines with age, which is contrary to the outcomes of this study. The dissimilarities could be due to different schooling systems or educational practices in the two countries making the findings not generalisable.

As stated in section 2.3.3, little research in the UK has considered feelings of school connectedness over time in secondary schools. However, research has identified factors such as development of new friendships, meeting staff and extra support for finding their way round school contribute to what students deem to be a successful transition (Evangelou, 2008). It appears that these inclusive practices help to support feelings of school connectedness for Year 7 students and this could explain why, in this study, they showed a higher level of school connectedness despite being the newest members of the school.

In the UK, students in Year 10 and 11 are able to select several subjects that they would like to study for their GCSEs, in addition to the compulsory subjects.

Kennish and Cavanagh (2011) found that a student's favoured subject produced high level of engagement and Adey and Biddulph (2001) found that a student's perception of subject 'usefulness' motivated their selection. Therefore, in relation to these findings, choice of subjects may help to increase a student's academic motivation and engagement, thus leading to more a more positive experience of school. Furthermore, DfE (2010) guidance dictates that class sizes for practical subjects decrease with year progression due to health and safety risks thus class sizes for lessons such as Art and Design reduce from 30 in Year 7 to 20 in Year 11. Smaller class sizes are said to promote engagement and academic performance (Finn, Pannozzo and Achilles, 2003). Smaller classes may also enable students to get to know one another more easily thus building friendships and enhancing school connectedness. Other year groups are, in contrast, normally larger, where connectedness with peers and school may be more difficult to establish. This may offer explanation for the lower scores for Years 8 and 9.

It appears that the UK has systems in place that support students' development of school connectedness in secondary schools, i.e. transition planning from primary to secondary school for Year 7 students, choice in subjects for GCSE years, and the compulsory reduction in class sizes for practical subjects. However, Year 8 and 9 may require additional strategies to raise school connectedness to the same level as the other year groups.

5.4.3 School connectedness among gender

No statistically significant difference in mean scores for feelings of school connectedness was found for males and females. However, Hernandez et al. (2017) found that boys had lower school connectedness scores than girls. They attributed this to gender differences in experience, for example Mexican girls were identified to have more out of school support and boys were seen in their study to face more school challenges. Other studies in The US have also found that females have a stronger sense of school connectedness than males (Goodenow, 1993). Gender differences have been used to explain differences in academic achievement (Saunders, Davis, Williams and Williams, 2004). Because

these studies were not conducted in the UK, further studies in the UK are required to ascertain whether gender differences are atypical of students in UK.

The students who preferred not to identify their gender had the lowest school connectedness score. Although the number of students in this group was small, it may be pertinent to consider whether these students have other factors contributing to their identity, such as a challenge in establishing gender identity, which may impact on their feelings of school connectedness. Dubé and Savin-Williams (1999) found that regardless of ethnicity, sexual minority adolescents met identity milestones at developmentally appropriate times. However, disclosure of sexual identity differed across ethnicities. Furthermore, for children Grades 4 to 8 in the US, it was found that contentedness with gender identity was positively related to psychological adjustment (Egan and Perry, 2001). Therefore, with the understanding that identity is formed in adolescence (Erikson, 1968) and the knowledge that sharing of gender identity occurs at different times across ethnicities (Dubé and Savin-Williams, 1999), group membership may not be able to be fully established when students are unable to openly express their gender identity, thus not fully achieving 'identity achievement' (Marcia, 1966). This could have contributed towards this group of students' overall psychological wellbeing and impacted on their feelings of school connectedness.

Schools, therefore, could benefit from an understanding of identity formation and recognition of the different types of identity that a student may form during adolescence, e.g., ethnic, sexual identity. The process of identity formation can be understood as aiding students' positive psychological adjustment, which will in turn will impact on their school experience.

5.4.4 Summary of feelings of school connectedness

In response to the research question, there are some differences in feelings of school connectedness for students. It was found that Asian/Asian British students had higher school connectedness than White and Black/African/Caribbean/Black British ethnic group peers. To consider the differences between ethnic groups more closely, a multi-faceted school connectedness measure should be used rather than a global measure. Being aware of factors that could contribute to

school connectedness, e.g. teacher expectations, schools can reflect how best to adapt their ethos and practice in promoting school connectedness.

Although no statistical differences were found for year groups, the identified general trend of increase in school connectedness could be explained by some of the school structures in place. For year groups where these structures, e.g. smaller class sizes, are absent, schools may consider strategies that promote school connectedness, e.g. cooperative learning strategies for larger class sizes (Li and Lam, 2002).

Differences by gender for school connectedness were found. Students who preferred not to specify their gender scored significantly lower than those who did. An implication considered is the formation of gender identity and its association with psychological wellbeing (Egan and Perry, 2001). Awareness of identity formation in schools is therefore indicated in order to support students' identity development.

Where there is stability in feelings of school connectedness, it could be interpreted as a positive outcome. Moreover, the school in which this research is conducted appears to have a consistent ethos and approach to school connectedness throughout school.

5.5 Research question 3 - Strength of identity and school connectedness

As data for strength of identity had been obtained from students for centrality, private, and public regard, and their feelings of school connectedness, it was possible to explore associations between them. Correlations were used to identify whether connections between variables existed and regressions were used to explore how much the different measures of strength of identity contributed to predicting feelings of school connectedness. Ethnicity, year groups, and gender were also considered separately in conjunction with the measures of strength of identity; the different models created helped to explore improved predictions of students' feelings of school connectedness.

5.5.1 Strength of identity

All three strength of identity measures (centrality, private, and public regard) were found to show a significant small correlation with school connectedness, suggesting that they all have a relationship with school connectedness. Table 4.9 indicates that strength of correlation is the same for centrality and private regard and that public regard has a lower correlation with school connectedness. Rivas-Drake, Hughes and Way (2009) found lower levels of public regard for ethnic minority adolescents compared to centrality and private regard as participants felt that they were not as accepted by their peers due to their ethnicity and feelings of racial hostility. With regards to school connectedness, therefore, considering a student's relationship with their peers, it seems that students have an awareness of perceived differences in acceptance of their ethnic group (Qin, Way and Pandey, 2008). The implication in schools would be to challenge perceived stereotypes and promote celebration of diversity (DfE, 2014a).

The systematic literature review in section 2.8 identified other researchers who have sought to understand the relationship between strength of identity and school connectedness. Similar to this study, Boston and Warren (2017), Fuligni et al. (2005), Hernandez et al. (2017), and Santos and Collins (2015) all found a significant relationship between strength of identity and school connectedness. As these studies are conducted in the US, the findings indicate that internationally, strength of identity is associated with feelings of school connectedness even though there may be differences in student population demographics and educational systems.

More specifically, these studies found that strength of ethnic identity and school connectedness were also associated with individual outcomes such as academic attitudes and school respect (Fuligni et al., 2005; Santos and Collins, 2015). These findings indicate that strength in ethnic identity is not a negating factor, instead Fuligni et al. (2005) conclude that an understanding of who you are is more likely to give the student's goals and motivations meaning, thus feeling more positive towards school (school connectedness). Hernandez et al. (2017) found a bi-directional relationship between strength of ethnic identity and school

connectedness, identifying that positive school experiences can affirm strength of identity. Therefore, both strength of identity and school connectedness can be seen as being a protective factor. Santos and Collins (2015) found that strength of ethnic identity did act as a protective factor, when considering the relationship of strength of identity and school connectedness with academic achievement, even when school connectedness was low, and ethnic identity high, academic achievement was not affected.

Whilst these studies have been conducted on students outside of the UK, the findings indicate that the relationship between strength of identity and school connectedness is positive with the potential to act as protective factors. With the knowledge that they both contribute to individual outcomes such as academic achievement, promoting either strength of identity or school connectedness is likely to produce an impact on the other. In addition to academic success, ethnic identity has been associated with psychosocial outcomes, self-esteem, and wellbeing (Rivas-Drake et al., 2014; Umana-Taylor and Updegraff, 2007; Smith and Silva, 2011). Recognising that there is an association between ethnic identity to psychological and educational outcomes, it suggests that there is the potential to affect change outside of the school setting, contributing instead to societal outcomes on a wider scale. Therefore, with reflection to the UK's current context and need of wellbeing promotion (section 2.3), if schools work towards increasing strength of identity and feelings of school connectedness, the impact this may have outwardly is that schools can contribute towards the decrease in prevalence of mental health needs, thus also reducing the need for external agency intervention (e.g. CAMHS).

5.5.1.1 Strength of identity as a predictor of school connectedness

Significant regression equations were found to predict school connectedness based on centrality (15.5% variance), private regard (12.5% variance), and public regard (7.2% variance). Based on these regressions, centrality accounted for the most variance in predicting feelings of school connectedness.

Multiple regressions showed that when both centrality and private regard are considered together, they contributed significantly to the model predicting feelings of school connectedness and the explanation of variance increased to 18.5% from 15.5% and 12.5% for centrality and private regard when considered on their own respectively. This means that strength of identity in this model includes both strength of the individual's self-concept (centrality) and their personal feelings towards ethnic group (private regard). Public regard did not contribute significantly to the explanation of variance when combined with the other two measures. This could be due to the correlation between public regard and school connectedness, which is the weakest out of the three measures.

Further explorations were then conducted with centrality and private regard, to consider if the strength of identity was split into covariate groups (ethnicity, year, and gender) this showed associations with school connectedness. Where positive associations were found, their contribution in predicting school connectedness was considered. It was hoped to provide a more detailed understanding as to whether there are models that might help to better predict school connectedness in the UK. Whilst Santos and Collins (2015) and Boston and Warren (2017) created models of prediction in their studies, they did not consider the direct relationship between strength of identity and school connectedness but focused their predictions on student grades. Therefore, the model for this study is novel and currently incomparable to other studies. The final formed models for predicting school connectedness will be discussed in section 5.5.5.

5.5.2 Strength of identity and school connectedness among ethnic groups

Correlations in Table 4.10 indicate that for White and Asian/Asian British students, strength of centrality, and the addition of Other ethnic group for private regard, were significantly associated with school connectedness. For this study, White and Asian/Asian British groups were the largest in the school. Whilst Fuligni et al. (2005) found that strength of identity was higher for ethnic minority groups (Mexican and Chinese), these ethnicities were not the minority in the schools of their study. Phinney (1990) would suggest that the membership of ethnic minority

groups hold greater importance to developing ethnic identity due to salience of the ethnicity which might explain the association for the Other ethnic group. However, for these findings, it could also be suggested that being part of a larger ethnic group in a setting also plays a role in strengthening identity. Tajfel's (1979) social identity theory may offer insight into this, where feeling an association with group membership is noted to give a sense of belonging (in-group status). Social identity in turn can increase an individual's sense of pride and self-esteem derived from group affiliation. This suggests that in schools, it would be important recognise that in-group status is significant for increasing an individual's identity, but that this should be done alongside 'mutual respect for others' (DfE, 2014a, p. 5) to prevent discrimination against other ethnic groups (Tajfel and Turner, 2004).

5.5.2.1 The effect of ethnicity on predicting feelings of school connectedness

As White and Asian/Asian British ethnic groups both showed significant associations with school connectedness, regression analyses were conducted. It was found that for centrality, students who identified themselves in the White ethnic group contributed the most explanation of variance towards the model for predicting feelings of school connectedness. For private regard, whilst White and Asian/Asian British and Other ethnic groups were all considered, only White and Other ethnic groups contributed to the model's explanation for predicting school connectedness.

When centrality and private regard were considered together as predictors for school connectedness, the White ethnic group explained the highest percentage of variance (18.8%), however, only centrality contributed to the model and not private regard. On the other hand, using centrality and private regard together as predictors for feelings of connectedness for the Asian/Asian British, the model and both predictors were significant but R^2 did not improve. The regression model for the Other ethnic group explained the highest percentage of variance, however the contributions from both centrality and private regard were statistically insignificant. Therefore, for this model, ethnic group did not help to strengthen the prediction for school connectedness.

Whilst there are differences between ethnic groups for significance and strength of correlation with school connectedness, it appears that prediction of feelings of school connectedness was only significant for White ethnic group for centrality and was able to account for a higher percentage of explanation of variance when compared to the whole student sample was used. Similarly, for predictions for private regard, only students in the White and Other ethnic group helped to improve the prediction for school connectedness. When centrality and private regard are considered together, ethnicity did not help to improve the explanation variance.

5.5.3 Strength of identity and school connectedness among year groups

Results of the Pearson correlation indicated that there were significant positive associations between centrality and school connectedness for the year groups 8, 10, and 11, and significant positive associations between private regard and school connectedness for the year groups 8, 9, 10, and 11.

It is interesting that for Year 7, both centrality and private regard scores are not significantly correlated with school connectedness. The transition from primary to secondary school has been identified as a difficult period for students to negotiate due to the changes such as increase in school size, the number of teachers, and expectations both academic and behavioural (Anderman, 2003). Where research has previously found that school connectedness declines with age, it is also thought that the transition between school placements can contribute to this decline (Whitlock, 2006). As discussed in section 5.4.2, this study did not find a decline in school connectedness with age. An explanation for the lack of association between strength of identity and school connectedness for Year 7s may be the stage in identity formation in addition to the transition from primary to secondary school. Erikson's (1969) stages of development model suggests that Year 7s would be at the early stages of identity development. Furthermore, since schools in the UK deploy strategies to try and make transitions for students successful (Evangelou et al., 2008), the focus for Year 7s might initially lie with developing a sense of school connectedness and this might be established more quickly than strength of ethnic identity. The bi-directional relationship found by

Hernandez et al. (2017) might also help to explain the findings from this study. That is, school connectedness might be supportive of the development of strength of identity, which is why as students in the study progress the relationship between the two becomes evident. An implication for schools therefore, might be to recognise the number of developmental processes occurring for Year 7 students, for example, establishing a sense of school connectedness, ethnic identity, and acknowledge that these might occur at different times or rates.

5.5.3.1 The effect of year group as a predictor of school connectedness

Dividing the sample into Years 8, 9, 10 and 11 and applying regression analysis, using centrality as the predictor for feelings of connectedness, significant models were created for Year 8, 10, or 11 and the explanation of variance was increased for all these three sub groups from 15% for centrality on its own to 20%, 26.5%, and 17.2% respectively.

For private regard These regressions show that dividing the student sample into Years 8, 9, 10, and 11 as a predictor for school connectedness, the variance explained increases from 12.4% to 19.8%, 12.6%, 15.2%, and 17.8% respectively.

When centrality and private regard were considered together, there was no year group where both centrality and private regard contributed significantly to the model.

5.5.4 Strength of identity and school connectedness among gender

Correlations found statistically significant associations for both males and females for both centrality and private regard with school connectedness with similar association for both genders for both measures (Table 4.12). Likewise, Hernandez et al. (2017) found that strength of identity (termed as ethnic pride in their study) correlated positively with school connectedness for both males and females and found that strength of association also held similarly for both

genders. Due to the longitudinal design, Hernandez et al. (2017) was able to identify the effect of strength of ethnic identity on school connectedness over time (from 5th to 7th grade, and from 7th to 9th grade). They found that strength of identity was associated with school belonging over time and found relative increases in school belonging over the different time points for both males and females. Therefore, if this study were to adopt a longitudinal design, it could be expected that similar results might be found. An implication of these findings is that because the associations are similar for both genders between strength of identity and school connectedness, it can be expected that the effects of intervention will be the same for both genders.

The correlation between strength of identity and school connectedness was not significant for those students who preferred not to identify their gender. A reason for the lack of association may be due to gender identity also potentially being an associating factor with school connectedness. As gender identity is associated with psychological adjustments (Rieger, and Savin-Williams, 2012), this may affect feelings of school connectedness, which in turn, might impact on the association ethnic identity has with school connectedness. As no study has looked specifically at the relationship between strength of identity and school connectedness for students who would prefer not to specify their gender, it seems important that further studies are conducted in this area to get a better understanding of the external validity or replicability of these results.

5.5.4.1 The effect of gender as a predictor of school connectedness

Dividing the sample by genders and applying regression analysis, using centrality as the predictor for feelings of connectedness, significant models were created for males and females. The explanation of variance had a small increase for males (2.5%) but remained the same for females.

For private regard, significant models were created for males and females. However, the explanation of variance was decreased for male and increased only by a fraction (0.1%) for female.

When centrality and private regard were considered together, no significant models were found for males or females.

5.5.5 Summary of strength of identity and its association with school connectedness

On the whole, strength of identity correlates positively with school connectedness. All three strength of identity measures (centrality, private, and public regard) were found to show a significant small correlation with school connectedness, suggesting that they all have a relationship with school connectedness. Whilst causality cannot be assumed, because all correlations were positive, it would appear that as strength of identity increases, so does school connectedness. Therefore, this suggests that a student who has a stronger sense of ethnic identity would also feel more positive about school. The implications of these findings are that fostering strength of ethnic identity and school connectedness will both help to enhance each other. Hernandez et al. (2017) found a bi-directional relationship between strength of identity and school connectedness. It was suggested that stronger feelings of school connectedness helped to promote students' strength of identity as experiences in school may validate and affirm identity development.

From findings, it appears that existing research places more emphasis on centrality and private regard when considering the relationship between strength of identity and school connectedness (Santos and Collins, 2015; Fuligni et al., 2005). A reason for this may be that, like this study, public regard explains little variance when predicting feelings of school connectedness. It would seem that more research needs to be conducted in this area in the UK, to better understand the contribution of strength of identity in predicting school connectedness.

The results show that statistically significant models can be created for strength of ethnic identity to predict feelings of school connectedness. The best model found for this study considers centrality and private regard together explaining 18.5% of the variance. Public regard did not significantly help to predict feelings of school connectedness when combined with centrality or private regard. Further

models for predicting school connectedness were also found separately for centrality and private regard, however, the number of students this applied to was reduced. Therefore, for schools to promote school connectedness via strength of identity, their intervention should focus more heavily on self-concept of ethnic group membership (centrality) and the student's personal feelings towards their ethnic group (private regard).

Considering both strength of identity and school connectedness, research shows a clear link with individual outcomes psychologically (Blum, 2005) in addition to educationally (Lavous et al., 2017), therefore, schools might take reassurance that any work to promote strength of identity or school connectedness will contribute towards an improvement of student outcomes. In doing so, schools are contributing towards acknowledging difference and promoting ethnic diversity as well as wellbeing.

5.6 Ethnicity as a moderator for strength of identity

Moderation was conducted to see if the relationship between strength of ethnic identity and school connectedness depended on ethnicity. Statistically, this has been characterised as an interaction (Hayes, 2013). This study found that ethnicity did not moderate the relationship between strength of ethnic identity and school connectedness. Three models were conducted for centrality, private, and public regard (Table 4.11). For all models, no significant interactions were found. All models were found to be significant as strength of identity increased, so did feelings of school connectedness. Appendix 13 demonstrates the relationship between strength of identity and school connectedness and it is possible to see that there is no interaction as the lines on the graphs all follow the same direction. This indicates that there are no negative effects of strength of ethnic identity on school connectedness. Thus, an implication in the school setting is that attempts to improve school connectedness by increase strength of ethnic identity, should produce no negative effects for any ethnicity. Additionally, no specific interventions need to be tailored to specific ethnicities meaning that a whole school approach can be adopted.

Of the studies identified in the systematic literature review (section 2.8), no study looked to see if ethnicity moderated the relationship between strength of identity and feelings of school connectedness. Thus, it is difficult to know whether the results are unique to this study or if they are likely to be reproduced if it had been considered by others.

5.7 Methodological Review

A critical review will now be presented of experimental design, quality of research (reliability and external validity), analysis, and measures.

5.7.1 Experimental design

A drawback of this study's design is that only quantitative data was gained. Whilst statistical analysis enables reliable conclusions to be drawn from large samples, a consequence is that students were viewed from a 'macro' viewpoint which did not allow for the complexity of student experience or perceptions to be explored in detail (Guba and Lincoln, 1994). For example, if a qualitative approach were to be adopted, a student could give reasons to the ethnic labels they gave themselves. Experience of the students could be drawn upon to provide a better understanding of their perceptions of ethnic group identity and the value they place on self-concept, and regard for how they feel towards their ethnic group and how they feel others perceive them which might allow for stereotypes to be exposed. An understanding of their experience of school could allow for exploration of whether they feel their ethnicity plays a role in their school experience when forming relationships with their peers and teachers, and the barriers they identify as hindering their development of school connectedness. Emerging themes would then give a detailed picture for the students with a closer look at the similarities and differences in each students' understanding and interpretation of experiences.

The cross-sectional design meant that the survey was administered to students at one point in their secondary school education. Whilst the data gained is true for their perceptions and feelings at that particular point in time, on reflection, a

longitudinal study would be beneficial in understanding how their perceptions and feelings may change as they progress through school (Polyhart and Vandenberg, 2010). This would allow for development of an accurate picture of ethnic identity formation, whether ethnic identity strengthens or declines with age, and how school connectedness may increase or decrease with time in school.

The data was collected from students in their school setting and the survey contained items regarding school connectedness. Whilst survey anonymity was given, it is possible that students might have succumbed to response bias giving answers to items that they felt were socially desirable rather than how they truly feel due to the awareness that the school would be in receipt of the study's outcomes (Krumpal, 2013).

5.7.2 Quality of research

5.7.2.1 Reliability

Cronbach's alpha was calculated to assess internal consistency for each of the measures used in the study. All measures except for centrality had a good score of internal consistency ($\alpha > .7$; Cortina, 1993), but the measure of centrality was found to have an alpha score of .59. Corina (1993) suggests that a reason for a lower score may be due to the small number of items in the measure. Since the centrality measure had 3 items; future studies may wish to consider including more items to strengthen the score.

5.7.2.2 External validity

The study took place in one secondary school. Although the sample was large, with $n > 200$ (Field, 2009), the distribution of ethnicities outside of the city where the study was conducted is likely to be different. Therefore, it is important to be aware of this when considering the findings and implications of the study to other schools. Schools that have a more diverse ethnic population than the school in this study may find that White students are in the minority. Conversely, the White ethnic group will be in the clear majority in a less ethnically diverse school. Whilst

further studies will need to be conducted to understand the effects of a change in diversity on the findings, drawing upon literature regarding social group norms by Tajfel (1982), ethnic identity may be a factor on which students base their group membership, as ethnic differences become more salient for ethnic minority groups, it could lead to a stronger or weaker experience of school connectedness.

Furthermore, each school will have a different school ethos and approach in promoting ethnic identity and school connectedness. This is likely to impact students' experiences and thus their feelings towards strength of identity and school connectedness. Therefore, if this study were to be replicated in a different school, differences in their ethos and approaches may have a different impact on their students meaning responses to survey items could vary across schools (MacNeil, Prater and Busch, 2009). To understand the implications of varying approaches, the study would need to consider evaluating the effectiveness of school methods so that its impact on students could be assessed.

5.7.3 Statistical significance

Despite having a large sample size, statistical analysis was only applicable when splitting the data at one level, e.g. major ethnicity groupings. If the ethnic groups had been broken down to their smaller component groups for analysis, it is likely that the probability of obtaining a statistically significant result would be affected due to the small number of students within each group (Cohen, 1988), thus producing results that are both falsely significant and not generalisable. For example, consideration of Arab students' feelings of connectedness compared to Chinese, both of whom were small minorities in this study ($n = 2$ and $n = 2$, respectively). If the sample size was much larger, more detailed analysis could be conducted with more specific groups.

5.7.4 Measures

The measure of school connectedness used in this study was given to students through a survey. Goodenow (1993) developed the measure on students that

were of adolescent age and students included had ethnic minority representation. However, the measure looks at school connectedness as a global measure and provides a single score, even though it included items that consider different aspects of school connectedness such as peer relations, school attachment, and teacher support. Therefore, it does not allow for these aspects to be analysed in closer detail. Researchers such as Chung-Do, Goebert, Chang and Hamagani, (2015) and You et al. (2011) believe the measure has the multi-faceted items. On reflection, research could be improved by considering which items of the school connectedness measure are associated with particular individual outcomes, such as academic motivation. If the measure allowed for the analysis of its comprised items relating to different aspects, then it would have been possible for this study to analyse which aspect of school connectedness students most valued and which might be relatively weaker.

5.8 What can be done in schools?

Discussion below aims to address how the findings of the study might inform the development of practice in schools, educational psychology services and contribute knowledge towards an evidence base for which development of future educational guidance and policy can be taken.

5.8.1 School practice

The first area for consideration deriving from the interpretations drawn in this study is the question of how schools might address the promotion of identity. Recognising that the DfE (2014a) produced guidance that promotes the value of 'mutual respect and tolerance' among students in school and outwardly acknowledging and celebrating diversity, the findings relating to centrality, private, and public regard can contribute towards school practice.

The study found that there were some differences in strength of identity between groups of students when considered by ethnicity, year group, and gender. Furthermore, the strength of identity differed between centrality, private, and public regard. As the UK is increasing in ethnic diversity (ONS, 2011), it seems

important for schools to reflect on how to create a safe environment where students can learn about different ethnicities and openly explore what ethnicity means to them (centrality), with an understanding of how their experiences and beliefs may have shaped their perceptions. Learning with others allows for perspectives to be shared (public regard) and may allow the students to build a sense of pride, acceptance, and formulate thoughts about what identity means to them (private regard) whilst maintaining respect for others. Spencer et al. (2000) identified that different ethnic groups have the potential to score similarly on ethnic identity measures, therefore time and opportunities should be given to students to enable this. Verhoeven, Poorthuis and Volman (2019) conducted a review on strengthening identity for students. They found that identity can be strengthened using implicit (e.g. collaborative learning) and explicit strategies (e.g. reflective exploration) in schools. Whilst the strategies identified did not specifically have a focus for ethnic identity formation, it seems that schools would be able to adapt such methods for ethnic identity. By allocating time and adoption of appropriate strategies, individuals with varying backgrounds, e.g. second-generation immigrants, parents who are of two different ethnicities, or new arrivals in the country, will be more able to recognise, acknowledge and develop their own ethnic identity, in addition to forming an accepting school community.

The second area is that schools might wish to assess the role teachers play in promoting school connectedness and formation of ethnic identity. Research indicates that teacher expectations can influence students' concept of their academic attainments, thus affecting their academic outcomes (Rubie-Davis and Webber, 2015; Madon et al., 1997). Since this can affect a student's school experience, encouraging reflective practice may allow teachers to understand their own actions and how this may be different or similar across different cohorts of students, e.g. year groups and subjects.

Teachers are also role models in school as adolescents can understand and evaluate adult roles to make informed decisions as a part of their identity development (Erikson, 1968). Furthermore, Hamman and Hendricks (2005) recognised that teachers can respond to adolescent development by creating safe environments to allow adolescents to try on different identities to understand

themselves and their capabilities better. Therefore, teachers are well placed to promote and aid adolescent development in strength of identity and school connectedness.

The third area is the promotion of strength of ethnic identity and school connectedness at a whole school level. A school day encompasses times when students are in and out of formal classroom settings and so acceptance and inclusion can occur in any part of the school environment (Lester et al., 2013). Therefore, schools might consider the different contexts students might find themselves in during a school day to utilise these opportunities. Aside from the classroom setting, school clubs and extra-curricular activities, such as sports, provide opportunities for promoting inclusion and building of community (Mahoney, Harris and Eccles, 2006). As this study found that strength of identity and school connectedness are positively correlated, practice that builds a student's strength of identity should also lead to stronger feelings of school connectedness and vice versa. It may also be important for schools to recognise that with adolescent development, the needs of students will differ with age, therefore, how school connectedness is promoted for Year 7 students may look very different for Year 11s. Chapter 2 highlighted the need for more to be done to promote wellbeing as a means of prevention. Promotion of school connectedness would help to increase the likelihood of positive student outcomes.

5.8.2 Educational Psychology Practice

Farrell (2004) states that EPs can facilitate a broader notion of inclusion that focuses not only on children with SEN, but also on groups that are vulnerable to marginalisation, e.g. ethnic minority groups. Additionally, the EP's role enables them to work with schools in a variety of ways, e.g. at individual, group or organisational levels (DfEE, 2000).

Whilst, this study's findings may not be generalisable to all educational settings, the study identified the principles for how increasing strength of ethnic identity and school connectedness may be beneficial in improving student outcomes. As

this study was undertaken using a survey to obtain student perspectives on ethnic identity and school connectedness, it is possible for other EPs to replicate the procedure in their local authorities as an audit tool. By identifying if a relationship is present between strength of identity and school connectedness, it would be possible for the EPs to help their educational settings to respond flexibly and appropriately in their context.

Theorists such as Schein (1990) highlighted the importance of being aware of an organisation's environment and a meta-awareness in order to consider any environmental changes. Bruhn, Zajaz and Al-Kazemi (2001) recognise that for change to be effective, it needs to be well supported by management and that staff need to feel involved in making the change, i.e. it isn't something that is happening to them. EPs are well placed to observe a school's environment from a perspective outside of the school staff. In using strategies to develop change, such as Soft Systems Methodology (Checkland and Scholes, 1990), collaborative working could take place with school staff to identify areas of relative strength and weaknesses in promoting ethnic identity and school connectedness offering a more tailored approach for that school. For example, on a whole school level, interventions for improving school connectedness (Rowe and Stewart, 2011) and ethnic identity (Umaña-Taylor, Kornienko, Bayless and Updegraff, 2018) could be recommended and support for implementation offered to the school.

Furthermore, it would be possible for EPs to help schools develop their curriculum. EPs have been described to follow a 'plan, do, and review' process (Gov.uk, 2014). At a planning stage, areas for opportunity can be identified. For example, each academic year Black History Month is celebrated, and it may be possible for schools to consider other events and months where ethnic history diversity can be taught.

At the 'do' stage ways to effectively implement the plan needs to be considered. Strategies such as collaborative learning have been identified for improving identity as well as school connectedness (Verhoeven, et al., 2019; Li and Lam, 2002), thus, EPs may provide schools with staff training and consultations to

increase staff understanding of these methods and how they might benefit their students.

At an individual level, educational psychologists also have the opportunity and ability to explore students' self-concepts and personal constructs (Kelly, 1977). Therefore, it is possible to gain individual's perspective of identity and sense of connectedness and identify barriers between the student's perceptions and their current situation. Working with a student individually has the benefit of in-depth exploration. You et al. (2011) identified that school connectedness is multi-faceted, by working with a student individually, it will be possible to identify which aspects of school connectedness have relative strengths or weaknesses. Strategies and recommendations that tailored to the student's needs can then be given to promote positive outcomes. Furthermore, this will provide school with an added insight about the students specifically in their school.

With knowledge and skills for research, EPs are able to help schools to evaluate the effectiveness of their support. Understanding that there are associations with individual outcomes such as academic attainment, pre and post intervention measures can be obtained so that data can be compared and analysed. This would help to provide schools with an increased understanding of what works well in their school.

5.9 Future research

This study has highlighted several interesting findings and suggested points for consideration both at a school level and for educators. As a result of completing a study, areas for further consideration arise and remain to be addressed. This section identifies several areas for further research in ethnic identity and school connectedness.

The methodological review highlighted the possibility of exploring an adolescent's understanding of ethnic identity, in addition to their reason for selecting that particular ethnic identity, by using a qualitative approach. Qualitative methods could allow exploration of other issues highlighted from this study. First, several

students in the study identified themselves as being part of the Other ethnic group. Future studies could consider student perceptions of having to select the 'other' option and then to state their ethnicity, and whether this may make them feel 'less recognised'. Second, research in ethnicity has thus far been focused on ethnic minority groups. While this study has provided some data about White majority students, more research would aid a better understanding of how they feel about their ethnicity and the effects their sense of identity has on their education. Third, a greater understanding could be gained by understanding which aspects of school connectedness students relate to. By asking students questions that focus on affect, cognitive, and behavioural aspects of school connectedness, common themes may emerge for which aspects students give more value to (Hodges et al., 2018). In addition to this, a better understanding can be gained as to whether students have positive feelings towards school or feel a connection to school.

A longitudinal study would help to understand the stability of adolescent identity during their time at school. The different time points for data collection might help to identify if changes occur over the adolescent period indicating to when there is an incongruity between their ideal and actual self (Phinney and Ong, 2007; Adams and Marshall, 1996). Comparisons can also be drawn to gain a better understanding of how this might differ between individuals who are considered 2nd or 3rd generation immigrants or who were newly arrived to the country. If differences were to emerge, educators would have a better insight as to which students may require more targeted support and when this might be needed.

Lastly, this study found that private regard was more highly scored in comparison with other measures of strength of identity (centrality and public regard). It would be interesting to understand more whether private regard is formed earlier or whether private regard is held more strongly with individuals because it is more personal to how the individual feels about group membership and not just how it is used as membership to describe their self-concept (centrality) and others' perceptions of the ethnic group (public regard).

5.10 Conclusion

This study set out to explore the relationship between ethnic identity and feelings of school connectedness for adolescents. The investigation was rooted in the importance of promoting wellbeing in schools, a known predictor of academic outcomes, and in consideration of ethnic diversity. The literature identified that strong ethnic identity and feelings of school connectedness both have the benefit of influencing positive individual outcomes, particularly for adolescents in education.

The growth in ethnic diversity in the UK, with geographical variation, indicates the need for educational settings, to tackle and minimise inequalities that can be associated with certain demographics. Understanding of the relationship between strength of ethnic identity and individual outcomes such as academic attainment and engagement has begun to advance, recently (Boston and Warren, 2017; Santos and Collins, 2015). The systematic literature review revealed that much of the research in this area has been conducted outside of the UK, mainly the US. Furthermore, perceptions of the significance of ethnic identity appear to vary in adolescence. To advance understanding and consider the relationship of ethnic identity with school connectedness through adolescence, this study measured adolescent ethnic identity and school connectedness in one large ethnically diverse school.

The need to consider each school in the context of its local community demography is evident. However, the patterns in the data appear to be those that might be cautiously predicted to be found in other contexts, given features in the attainment data by ethnicity, nationally. Strength of ethnic identity was significantly higher in this study for students who were Asian/Asian British compared to their White ethnic group peers, and Asian/Asian British students also had significantly higher feelings of school connectedness in comparison to their White or Black/African/Caribbean/Black British peers. Positive correlations between all measures of strength of identity (centrality, private, and public regard) and school connectedness were noted, and centrality and private regard, when considered together, were the best predictors of school connectedness.

The results indicate that there are some ethnic group differences for both strength of ethnic identity and feelings of school connectedness, with some potential vulnerability for some groups. The implications of findings are that educators should give consideration to strengthening ethnic identity, as this will contribute to an increase in school connectedness. An increase for both will help to promote wellbeing and positive individual outcomes.

This study is novel and has contributed to the evidence base of research in this area, through consideration of several factors that have not been addressed in existing research. The first is the relationship between strength of ethnic identity and school connectedness in the UK. Secondly, the study compared different ethnic groups where other studies have mostly focused on a specific ethnic group. A comparison of different ethnic groups' strength of ethnicity and feelings of connectedness provided direct evidence of any differences between relative ethnic majority and ethnic minority groups, rather than assuming that ethnic differences in that context already exist. Thirdly, the study provided the students the opportunity to consider their own ethnic identity through self-assessment, before completing the survey, rather than their ethnicity being categorised for them using existing school data as has been the case in previous studies.

The study gave rise to reflections on future enhancements in research. The strength of identity develops over adolescence, and school connectedness is affected by school experiences. A longitudinal study would therefore be valuable to observe effects and changes in student perceptions for both variables over time.

Given that some ethnic groups attain less well academically (Strand, 2014), a more conscious effort by schools to increase ethnic identity and school connectedness may increase in academic outcomes for the at-risk groups: with an aim of reducing the 'achievement gap' (Haycock, 2001) that can exist by ethnic group. These findings therefore offer professionals in education guidance upon the aims of practice improvement. Future studies can evaluate interventions on strengthening ethnic identity and school connectedness in lower performing

groups, with the reassurance that because strength of identity is not moderated by ethnicity, effective interventions could be applied to all ethnic groups. Furthermore, from these findings, educators can be reassured that a positive association between the two variables means that an increase in one factor should not produce any negative effects on the other.

In conclusion, the promotion of wellbeing in schools, therefore, through increasing protective factors towards promotion of positive outcomes, schools can strive to ensure that: students feel a sense of pride in who they are; that diversity is respected and celebrated; and a positive school ethos is cultivated so that students feel that school is a place where they can belong.

References

- Abubakar, A., & Dimitrova, R. (2016). Social connectedness, life satisfaction and school engagement: moderating role of ethnic minority status on resilience processes of Roma youth. *European Journal of Developmental Psychology*, 13(3), 361-376.
- Adams, G. R., & Marshall, S. K. (1996). A developmental social psychology of identity: Understanding the person-in-context. *Journal of Adolescence*, 19(5), 429-442.
- Adams, G. R., Munro, B., Doherty-Poirer, M., Munro, G., Petersen, A. M. R., & Edwards, J. (2001). Diffuse-avoidance, normative, and informational identity styles: Using identity theory to predict maladjustment. *Identity: An International Journal of Theory and Research*, 1(4), 307-320.
- Adey, K., & Biddulph, M. (2001). The influence of pupil perceptions on subject choice at 14+ in geography and history. *Educational Studies*, 27(4), 439-450.
- Ainscow, M., Dyson, A., Hopwood, L., and Thomson, S. (2016) *Primary Schools Responding to Diversity: barriers and possibilities*. York: Cambridge Primary Review Trust.
- Aldridge, J. M., Fraser, B. J., Fozdar, F., Ala'i, K., Earnest, J., & Afari, E. (2016). Students' perceptions of school climate as determinants of wellbeing, resilience and identity. *Improving Schools*, 19(1), 5-26.
- Anderman, L. H. (2003). Academic and social perceptions as predictors of change in middle school students' sense of school belonging. *The Journal of Experimental Education*, 72(1), 5-22.
- Aries, E., & Moorehead, K. (1989). The importance of ethnicity in the development of identity of Black adolescents. *Psychological Reports*, 65(1), 75-82.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480.

- Ashmore, R. D., Deaux, K., & McLaughlin-Volpe, T. (2004). An organizing framework for collective identity: articulation and significance of multidimensionality. *Psychological Bulletin*, 130(1), 80-114.
- Aspinall, P. J., & Song, M. (2013). Is race a 'salient...' or 'dominant identity' in the early 21st century: The evidence of UK survey data on respondents' sense of who they are. *Social Science Research*, 42(2), 547-561.
- Balanda, K. P., & MacGillivray, H. L. (1988). Kurtosis: a critical review. *The American Statistician*, 42(2), 111-119.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioural change. *Psychological Review*, 84(2), 191-215.
- Batra, S. (2013). The psychosocial development of children: implications for education and society - Erik Erikson in context. *Contemporary Education Dialogue*, 10(2), 249-278.
- Bauer, J. J., McAdams, D. P., & Pals, J. L. (2008). Narrative identity and eudaimonic well-being. *Journal of Happiness Studies*, 9(1), 81-104.
- Bauer, J. J., McAdams, D. P., & Sakaeda, A. R. (2005). Interpreting the good life: growth memories in the lives of mature, happy people. *Journal of Personality and Social Psychology*, 88(1), 203-217.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529.
- Benner, A. D., & Mistry, R. S. (2007). Congruence of mother and teacher educational expectations and low-income youth's academic competence. *Journal of Educational Psychology*, 99(1), 140-153.
- Bentz, V. M., & Shapiro, J. J. (1998). *Mindful inquiry in social research*. Thousand Oaks: Sage Publications.
- Berzonsky, M. D. (2003). Identity style and well-being: Does commitment matter?. *Identity*, 3(2), 131-142.

Bruhn, J. G., Zajac, G., & Al-Kazemi, A. A. (2001). Ethical perspectives on employee participation in planned organizational change: A survey of two state public welfare agencies. *Public Performance & Management Review*, 25(2), 208-228.

Blair, M., Bourne, J., Coffin, C., Creese, A., & Kenner, C. (1998). *Making the difference: teaching and learning strategies in successful multi-ethnic schools*. London: Department for Education and Employment.

Blum, R. W. (2005). A case for school connectedness. *Educational Leadership*, 62(7), 16-20.

Blum, R. W., Libbey, H. P. (2004). School connectedness - strengthening health and education outcomes for teenagers. *Journal of School Health*, 74(7), 231-235.

Bond, L., Butler, H., Thomas, L., Carlin, J., Glover, S., Bowes, G., & Patton, G. (2007). Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. *Journal of Adolescent Health*, 40(4), 357-e9.

Boston, C., & Warren, S. R. (2017). The Effects of Belonging and Racial Identity on Urban African American High School Students' Achievement. *Journal of Urban Learning, Teaching, and Research*, 13, 26-33.

Bowlby, J. (1969). *Attachment and loss*. New York: Basic Books.

The British Psychological Society. (2018). *Code of Ethics and Conduct*. Retrieved from <https://www.bps.org.uk/news-and-policy/bps-code-ethics-and-conduct>

Brittian, A. S., Umaña-Taylor, A. J., Lee, R. M., Zamboanga, B. L., Kim, S. Y., Weisskirch, R. S., ... & Brown, E. J. (2013). The moderating role of centrality on associations between ethnic identity affirmation and ethnic minority college students' mental health. *Journal of American College Health*, 61(3), 133-140.

Brodkin, A. M. (2006). Helping the Child Whose Culture and Background Differs from Her Classroom Peers'. *Early Childhood Today* (1), 21(3), 22-23.

Brophy, J. E., & Rohrkemper, M. M. (1981). The influence of problem ownership on teachers' perceptions of and strategies for coping with problem students. *Journal of Educational Psychology*, 73(3), 295-311.

Bulmer, M. G. (1979). *Principles of statistics*. New York: Courier Corporation.

Burgess, S., & Greaves, E. (2013). Test scores, subjective assessment, and stereotyping of ethnic minorities. *Journal of Labor Economics*, 31(3), 535-576.

Byrd, C. M., & Chavous, T. (2011). Racial identity, school racial climate, and school intrinsic motivation among African American youth: The importance of person–context congruence. *Journal of Research on Adolescence*, 21(4), 849-860.

Casey-Cannon, S. L., Coleman, H. L., Knudtson, L. F., & Velazquez, C. C. (2011). Three ethnic and racial identity measures: Concurrent and divergent validity for diverse adolescents. *Identity: An International Journal of Theory and Research*, 11(1), 64-91.

Chavous, T. M., Bernat, D. H., Schmeelk-Cone, K., Caldwell, C. H., Kohn-Wood, L., & Zimmerman, M. A. (2003). Racial identity and academic attainment among African American adolescents. *Child Development*, 74(4), 1076-1090.

Checkland, P. and Scholes, J. (1990) *Soft Systems Methodology in Action*. Chichester. Wiley.

Children's Society. (2008). *The Good Childhood Inquiry: health research evidence*. London: Children's Society.

Chung-Do, J. J., Goebert, D. A., Chang, J. Y., & Hamagani, F. (2015). Developing a comprehensive school connectedness scale for program evaluation. *Journal of School Health*, 85(3), 179-188.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey: Lawrence Erlbaum Associates. Retrieved from file:///G:/PHD/Method/9780203771587_googlepreview.pdf

Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159.

Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). Oxford: Routledge.

Compton, W. C., Smith, M. L., Cornish, K. A., & Qualls, D. L. (1996). Factor structure of mental health measures. *Journal of Personality and Social Psychology*, 71(2), 406-413.

Comte, A. (1975). *A general view of positivism*. New York: Robert Speller and Sons.

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78(1), 98-104.

Côté, J. E. (2000). *Arrested adulthood: The changing nature of maturity and identity*. New York: NYU Press.

Cramer, P. (2000). Development of identity: Gender makes a difference. *Journal of Research in Personality*, 34(1), 42-72.

Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-dimensional model. *Journal of Adolescence*, 31(2), 207-222.

Crocetti, E. (2017). Identity formation in adolescence: The dynamic of forming and consolidating identity commitments. *Child Development Perspectives*, 11(2), 145-150.

Crocker, J., Luhtanen, R., Blaine, B., & Broadnax, S. (1994). Collective self-esteem and psychological well-being among White, Black, and Asian college students. *Personality and Social Psychology Bulletin*, 20(5), 503-513.

Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, 26(3-4), 325-346.

Dee, T. S. (2015). Social identity and achievement gaps: Evidence from an affirmation intervention. *Journal of Research on Educational Effectiveness*, 8(2), 149-168.

DeNeve, K. M. (1999). Happy as an extraverted clam? The role of personality for subjective well-being. *Current Directions in Psychological Science*, 8(5), 141-144.

DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, 124(2), 197-229.

Department for Children, Schools and Families. (2007). *New Arrivals Excellence Programme Guidance*. Retrieved from <https://eal.britishcouncil.org/sites/default/files/documentfiles/New%20Arrivals%20Guidance.pdf>

Department for Education. (2003). *Every Child Matters 2003*. Retrieved from <https://www.gov.uk/government/publications/every-child-matters>

Department for Education. (2010). *Class sizes in practical subjects - DE letter September 2010*. Retrieved from <https://www.education-ni.gov.uk/publications/class-sizes-practical-subjects-de-letter-september-2010>

Department for Education. (2014a). *Equality Objectives 2014*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368325/DfE_Equality_Objectives.pdf

Department for Education. (2014b). The national curriculum in England: Framework document. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/381344/Master_final_national_curriculum_28_No_v.pdf

Department for Education. (2016). *DfE strategy 2015-2020 World-class education and care*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/508421/DfE-strategy-narrative.pdf

Department for Education. (2017). *Schools, pupils and their characteristics: January 2017*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650547/SFR28_2017_Main_Text.pdf

Department for Education. (2018). *Mental health and wellbeing provision in schools*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/747709/Mental_health_and_wellbeing_provision_in_schools.pdf

Department for Education. (2019). *One of the largest mental health trials launches in schools*. Retrieved from <https://www.gov.uk/government/news/one-of-the-largest-mental-health-trials-launches-in-schools>

Department for Education and Employment. (2000). *Educational psychology services (England): current role, good practice and future directions: the research report*. The Report of the Working Group. London: HMSO.

Department of Health and Department for Education. (2017). *Transforming Children and Young People's Mental Health Provision: a Green Paper*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664855/Transforming_children_and_young_people_s_mental_health_provision.pdf

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542-575.

Diener, E., & Diener, M. (1995). Cross-cultural Correlates of Life Satisfaction and Self-esteem. *Journal of Personality and Social Psychology*, 68(4), 653-663.

Diener, E., & Lucas, R. E. (1999). Personality and subjective well-being. In Kahneman, D., Diener, E., & Schwarz, N. (Eds.), *Well-Being: The Foundations of Hedonic Psychology* (pp. 213-229). New York, NY: Russell Sage Foundation.

Diener, E., Sapyta, J. J., & Suh, E. (1998). Subjective well-being is essential to well-being. *Psychological Inquiry*, 9(1), 33-37.

Ding, C., & Hall, A. (2007). Gender, ethnicity, and grade differences in perceptions of school experiences among adolescents. *Studies in Educational Evaluation*, 33(2), 159-174.

Dodge, R., Daly, A. P., Huyton, J., & Sanders, L. D. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing*, 2(3), 222-235.

Dubé, E. M., & Savin-Williams, R. C. (1999). Sexual identity development among ethnic sexual-minority male youths. *Developmental Psychology*, 35(6), 1389-1398.

Dweck, C. S. (2008). *Mindset: The new psychology of success*. Random House Digital, Inc..

- Eccles, J. S. (1997). *MADICS study of adolescent development in multiple contexts, 1991-1998*. Cambridge, MA: Murray Research Archive.
- Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence*, 21(1), 225-241.
- Egan, S. K., & Perry, D. G. (2001). Gender identity: a multidimensional analysis with implications for psychosocial adjustment. *Developmental Psychology*, 37(4), 451.
- Elashoff, J. D., & Snow, R. E. (1971). *Pygmalion reconsidered: A case study in statistical inference: Reconsideration of the Rosenthal-Jacobson data on teacher expectancy*. CA: Jones Publishing Company.
- Elliott, A. C., & Woodward, W. A. (2007). *Statistical analysis quick reference guidebook: With SPSS examples*. London: Sage Publications.
- Erikson, E. H. (1968). Life cycle. *International Encyclopedia of the Social Sciences*, 9, 286-292.
- Evangelou, M., Taggart, B., Sylva, K., Melhuish, E. C., Sammons, P., & Siraj-Blatchford, I. (2008). *What makes a successful transition from primary to secondary school?*. Retrieved from <https://dera.ioe.ac.uk/8618/1/DCSF-RR019.pdf>
- Farrell, P. (2004). School psychologists: Making inclusion a reality for all. *School Psychology International*, 25(1), 5-19.
- Farver, J. M., Xu, Y., Bhadha, B. R., Narang, S., & Lieber, E. (2007). Ethnic identity, acculturation, parenting beliefs, and adolescent adjustment: A comparison of Asian Indian and European American families. *Merrill-Palmer Quarterly* (1982-), 184-215.
- Field, A. (2009). *Discovering statistics using SPSS*. London: Sage publications.
- Fink, E., Patalay, P., Sharpe, H., Holley, S., Deighton, J., & Wolpert, M. (2015). Mental health difficulties in early adolescence: a comparison of two cross-sectional studies in England from 2009 to 2014. *Journal of Adolescent Health*, 56(5), 502-507.

Finn, J. D., Pannozzo, G. M., & Achilles, C. M. (2003). The “why’s” of class size: Student behavior in small classes. *Review of Educational Research*, 73(3), 321-368.

Fordham, S., & Ogbu, J. U. (1986). Black students' school success: Coping with the “burden of ‘acting white’”. *The Urban Review*, 18(3), 176-206.

Frydenberg, E., Care, E., Chan, E., & Freeman, E. (2009). Interrelationships between coping, school connectedness and wellbeing. *Australian Journal of Education*, 53(3), 261-276.

Fuligni, A. J., Witkow, M., & Garcia, C. (2005). Ethnic identity and the academic adjustment of adolescents from Mexican, Chinese, and European backgrounds. *Developmental Psychology*, 41(5), 799-811.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486-489.

Ghuman, P. A. (1997). A study of identities of Asian origin primary school children. *Early Child Development and Care*, 132(1), 65-74.

Gershenson, S., Holt, S. B., & Papageorge, N. W. (2016). Who believes in me? The effect of student–teacher demographic match on teacher expectations. *Economics of Education Review*, 52, 209-224.

Gill, S., & Reynolds, A. J. (1999). Educational expectations and school achievement of urban African American children. *Journal of School Psychology*, 37(4), 403-424.

Gillborn, D. (1996). Student Roles and Perspectives in Antiracist Education: a crisis of white ethnicity?. *British Educational Research Journal*, 22(2), 165-179.

Gillborn, D., Rollock, N., Vincent, C., & Ball, S. J. (2012). ‘You got a pass, so what more do you want?’: Race, class and gender intersections in the educational experiences of the Black middle class. *Race Ethnicity and Education*, 15(1), 121-139.

Gillison, F., Standage, M., & Skevington, S. (2008). Changes in quality of life and psychological need satisfaction following the transition to secondary school. *British Journal of Educational Psychology*, 78(1), 149-162.

Glock, S., Krolak-Schwerdt, S., & Pit-ten Cate, I. M. (2015). Are school placement recommendations accurate? The effect of students' ethnicity on teachers' judgments and recognition memory. *European Journal of Psychology of Education*, 30(2), 169-188.

Goldweber, A., Waasdorp, T. E., & Bradshaw, C. P. (2013). Examining the link between forms of bullying behaviors and perceptions of safety and belonging among secondary school students. *Journal of School Psychology*, 51(4), 469-485.

Good, M., Grand, M. P., Newby-Clark, I. R., & Adams, G. R. (2008). The moderating effect of identity style on the relation between adolescent problem behavior and quality of psychological functioning. *Identity: An International Journal of Theory and Research*, 8(3), 221-248.

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, 30(1), 79-90.

Gough, D. (2007). Weight of evidence: A framework for the appraisal of the quality and relevance of evidence. *Research Papers in Education*, 22(2), 213–228.

Gough, D., Oliver, S., & Thomas, J. (2012). *An introduction to systematic reviews*. Thousand Oaks, CA: SAGE Publications.

Gov.uk. (2014). *Schools: guide to the 0 to 25 SEND code of practice*. Retrieved from <https://www.gov.uk/government/publications/send-guide-for-schools-and-alternative-provision-settings>

Gov.uk. (2015). *Nicky Morgan: why knowledge matters*. Retrieved from <https://www.gov.uk/government/speeches/nicky-morgan-why-knowledge-matters>

Gov.uk. (2017). *Feeling of belonging to Britain*. Retrieved from <https://www.ethnicity-facts-figures.service.gov.uk/culture-and-community/community/feeling-of-belonging-to-britain/latest>

Gov.uk. (2019a). *One of the largest mental health trials launches in schools*. Retrieved from <https://www.gov.uk/government/news/one-of-the-largest-mental-health-trials-launches-in-schools>

Gov.uk. (2019b). *Ethnicity facts and figures*. Retrieved from <https://www.ethnicity-facts-figures.service.gov.uk/>

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of Qualitative Research*, 2(163-194), 105-117.

Gunaratnam, Y. (2003). *Researching 'race' and ethnicity: Methods, knowledge and power*. London: Sage Publications.

Hamman, D., & Hendricks, C. B. (2005). The role of the generations in identity formation: Erikson speaks to teachers of adolescents. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 79(2), 72-75.

Haycock, K. (2001). Closing the achievement gap. *Educational Leadership*, 58(6), 6-11.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. 2013. Guilford. New York.

Hebron, J. S. (2018). School connectedness and the primary to secondary school transition for young people with autism spectrum conditions. *British Journal of Educational Psychology*, 88(3), 396-409.

Hernández, M. M., Robins, R. W., Widaman, K. F., & Conger, R. D. (2017). Ethnic pride, self-esteem, and school belonging: A reciprocal analysis over time. *Developmental Psychology*, 53(12), 2384-2396.

Hill, M., Graham, C., Caulfield, C., Ross, N., & Shelton, A. (2007). Inter-Ethnic Relations among Children at School: the perspectives of young people in Scotland. *European Journal of Education*, 42(2), 267-279.

HM Government. (2011). *Prevent Strategy*. Retrieved from <https://assets.publishing>.

service.gov.uk/government/uploads/system/uploads/attachment_data/file/97976/prevent-strategy-review.pdf

HM Government. (2018). *Integrated Communities Strategy Green Paper March 2018*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/696993/Integrated_Communities_Strategy.pdf

Hodges, A., Cordier, R., Joosten, A., Bourke-Taylor, H., & Speyer, R. (2018). Evaluating the psychometric quality of school connectedness measures: A systematic review. *PloS One*, 13(9), e0203373.

Hunt, V., Prince, S., Dixon-Fyle, S., & Yee, L. (2018). *Delivering through diversity*. Retrieved from https://www.mckinsey.com/~media/mckinsey/business%20functions/organization/our%20insights/delivering%20through%20diversity/delivering-through-diversity_full-report.ashx

Jussim, L., Eccles, J., & Madon, S. (1996). Social perception, social stereotypes, and teacher expectations: Accuracy and the quest for the powerful self-fulfilling prophecy. In *Advances in experimental social psychology* (Vol. 28, pp. 281-388). Academic Press.

Kelly, G. A. (1977). Personal construct theory and the psychotherapeutic interview. *Cognitive Therapy and Research*, 1(4), 355-362.

Kennish, P., & Cavanagh, R. F. (2011). *The engagement in classroom learning of year 10 and 11 Western Australian students*. In *Applications of Rasch measurement in learning environments research* (pp. 281-300). SensePublishers, Rotterdam.

Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of health and social behavior*, 43(2), 207-222.

Kia-Keating, M., & Ellis, B. H. (2007). Belonging and connection to school in resettlement: Young refugees, school belonging, and psychosocial adjustment. *Clinical Child Psychology and Psychiatry*, 12(1), 29-43.

Kiang, L., & Fuligni, A. J. (2009). Ethnic identity in context: Variations in ethnic exploration and belonging within parent, same-ethnic peer, and different-ethnic peer relationships. *Journal of Youth and Adolescence*, 38(5), 732-743.

Kiang, L., Harter, S., & Whitesell, N. R. (2007). Relational expression of ethnic identity in Chinese Americans. *Journal of Social and Personal Relationships*, 24(2), 277-296.

Kiang, L., Yip, T., Gonzales-Backen, M., Witkow, M., & Fuligni, A. J. (2006). Ethnic identity and the daily psychological well-being of adolescents from Mexican and Chinese backgrounds. *Child Development*, 77(5), 1338-1350.

The King's Fund. (2005). *Catching them early: how are primary schools supporting children with emotional and behavioural needs?* Retrieved from <https://www.kingsfund.org.uk/publications/articles/catching-them-early-how-are-primary-schools-supporting-children-emotional-and>

Kivunja, C., & Kuyini, A. B. (2017). Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of Higher Education*, 6(5), 26-41.

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, 74(7), 262-273.

Kroger, J., Martinussen, M., & Marcia, J. E. (2010). Identity status change during adolescence and young adulthood: A meta-analysis. *Journal of Adolescence*, 33(5), 683-698.

Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: a literature review. *Quality & Quantity*, 47(4), 2025-2047.

Lau, A. L., Cummins, R. A., & Mcpherson, W. (2005). An investigation into the cross-cultural equivalence of the Personal Wellbeing Index. *Social Indicators Research*, 72(3), 403-430.

Layous, K., Davis, E. M., Garcia, J., Purdie-Vaughns, V., Cook, J. E., & Cohen, G. L. (2017). Feeling left out, but affirmed: Protecting against the negative effects of low belonging in college. *Journal of Experimental Social Psychology*, 69, 227-231.

Leicester City Council. (2011). *School years (0-19 years)*. Retrieved from <https://www.leicester.gov.uk/your-council/policies-plans-and-strategies/health-and-social-care/data-reports-information/jsna/cyp-jsna/school-years-5-19-years/>

Lester, L., Waters, S., & Cross, D. (2013). The relationship between school connectedness and mental health during the transition to secondary school: A path analysis. *Journal of Psychologists and Counsellors in Schools*, 23(2), 157-171.

Lewis, H. L. (2003). Differences in ego identity among college students across age, ethnicity, and gender. *Identity*, 3(2), 159-189.

Li, A., & Lam, B. H. (2002). *Cooperative learning*. Retrieved from https://www.eduhk.hk/aiclass/Theories/cooperativelearningcoursewriting_LBH%2024June.pdf

Little, T. D. (1997). Mean and covariance structures (MACS) analyses of cross-cultural data: Practical and theoretical issues. *Multivariate Behavioral Research*, 32(1), 53-76.

Løhre, A., Lydersen, S., & Vatten, L. J. (2010). School wellbeing among children in grades 1-10. *BMC Public Health*, 10(1), 526-532.

Lord Ashcroft. (2013). *Ethnic Minority Voters Poll, April 2013*. Retrieved from <https://lordashcroftpolls.com/wp-content/uploads/2013/04/Lord-Ashcroft-Ethnic-Minority-Voters-poll-summary-April-2013.pdf>

Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin*, 18(3), 302-318.

Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I., & Goossens, L. (2008). Capturing ruminative exploration: Extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality*, 42(1), 58-82.

Luyckx, K., Soenens, B., & Goossens, L. (2006). The personality-identity interplay in emerging adult women: Convergent findings from complementary analyses. *European Journal of Personality: Published for the European Association of Personality Psychology*, 20(3), 195-215.

- Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. *Issues in Educational Research*, 16(2), 193-205.
- MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12(1), 73-84.
- Madon, S., Jussim, L., & Eccles, J. (1997). In search of the powerful self-fulfilling prophecy. *Journal of Personality and Social Psychology*, 72(4), 791.
- Mahoney, J. L., Harris, A. L., & Eccles, J. S. (2006). Organized Activity Participation, Positive Youth Development, and the Over-Scheduling Hypothesis. Social Policy Report. *Society for Research in Child Development*. 20(4), 3-31.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3(5), 551-558.
- Marks, N., & Shah, H. (2004). A well-being manifesto for a flourishing society. *Journal of Public Mental Health*, 3(4), 9-15.
- Markus, H. R. (2008). Pride, prejudice, and ambivalence: Toward a unified theory of race and ethnicity. *American Psychologist*, 63(8), 651-670.
- Martinez, R. O., & Dukes, R. L. (1997). The effects of ethnic identity, ethnicity, and gender on adolescent well-being. *Journal of Youth and Adolescence*, 26(5), 503-516.
- Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*, 50(4), 370-96.
- McCallum, I., & Demie, F. (2001). Social class, ethnicity and educational performance. *Educational Research*, 43(2), 147-159.
- Mertens, D. M. (2014). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. London: Sage publications.

Miller, A., & Black, L. (2001). Does support for home–school behaviour plans exist within teacher and pupil cultures?. *Educational Psychology in Practice*, 17(3), 245-261.

Miller, A., Ferguson, E., & Byrne, I. (2000). Pupils' causal attributions for difficult classroom behaviour. *British Journal of Educational Psychology*, 70(1), 85-96.

Millings, A., Buck, R., Montgomery, A., Spears, M., & Stallard, P. (2012). School connectedness, peer attachment, and self-esteem as predictors of adolescent depression. *Journal of Adolescence*, 35(4), 1061-1067.

Munn, P., & Lloyd, G. (2005). Exclusion and excluded pupils. *British Educational Research Journal*, 31(2), 205-221.

Murphy, M., & Fonagy, P. (2012). *Mental health problems in children and young people*. In: Annual Report of the Chief Medical Officer 2012. London: Department of Health.

Murphy, K. R. & Myers, B. (2004). *Statistical power analysis: A Simple and General Model for Traditional and Modern Hypothesis Tests (2nd ed.)*. Hillsdale: NJ, Lawrence Erlbaum.

Nathan, M. (2014). Same difference? Minority ethnic inventors, diversity and innovation in the UK. *Journal of Economic Geography*, 15(1), 129-168.

NHS. (2015). *Children and young people*. Retrieved from <https://www.england.nhs.uk/mental-health/cyp/>

NHS Digital. (2018). *Mental Health of Children and Young People in England, 2017*. Retrieved from <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2017/2017#key-facts>

Neblett, E. W., Jr., Shelton, J. N., & Sellers, R. M. (2004). The Role of Racial Identity in Managing Daily Racial Hassles. In G. Philogène (Ed.), *Decade of behavior. Racial identity in context: The legacy of Kenneth B. Clark* (pp. 77-90). Washington, DC, US: American Psychological Association.

Niehaus, K., Rudasill, K. M., & Rakes, C. R. (2012). A longitudinal study of school connectedness and academic outcomes across sixth grade. *Journal of School Psychology, 50*(4), 443-460.

Norman, G. (2010). Likert scales, levels of measurement and the “laws” of statistics. *Advances in Health Sciences Education, 15*(5), 625-632.

Office for National Statistics, (2003). *Ethnic group, national identity and religion Measuring equality: A guide for the collection and classification of ethnic group, national identity and religion data in the UK*. Retrieved from: <https://www.ons.gov.uk/methodology/classificationsandstandards/measuringequality/ethnicgroupnationalidentityandreligion>.

Office for National Statistics. (2004). *Mental health of children and young people in Great Britain, 2004*. London: Office for National Statistics.

Office for National Statistics. (2011a). *Ethnicity and National Identity in England and Wales:2011*. Retrieved from <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/ethnicityandnationalidentityinenglandandwales/2012-12-11>

Office for National Statistics. (2011b). 2011 Census analysis: Ethnicity and religion of the non-UK born population in England and Wales: 2011. Retrieved from <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/2011censusanalysisethnicityandreligionofthenonukbornpopulationinenglandandwales/2015-06-18>

Office for National Statistics. (2019). *Migration Statistics Quarterly Report: February 2019*. Retrieved from <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/bulletins/migrationstatisticsquarterlyreport/february2019>

Oyserman, D. (2008). Racial-ethnic self-schemas: Multidimensional identity-based motivation. *Journal of Research in Personality, 42*(5), 1186-1198.

Oyserman, D., Elmore, K., & Smith, G. (2012). Self, self-concept, and identity. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 69-104). New York, NY, US: Guilford Press.

Pantzer, K., Rajmil, L., Tebé, C., Codina, F., Serra-Sutton, V., Ferrer, M., ... & Alonso, J. (2006). Health related quality of life in immigrants and native school aged adolescents in Spain. *Journal of Epidemiology & Community Health*, 60(8), 694-698.

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences - A practical guide*. Malden, MA: Wiley-Blackwell.

Phinney, J. S. (1990). Ethnic identity in adolescents and adults: review of research. *Psychological bulletin*, 108(3), 499-514.

Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, 7(2), 156-176.

Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54(3), 271-281.

Phinney, J. S. (1989). Stages of ethnic identity development in minority group adolescents. *The Journal of Early Adolescence*, 9(1-2), 34-49.

Phinney, J. S., & Alipuria, L. L. (1990). Ethnic identity in college students from four ethnic groups. *Journal of Adolescence*, 13(2), 171-183.

Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of Management*, 36(1), 94-120.

Portes, A., & Rumbaut, R. G. (2001). *Legacies: The story of the immigrant second generation*. University of California Press.

Poston, W. C. (1990). The biracial identity development model: A needed addition. *Journal of Counseling & Development*, 69(2), 152-155.

Public Health England. (2016). *The mental health of children and young people in England*. Retrieved from <http://www.cumbria.gov.uk/eLibrary/Content/Internet/537/6381/4278314423.pdf>

Qin, D. B., Way, N., & Mukherjee, P. (2008). The other side of the model minority story: The familial and peer challenges faced by Chinese American adolescents. *Youth & Society*, 39(4), 480-506.

Raphael, D. (1978). Identity status in high school females. *Adolescence*, 13(52), 627-641.

Rees, P. (2017). *Welcome to the ETHPOP Database*. Retrieved from <https://www.geog.leeds.ac.uk/people/p.rees>

Reichardt, C. S., & Rallis, S. F. (1994). The relationship between the qualitative and quantitative research traditions. *New Directions for Program Evaluation*, 1994(61), 5-11.

Reynolds, T. (2006). Caribbean families, social capital and young people's diasporic identities. *Ethnic and Racial Studies*, 29(6), 1087-1103.

Richmond, A. H. (1985). The Swann Report: Before and after the Swann Report. *New Community*, 12(2), 223-227.

Rieger, G., & Savin-Williams, R. C. (2012). Gender nonconformity, sexual orientation, and psychological well-being. *Archives of Sexual Behavior*, 41(3), 611-621.

Rivas-Drake, D., Hughes, D., & Way, N. (2009). A preliminary analysis of associations among ethnic-racial socialization, ethnic discrimination, and ethnic identity among urban sixth graders. *Journal of Research on Adolescence*, 19(3), 558-584.

Rivas-Drake, D., Seaton, E. K., Markstrom, C., Quintana, S., Syed, M., Lee, R. M., ... & Ethnic and Racial Identity in the 21st Century Study Group. (2014). Ethnic and racial identity in adolescence: Implications for psychosocial, academic, and health outcomes. *Child Development*, 85(1), 40-57.

Roberts, R. E., Phinney, J. S., Mase, L. C., Chen, Y. R., Roberts, C. R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *The Journal of Early Adolescence*, 19(3), 301-322.

Robson, C., & McCartan, K. (2016). *Real World Research (4th ed.)*. Hoboken, NJ: John Wiley & Sons.

Rogers, C. R. (1995). *On becoming a person: A therapist's view of psychotherapy*. Boston, NY: Houghton Mifflin Harcourt.

Rosenthal, R., & Jacobson, L. (1968). Pygmalion in the classroom. *The Urban Review*, 3(1), 16-20.

Rowe, F., & Stewart, D. (2011). Promoting connectedness through whole-school approaches: Key elements and pathways of influence. *Health Education*, 111(1), 49-65.

Rubie-Davies, C., Hattie, J., & Hamilton, R. (2006). Expecting the best for students: Teacher expectations and academic outcomes. *British Journal of Educational Psychology*, 76(3), 429-444.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual review of psychology*, 52(1), 141-166.

Ryff, C. D., & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry*, 9(1), 1-28.

Saelhof, J. (2009). *Examining the promotion of school connectedness through extracurricular participation* (Doctoral dissertation). University of Saskatchewan, Saskatchewan, Canada.

Santos, C. E., & Collins, M. A. (2016). Ethnic identity, school connectedness, and achievement in standardized tests among Mexican-origin youth. *Cultural Diversity and Ethnic Minority Psychology*, 22(3), 447-452.

Saunders, J., Davis, L., Williams, T., & Williams, J. H. (2004). Gender differences in self-perceptions and academic outcomes: A study of African American high school students. *Journal of Youth and Adolescence*, 33(1), 81-90.

Schein, E. (1999) *Process Consultation revisited. Building the helping relationship*. Harlow. Addison-Wesley.

Schwartz, S. J. (2006). Predicting identity consolidation from self-construction, eudaimonistic self-discovery, and agentic personality. *Journal of Adolescence*, 29(5), 777-793.

Schwartz, S. J., Zamboanga, B. L., & Weisskirch, R. S. (2008). Broadening the study of the self: Integrating the study of personal identity and cultural identity. *Social and Personality Psychology Compass*, 2(2), 635-651.

Scottham, K. M., Sellers, R. M., & Nguyễn, H. X. (2008). A measure of racial identity in African American adolescents: The development of the Multidimensional Inventory of Black Identity--Teen. *Cultural Diversity and Ethnic Minority Psychology*, 14(4), 297.

Seligman, M. (2011). *Authentic Happiness: Using the New Positive Psychology to Realise your Potential for Lasting Fulfilment*. London, UK: Nicholas Brealey Publishing.

Sellers, R. M., Smith, M. A., Shelton, J. N., Rowley, S. A., & Chavous, T. M. (1998). Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and social psychology review*, 2(1), 18-39.

Sellström, E., & Bremberg, S. (2006). Is there a "school effect" on pupil outcomes? A review of multilevel studies. *Journal of Epidemiology & Community Health*, 60(2), 149-155.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.

Shelton, J. N., & Sellers, R. M. (2000). Situational stability and variability in African American racial identity. *Journal of Black Psychology*, 26(1), 27-50.

Shochet, I. M., Dadds, M. R., Ham, D., & Montague, R. (2006). School connectedness is an underemphasized parameter in adolescent mental health: Results of a community prediction study. *Journal of Clinical Child & Adolescent Psychology*, 35(2), 170-179.

Shulkind, S. B., & Foote, J. (2009). Creating a culture of connectedness through middle school advisory programs. *Middle School Journal*, 41(1), 20-27.

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417-453.

Smalls, C., White, R., Chavous, T., & Sellers, R. (2007). Racial ideological beliefs and racial discrimination experiences as predictors of academic engagement among African American adolescents. *Journal of Black Psychology*, 33(3), 299-330.

Smith, T. B., & Silva, L. (2011). Ethnic identity and personal well-being of people of color: A meta-analysis. *Journal of Counseling Psychology*, 58(1), 42.

Social Mobility Commission. (2016). *Ethnicity, Gender and Social Mobility*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/579988/Ethnicity_gender_and_social_mobility.pdf.

Soutter, A. K. (2011). What can we learn about wellbeing in school?. *The Journal of Student Wellbeing*, 5(1), 1-21.

Spencer, M. S., Icard, L. D., Harachi, T. W., Catalano, R. F., & Oxford, M. (2000). Ethnic identity among monoracial and multiracial early adolescents. *The Journal of Early Adolescence*, 20(4), 365-387.

Stokes, L., Rolfe, H., Hudson-Sharp, N., Stevens, S., & Strand, S. (2015). *A compendium of evidence on ethnic minority resilience to the effects of deprivation on attainment*. London: Department of Education research report.

Strand, S. (2011). The limits of social class in explaining ethnic gaps in educational attainment. *British Educational Research Journal*, 37(2), 197-229.

Strand, S. (2013). What accounts for ethnic achievement gaps in secondary schools in England. *BERA Insights*, 4,1-4.

Strand, S. (2014). Ethnicity, gender, social class and achievement gaps at age 16: Intersectionality and 'Getting it' for the white working class. *Research Papers in Education*, 29(2), 131-171.

Sullivan, G. M., & Artino Jr, A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of Graduate Medical Education*, 5(4), 541-542.

Sultana, A. (2015). "I don't see how that makes me a gori (White girl)": The multiple and problematic identities of academically successful Pakistani students, *Educational & Child Psychology*, 32(2), 22-35.

The Swann Report. (1985). *Education for all*. Retrieved from <http://www.educationengland.org.uk/documents/swann/swann1985.html>

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (Vol. 5). Boston, MA: Pearson.

Tajfel, H. (1981). *Human groups and social identity*. Cambridge, UK: Cambridge.

Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology*, 33(1), 1-39.

Tajfel, H., & Turner, J. C. (2004). The Social Identity Theory of Intergroup Behavior. In J. T. Jost & J. Sidanius (Eds.), *Key readings in social psychology. Political psychology: Key readings* (pp. 276-293). New York: Psychology Press.

Turner, H., Rubie-Davies, C. M., & Webber, M. (2015). Teacher expectations, ethnicity and the achievement gap. *New Zealand Journal of Educational Studies*, 50(1), 55-69.

UK Literacy Association. (2012). *Phonics Screening Check fails a generation of able readers*. Retrieved from https://ukla.org/news/story/phonics_screening_check_fails_a_generation_of_able_readers

Umaña-Taylor, A. J., Bhanot, R., & Shin, N. (2006). Ethnic Identity Formation During Adolescence: The Critical Role of Families. *Journal of Family Issues*, 27(3), 390–414.

Umaña-Taylor, A. J., Kornienko, O., Bayless, S. D., & Updegraff, K. A. (2018). A universal intervention program increases ethnic-racial identity exploration and resolution to predict adolescent psychosocial functioning one year later. *Journal of Youth and Adolescence*, 47(1), 1-15.

Umaña-Taylor, A. J., & Updegraff, K. A. (2007). Latino adolescents' mental health: Exploring the interrelations among discrimination, ethnic identity, cultural orientation, self-esteem, and depressive symptoms. *Journal of Adolescence*, 30(4), 549-567.

Umaña-Taylor, A. J., Yazedjian, A., & Bámaca-Gómez, M. (2004). Developing the ethnic identity scale using Eriksonian and social identity perspectives. *Identity: An International Journal of Theory and Research*, 4(1), 9-38.

Unesco. (2009). *Policy guidelines on inclusion in education*. Retrieved from <http://unesdoc.unesco.org/images/0017/001778/177849e.pdf>

UNICEF Office of Research. (2013). Child Well-being in Rich Countries: A comparative overview. *Innocenti Report Card 11*. UNICEF Office of Research: Florence.

Van Hoof, A. (1999). The identity status field re-reviewed: An update of unresolved and neglected issues with a view on some alternative approaches. *Developmental Review*, 19(4), 497-556.

VanVoorhis, C. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, 3(2), 43-50.

Varkey Foundation. (2017). *Generation Z: Global Citizenship Survey; What do the world's young people think and feel?*. Retrieved from <https://www.varkeyfoundation.org/what-we-do/policy-research/generation-z-global-citizenship-survey>

Vasilopoulou, S. (2016). UK Euroscepticism and the Brexit referendum. *The Political Quarterly*, 87(2), 219-227.

Verhoeven, M., Poorthuis, A. M., & Volman, M. (2019). The Role of School in Adolescents' Identity Development. A Literature Review. *Educational Psychology Review*, 31(1), 35-63.

Voight, A., Austin, G., and Hanson, T. (2013). *A climate for academic success: How school climate distinguishes schools that are beating the achievement odds (Full Report)*. San Francisco: WestEd.

Waterman, A. S. (1982). Identity development from adolescence to adulthood: An extension of theory and a review of research. *Developmental Psychology*, 18(3), 341.

Waterman, A. S. (1999). Identity, the Identity Statuses, and Identity Status Development: A Contemporary Statement. *Developmental Review*, 19(4), 591-621.

Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of personality and social psychology*, 64(4), 678-691.

Whitlock, J. L. (2006). Youth perceptions of life at school: Contextual correlates of school connectedness in adolescence. *Applied Developmental Science*, 10(1), 13-29.

World Health Organization. (1998). Wellbeing measures in primary health care/the DEPCARE project: report on a WHO meeting, Stockholm, Sweden 12-13 February 1998. In *Wellbeing measures in primary health care/the DEPCARE project: report on a WHO meeting, Stockholm, Sweden 12-13 February 1998*. Copenhagen, Denmark: WHO Regional Office for Europe.

Witherspoon, D., & Ennett, S. (2011). Stability and change in rural youths' educational outcomes through the middle and high school years. *Journal of Youth and Adolescence*, 40(9), 1077-1090.

Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socioemotional adjustment. *Journal of Personality*, 71(6), 1197-1232.

Yip, T., & Fuligni, A. J. (2002). Daily variation in ethnic identity, ethnic behaviors, and psychological well-being among American adolescents of Chinese descent. *Child Development*, 73(5), 1557-1572.

You, S., Ritchey, K. M., Furlong, M. J., Shochet, I., & Boman, P. (2011). Examination of the latent structure of the psychological sense of school membership scale. *Journal of Psychoeducational Assessment*, 29(3), 225-237.

Yuen, C. Y. (2010). Assimilation, integration and the construction of identity: The experience of Chinese cross-boundary and newly arrived students in Hong Kong schools. *Multicultural Education Review*, 2(2), 1-30.

Appendices

Appendix 1: Key information from systematic review studies

All variables and measures from the studies have been reported in the tables, but only results relating to the review question have been included. Therefore, the key results in the tables refer to the study's findings on school connectedness and ethnic centrality.

Key information included in the tables pertains to:

- Study details
- Setting
- Participants
- Research design
- Data collection
- Analysis employed
- Variables and measures
- Key results
- Limitations.

Study 1 details	Aldridge, Fraser, Fozdar, Ala'I, Earnest, and Afari (2016) Students' perceptions of school climate as determinants of wellbeing, resilience, and identity
Setting	6 public high schools in Perth, Western Australia
Participants	n = 2202 (1112 boys, 1084 girls, 6 not specified) Aged 12-17 years old School years 8 – 12
Research design	Non-experimental design
Data collection	Questionnaires
Analysis employed	Structural equation modeling
Variables and measures	The first 5 measures each had 8 items that used a 5-point scale (almost always, often, sometimes, seldom, and almost never) 1. <u>Wellbeing scale</u> - adapted from WHO-Five Well-Being index (WHO, 1998). 2. <u>Life satisfaction scale</u> – adapted from Satisfaction with Life Scale (Diener, Inglehart and Tay, 2013). 3. <u>Resilience scale</u> – adapted from 15-item Resilience Scale (Wagnild and Young, 1993). 4. <u>Ethnic identity</u> – adapted from The Multigroup Ethnic Identity Measure (Phinney, 1992). 5. <u>Moral identity</u> – adapted from The Moral Identity scale (Aldridge et al., 2016). 6. <u>School climate scale</u> – What's happening in this school? (WHITS) (Aldridge and Alai, 2003). This measure consisted of 6 scales (8 items for each) which measured: teacher support, peer connectedness, school connectedness, affirming diversity, rule clarity, and reporting and seeking help.
Key results	<u>Confirmatory analysis</u> • Of 38 possible relationships between the variables, 24 were statistically significant ($p < .001$). • School connectedness had no significant associations with ethnic identity.
Limitations	Did not specify how the scales were adapted for their study.

Study 2 details	Boston and Warren (2017) The Effects of Belonging and Racial Identity on Urban African American High School Students' Achievement
Setting Participants	1 high school in Southern California n = 105 (57 boys, 48 girls) All participants were African American School grades 10 – 12
Research design Data collection Analysis employed	Non-experimental design Survey Correlational and multiple regression analysis
Variables and measures	The survey consisted of 41 items. 1. <u>Demographic information</u>: self-reported grades. 2. <u>Racial identity</u>: Multidimensional Model of Black Identity-teen (MIBI-t), 21 items using a 5-point scale (Scottham, Sellers, and Nguyen, 2008). 3. <u>Connectedness scale</u>: California Healthy Kids Survey Module A, 8 items using a 5-point scale (WestEd, 2008).
Key results	• A significant positive correlation was found between centrality and sense of belonging ($r=0.38$, $p<.01$). • A significant positive correlation was found between private regard and sense of belonging ($r=0.28$, $p<.01$). • No significant correlation was found between public regard and sense of belonging ($r=0.4$, $p>.05$). • No significant association was found between racial identity and student's grades. • A significant positive association was found between sense of belonging and grades ($t=2.35$, $p<.05$).
Limitations	Small sample size. The study only considered one ethnic group.

Study 3 details	Byrd and Chavous (2011) Racial Identity, School Racial Climate, and School Intrinsic Motivation Among African American Youth: The Importance of Person–Context Congruence
Setting Participants	Participants were recruited from an already established study: “Maryland Adolescent Development in Context study” (Eccles, 2010) n = 359 (53% boys, 47% girls), however, 96 participants were excluded due to incomplete information School grade 12
Research design Data collection Analysis employed	Non-experimental design Questionnaires Descriptive statistics and correlations
Variables and measures	1. <u>Intrinsic motivation</u>: 3 items using a 7-point scale. 2. <u>Racial identity</u>: Multigroup Ethnic Identity Measure (Phinney, 1992). 3. <u>School racial climate</u>: 6 items using a 5-point scale. 4. <u>School belonging</u>: 5 items using a 5-point scale. 5. <u>Student background and control variables</u>: self-report items. 6. <u>Peer and teacher discrimination</u>: 8 items using a 5-point scale.
Key results	• Adolescents reported high or moderately high private regard and centrality (M=4.35 and M=3.75 respectively). • Public regard scores were midscale (M=2.97). • For adolescents with a higher private regard, a stronger relationship with teacher acceptance and support was found. However, the results were not of statistical significance. • For adolescents with lower private regard, a weaker relationship with teacher acceptance and support was found. However, the results were not of statistical significance.
Limitations	The sample size was significantly reduced due to over a quarter of the participants being excluded for incomplete data. No description was given for how the measures were created for school racial climate and school belonging. Despite the fact that school belonging was made from peer and teacher support items, the researchers did not look at both of these measures together to form school belonging as a whole.

Study 4 details	Fuligni, Witkow and Garcia (2005) Ethnic Identity and the Academic Adjustment of Adolescents from Mexican, Chinese, and European Backgrounds
Setting	3 public high schools in Los Angeles
Participants	n = 589 (48% boys, 52% girls) Mean age = 14.86 years old School grade 9
Research design	Non-experimental design
Data collection	Questionnaire
Analysis employed	Analysis of variance
Variables and measures	Ethnic identity measures: 1. <u>Ethnic labelling</u>: adapted from Alarcon et al. (2000). 2. <u>Strength of ethnic identification</u>: adapted from Multidimensional Model of Black Identity (Sellers et al., 1997). Academic attitude measures: 1. <u>Educational utility</u>: 5 items using a 5-point scale. 2. <u>Value of academic success</u>: 6 items using a 5-point scale. 3. <u>Intrinsic value of school</u>: 2 items using a 5-point scale adapted from Eccles (1983). 4. <u>Utility value of school</u>: 4 items using a 5-point scale adapted from Eccles (1983). 5. <u>School self-concept</u>: 2 items using a 5-point scale adapted from Eccles (1983). 6. <u>School respect</u>: 5 items using a 5-point scale adapted from Tyler and Degoe (1995). 7. <u>Identification with school</u>: 5 items using a 5-point scale adapted from Tyler and Degoe (1995).
Key results	• On average, each participant chose 3.06 ethnicity labels to describe themselves. • Second and third generation adolescents were more likely to choose a hyphenated ethnicity label. • Adolescents who selected national or hyphenated label reported higher levels of ethnic centrality than those who did not. • Strength of adolescents' ethnic identification was associated with more positive academic attitudes. • Where background was felt to be a central aspect of identity and was regarded as positive, a greater level of school identification and belief that they were respected and valued by school was found.
Limitations	No dominant majority ethnic group in the schools that took part. Public regard was not included as a measure.

Study 5 details	Hernandez, Robins, Widaman and Conger (2017) Ethnic Pride, Self-Esteem, and School Belonging: A Reciprocal Analysis Over Time
Setting Participants	2 school districts in Northern California, participants were selected at random from student rosters in those areas n = 674 (50% boys, 50% girls) Mean age = 10.4 years old School grade 5 at beginning of study, measures were taken again at grade 7 and 9
Research design	Non-experimental design Longitudinal study
Data collection	Questionnaires delivered orally to participants
Analysis employed	Structural equation modelling
Variables and measures	1. <u>School belonging</u>: School Attachment Scale (Gonzales et al., 2008). 2. <u>Self-esteem</u>: General Self-Esteem scale of the Self-Description Questionnaire II-Short (Marsh et al., 2005). 3. <u>Ethnic pride</u>: 2 items adapted from previous studies (Berkel et al., 2010; Knight et al., 2010; and Thayer et al., 2002) and 4 items adapted from Multigroup Ethnic Identity Measure (Phinney, 1992). 4. <u>Family income</u>: single item, self-report measure. 5. <u>Child gender and nativity</u>: self-report measure.
Key results	• School belonging declined over time for boys and girls. • Girls' ethnic pride increased from 5th to 7th grade. It decreased back to the original amount in 9th grade. • Boys' ethnic pride declined from 5th to 7th grade and remained stable in the subsequent measure. • Ethnic pride was positively correlated with self-esteem and school belonging. • Ethnic pride was associated with relative increases of school belonging for boys and girls. • School belonging predicted ethnic pride for boys but not girls. • For boys, school belonging was a significant predictor for ethnic pride.
Limitations	Participants were given the questions from the survey orally. Data was collected by the interviewer who submitted the answers into a laptop – demand characteristics. Participants were paid for their involvement – influence of participation.

Study 6 details	Santos and Collins (2015) Ethnic Identity, School Connectedness, and Achievement in Standardized Tests Among Mexican-Origin Youth
Setting	1 school in Arizona
Participants	n = 436 (48.2% boys, 51.8% girls) Mean age = 12.34 years old
Research design	Non-experimental design
Data collection	Surveys
Analysis employed	Hierarchical linear regression
Variables and measures	1. <u>Ethnic identity</u>: Multidimensional Model of Black Identity-teen (MIBI-t), 21 items using a 5-point scale (Scottham, Sellers, and Nguyen, 2008). 2. <u>School connectedness</u>: Psychometric properties of the Add Health School Connectedness Scale (Furlong, O'Brennan, and You, 2011). 3. <u>Academic achievement</u>: Arizona's instrument to measure standards test.
Key results	• Positive association between school connectedness and standardised reading and maths scores. • Ethnic private regard has an association between school connectedness and standardised test scores in reading but not maths. Association varied among participants who reported lower levels of private regard. • Significant correlations between ethnic private regard and school connectedness ($r=0.34$, $p<.01$).
Limitations	Mexicans were the majority ethnic group in the school.

Appendix 2: Weight of evidence criteria for systematic review studies

Using Gough's (2007) 'Weight of Evidence' framework, the studies used in the systematic review were assessed. The weight of evidence framework considers 4 criteria. The first (A) looks at the quality of execution of study where transparency, accuracy, accessibility, and specificity is judged (Gough, 2007). The second criterion (B) regards the appropriateness of the method of the studies in helping to address the question in review. Because of this, the inclusion criteria, e.g. non-experimental design and adolescent participants, were applied during the 'search strategy' stage to ensure all studies were suitable for review. Another aspect of the appropriateness criterion was sample size as the current study needed to gather a sample size appropriate for statistical analysis. Therefore, a sample size of 200 or more in the review studies was judged as acceptable as recommended by Field (2009). Criterion C considered the evidence produced by the studies and its relevance for answering the review question (Gough, 2007). From these three weightings (A, B, and C), an overall judgment was made (weight of evidence D).

Weight of evidence A: Quality of execution of study

Weighting	Description
High	• The purpose of the study is clear and flows logically from the literature and the findings refer back to the literature and study aims. • Reported reliability of .80 for all primary outcomes or measures used are well referenced. • Detailed description of data collection and analysis so replication can be conducted easily. • The study is able to draw out reliable conclusions and generalisations from their results. • Limitations to the study are presented.
Medium	• The purpose of the study is clear, and references are made back to the literature and study aims. • Reported reliability of 0.70 for some primary outcomes or measures used are well referenced. • Description of data collection and analysis is given. • Limitations to the study are presented. • Conclusions and generalisations are drawn out from the results.
Low	• The purpose of the study is given. • Reported reliability of .50 or above for some primary outcomes. • Little description about data collection and analysis is given. • Conclusions are drawn from the results.

Weight of Evidence B: Appropriateness of method

Weighting	Description
High	• Non-experimental design used. • Data produced allows for statistical analysis. • Participants are of school age. • The number of participants is appropriate for the data collection type. (Due to these being part of the inclusion criteria as part of the systematic review process, all studies met the criteria, thus all weightings were awarded High.)

Weight of Evidence C: Appropriateness of evidence for current review

Weighting	Description
High	• School connectedness was specifically measured and reported. • Ethnic identity of students was specifically measured and reported. • Strength of ethnic identification was specifically measured and reported. • The relationship between school connectedness and ethnic identity was evaluated. • The relationship between school connectedness and strength of ethnic identification was evaluated.
Medium	• School connectedness was measured and reported. • Ethnic identity or strength of ethnic identification were measured and reported. • Either ethnic identity or strength of ethnic identification with school connectedness was evaluated.
Low	• School connectedness was measured and reported. • Ethnic identity or strength of ethnic identification were measured and reported. • A relationship between school connectedness and a measure of ethnic identity was reported.

Appendix 3: Weight of evidence appraisal for systematic review studies

Study	WoE Appraisal
Aldridge et al. (2016)	WoE A: Medium - Study was derived from previous literature. - Results reported did refer back to aspects of the literature review. - Reported reliability ranged from .81 to .93 and were referenced. - For measures that were adapted, it was not stated as to how these adaptations were made, nor are they available to be used for study replication. - Method procedure was stated. - Analysis of results are stated. - Conclusions and generalisations drawn. - Limitations of study were considered. - Implications for education were not fully drawn out. WoE B: High - All criteria met, large number of participants (more than 2000). WoE C: Medium - School belonging was reported as a subscale of school climate. - Strength of ethnic identity was measured and reported. - School belonging and strength of ethnic identity were both considered with each other through correlations; this was not commented on in the results or discussion sections as correlations were not significant. WoE D: Medium
Boston and Warren (2017)	WoE A: Low - Logic for study was derived from literature, however, it was brief. - Results reported did refer back to aspects of the literature review. - References were given for the measures used in the study; no reliability measures were given. - Brief method - Description of data analysis given but brief. No descriptive statistics presented or provided. Tables presented correlation and regression. - Discussion did not refer to all aspects of results i.e. significant positive correlation between private regard and school belonging was not discussed. - No limitations to the study were given. - Discussion centred on teacher's influence on school belonging, no comments made for peers' role in promoting school belonging. WoE B: High - All criteria met, however, number of participants not considered to be large (below 200). WoE C: Medium - All aspects of WoE criteria considered, but not all elements were discussed in the write up of the study.

	WoE D: Medium
Byrd and Chavous (2011)	WoE A: Low - Study was derived from previous literature. - Results reported did refer back to aspects of the literature review. - Reported reliability ranged from .59 to .89. - Replication of study would be difficult; participants were obtained from an existing study and data collected was secondary data. - Questionnaire items were taken from existing measures with little explanation for how they were created or reference of where they can be found. - Face to face or self-administered interviews; could lead to data collection biases. - Analysis of results are stated. - Conclusions and generalisations drawn. - Limitations of study were considered. WoE B: High - All criteria met, however, students excluded from study were all of a similar demographic which leads to the study having an unrepresentative student sample. WoE C: Low - School belonging was not reported in the descriptive statistics table, nor was it correlated with other measures. - Strength of ethnic identification was measured. - A relationship between strength of ethnic identity and school belonging was not considered. WoE D: Low
Fuligni, Witkow and Garcia (2005)	WoE A: Medium - Study was derived from previous literature. - Results reported did refer back to aspects of the literature review. - Reported reliability ranged from .77 to .87 and were referenced. - Method procedure was stated. - Analysis of results are stated. - Conclusions and generalisations drawn. - Limitations of study were considered. - Implications for education were not fully drawn out. WoE B: High - All criteria met. Variation in demographics across ethnicities, which may affect study's conclusions and generalisability. WoE C: High - School belonging was reported was reported as separate constructs of school respect and school identification. - Strength of identity was measured and reported. - Self-assessed ethnic identity was considered. - Correlation between strength of ethnic identity and school respect and school identification was reported.

	WoE D: High
Hernandez, Robins, Widaman and Conger (2017)	WoE A: Medium - Study was derived from previous literature. - Results reported did refer back to aspects of the literature review. - Reported reliability ranged from .60 to .88 and were referenced. - Method procedure was stated – interviews were used; difficult to replicate without knowing the training and supervision they received. - Analysis of results are stated. - Conclusions and generalisations drawn. - Limitations of study were considered. - Suggestions for future research were given. - Participants were paid to complete the study. - Longitudinal study. WoE B: High - All criteria met. Interviewing procedure was standardised. Being interviewed rather than self-report could lead response bias. WoE C: High - School belonging was reported. - Strength of identity was measured and reported. - School belonging and strength of identity were both considered with each other. WoE D: High
Santos and Collins (2015)	WoE A: Medium - Study was derived from previous literature. - Results reported did refer back to aspects of the literature review. - Reported reliability ranged from .76 to .87 and were referenced. - Method procedure was stated. - Analysis of results are stated. - Conclusions and generalisations drawn. - Limitations of study were considered. - Implications of the study were not drawn out. WoE B: High All criteria met. WoE C: High - School belonging was reported. - Strength of identity was measured and reported. - School belonging and strength of identity were both considered with each other. WoE D: High

Appendix 4: Pilot study – Questions for student consideration

Whilst completing the questionnaire, here are some key points you might like to consider your experience of:

- 1) Layout of the questionnaire
 - a. Is the questionnaire easy to complete?
 - b. Is the font clear/big enough?
- 2) Questions
 - a. Are the questions easy to understand?
 - b. Are there words that are unclear/difficult to understand?
 - c. Questions that are difficult to answer using the given scale?
- 3) Before completing the questionnaire
 - a. Were the instructions clear
 - b. Were the instructions easy to understand
 - c. If the instructions were unclear, how could they be made easier to understand?
- 4) Time
 - a. Do you feel that enough time was given to complete the questionnaire?

Are there any other comments you would like to complete about the questionnaire process?

Appendix 5: Ethnicity group options

Ethnic group options template proposed by ONS (2003)

What is your ethnic group?

Choose *ONE* section from A to E, then ✓ the appropriate box to indicate your ethnic group.

A White

- ☐ British
- ☐ Any Other White background, *please write in*

B Mixed

- ☐ White and Black Caribbean
- ☐ White and Black African
- ☐ White and Asian
- ☐ Any Other Mixed background, *please write in*

C Asian or Asian British

- ☐ Indian
- ☐ Pakistani
- ☐ Bangladeshi
- ☐ Any Other Asian background, *please write in*

D Black or Black British

- ☐ Caribbean
- ☐ African
- ☐ Any Other Black background, *please write in*

E Chinese or other ethnic group

- ☐ Chinese
- ☐ Any Other, *please write in*

Appendix 6: Chair of Ethics letter approving amendments



School of Psychology
The University of Nottingham
University Park
Nottingham
NG7 2RD

tel: +44 (0)115 846 7403 or (0)115 951 4344

SJ/tp

Ref: S1118

Tuesday 13th November 2018

Dear Kirsten and Anthea,

Title of the new project: *'How do self-assessments of ethnic identity relate to school connectedness in early adolescents?'*

Applicants: Kirsten Chung

Further to your request for Chair Approval for amendments to the project: -

Details of the previous study:

Applicant: Kirsten Chung

Title: Trainee Educational Psychologist

Date of approval: 12.10.18

Reference number (if known): S1102

As Chair of the Ethics Committee I have considered your request and I am happy to grant approval for the following changes:

Approved.

Final responsibility for ethical conduct of your research rests with you or your supervisor. The Codes of Practice setting out these responsibilities have been published by the British Psychological Society and the University Research Ethics Committee. If you have any concerns whatever during the conduct of your research then you should consult those Codes of Practice.

Independently of the Ethics Committee procedures, supervisors also have responsibilities for the risk assessment of projects as detailed in the safety pages of the University web site. Ethics Committee approval does not alter, replace, or remove those responsibilities, nor does it certify that they have been met.

Yours sincerely



Professor Stephen Jackson
Chair, Ethics Committee

Appendix 7: Information sent to parents

**School of Psychology
Information Sheet**



***Title of Project: How do self-assessments of ethnic identity relate to school connectedness
in early adolescents?***

Researchers: Kirsten Chung

Supervisors: Anthea Gulliford

Contact Details: lpkcc@nottingham.ac.uk

This is an information sheet regarding the participation of your child to take part in a research study in March 2019. If you do not wish for your child to take part in the study or have any questions or concerns, please do not hesitate to inform me using the email address provided at the top of this letter.

Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

The study hopes to gain information about ethnic identity and school connectedness, to help schools understand how best to support students. If you consent, your child will be asked to complete a survey that asks a short series of questions on their ethnic identity and feelings of connectedness to school. The whole procedure will last around 5 to 10 minutes.

Taking part in this study is totally voluntary and your child is under no obligation to do so. They are free to withdraw at any point before or during the study. All data collected will be anonymised and kept confidential and used for research purposes only. No individual could be identified from the study. It will be stored in compliance with the Data Protection Act.

We can also be contacted after your participation at the above address.

If you have any complaints about the study, please contact:

Stephen Jackson (Chair of Ethics Committee)

stephen.jackson@nottingham.ac.uk

Appendix 8: Information sheet for students

**School of Psychology
Information Sheet**



Title of Project: How do self-assessments of ethnic identity relate to school connectedness in early adolescents?

Researchers: Kirsten Chung

Supervisors: Anthea Gulliford

Contact Details: lpkcc@nottingham.ac.uk

This is an invitation to take part in a research study.

Before you decide if you wish to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

If you take part, you will be asked fill in a survey about ethnic identity and about how connected you feel to school. The whole survey will last around 5 minutes.

It is completely up to you whether you take part in this study. You are free to withdraw at any point before or during the study. All data collected will be made anonymous and kept confidential and used for research purposes only. No one will be able to see your individual answers or identify you from the research. Data will be stored according to the Data Protection Act.

If you have any questions or concerns, please do ask them. We can also be contacted after the study at the above address.

If you have any complaints about the study, please contact:
Stephen Jackson (Chair of Ethics Committee)
stephen.jackson@nottingham.ac.uk

Appendix 9: Consent form for students

School of Psychology
Consent Form for participant



*Title of Project - How do self-assessments of ethnic identity relate to school connectedness
in early adolescents?*

Ethics Approval Number or Taught Project Archive Number: S1102

Researcher: Kirsten Chung, lpxkcc@nottingham.ac.uk

Supervisor: Anthea Gulliford

The participant should answer these questions independently:

- Have you read and understood the Information Sheet? YES/NO
- Have you had the opportunity to ask questions about the study? YES/NO
- Have all your questions been answered satisfactorily? YES/NO
- Do you understand that you are free to withdraw from the study? YES/NO
(at any time and without giving a reason).
- I give permission for my data from this study to be shared with other researchers
provided that my anonymity is completely protected. YES/NO
- Do you agree to take part in the study? YES/NO

"This study has been explained to me to my satisfaction, and I agree to take part. I understand that I am free to withdraw at any time."

Signature of the Participant:

Date:

Name (in block capitals)

I have explained the study to the above participant and he/she has agreed to take part.

Signature of researcher:

Date:

Appendix 10: Study debriefing form

This debriefing form was placed at the end of the survey for students to read before

Thanks for taking part in this survey.

1. What is the aim of the study?

The aim of the study is to look at how self-assessments of ethnic identity relate to school connectedness in early adolescents.

2. How can I contact the researcher if I have any further questions or if, for any reason, I wish to withdraw my data once I have left?

Email the researcher: lpkcc@nottingham.ac.uk

3. This study has raised personal issues that I am not comfortable discussing right now – who can I talk to when I am ready?

SENCo:

Head Teacher:

The Samaritans Telephone: 08457 90 90 90

4. I have concerns about this study, or the way in which it was conducted – who should I contact?

Supervisor: Anthea Gulliford

E-mail:

Appendix 11: ‘Other’ responses allocated to ethnic group

Student response	Ethnic group
British, White Scottish	White
Portuguese	White
White Portuguese	White
Polish	White
White Polish	White
Slovakian	White
Italian	White
Scottish and Black Caribbean	Mixed/Multiple ethnic groups
White and Chinese	Mixed/Multiple ethnic groups
Half Somali and Half Lebanese	Mixed/Multiple ethnic groups
Indian African	Mixed/Multiple ethnic groups
African Indian	Mixed/Multiple ethnic groups
Asian and African	Mixed/Multiple ethnic groups
A lot of the options listed	Mixed/Multiple ethnic groups
Mixed	Mixed/Multiple ethnic groups
British Indian	Asian/Asian British
Indian British	Asian/Asian British
Sri Lankan	Asian/Asian British
British Sikh	Asian/Asian British
British Pakistani	Asian/Asian British
Indian Christian	Asian/Asian British
Indian Arab and Pakistani	Asian/Asian British
British Asian	Asian/Asian British
Asian	Asian/Asian British
Angolan	Black/African/Caribbean/Black British
British Tanzania	Black/African/Caribbean/Black British
British African	Black/African/Caribbean/Black British
Black British	Black/African/Caribbean/Black British
Afghan	Other ethnic group
Palestinian	Other ethnic group
Kurdish	Other ethnic group
Kurdish	Other ethnic group
Arab	Other ethnic group
Afghan	Other ethnic group
Afghan	Other ethnic group
Arab	Other ethnic group

Appendix 12: Descriptives table generated in SPSS from initial assumption testing

		Centrality	Private regard	Public regard	Connectedness
N	Statistic	295	295	295	295
Range	Statistic	4.00	4.00	4.00	3.39
Minimum	Statistic	1.00	1.00	1.00	1.50
Maximum	Statistic	5.00	5.00	5.00	4.89
Mean	Statistic	3.09	3.86	3.05	3.49
	Std. Error	.05	.06	.06	.04
Std. Deviation	Statistic	.84	1.10	.98	.69
Variance	Statistic	.70	1.22	.96	.48
Skewness	Statistic	.14	-.64	.06	-.34
	Std. Error	.14	.14	.14	.14
Kurtosis	Statistic	-.03	-.37	-.25	-.36
	Std. Error	.28	.28	.28	.28

Appendix 13: Shapiro-Wilk tests for normality

	Shapiro-Wilk		
	Statistic	df	Sig.
Centrality	.973	295	.000
Private regard	.864	295	.000
Public regard	.961	295	.000
Connectnedness	.983	295	.001

Appendix 14: Graphs of moderation analysis

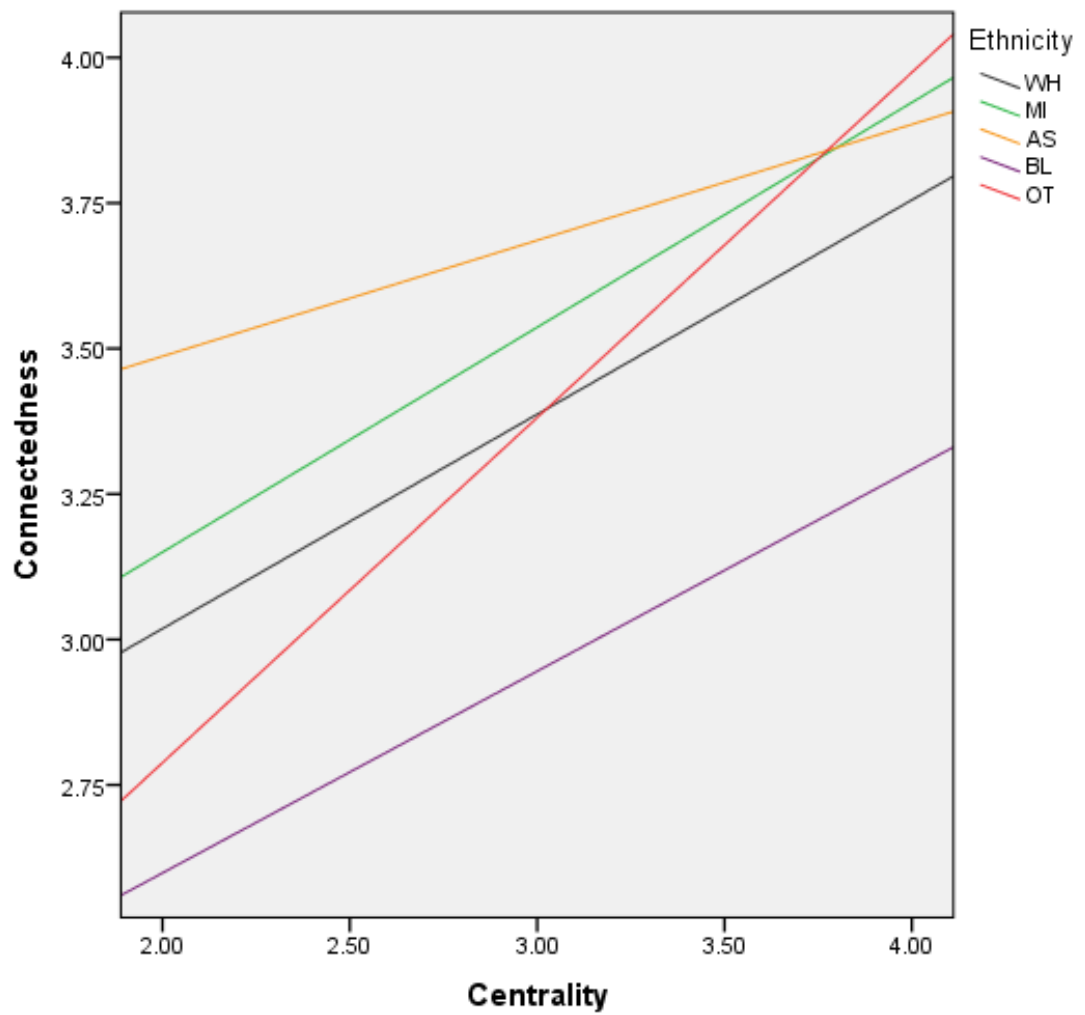


Figure A13.1 Simple slopes of Centrality predicting School Connectedness with Ethnicity as moderator

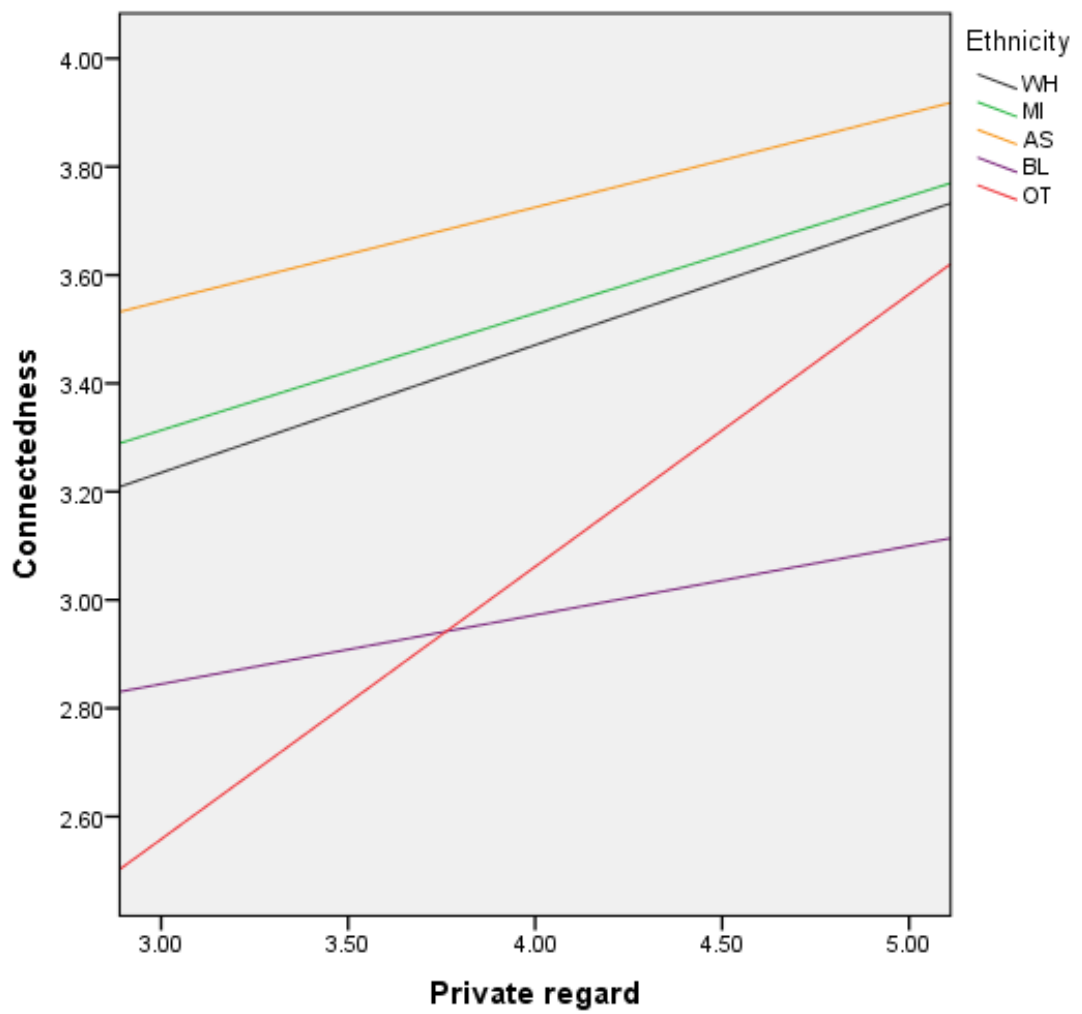


Figure A13.2 Simple slopes of Private Regard predicting School Connectedness with Ethnicity as moderator

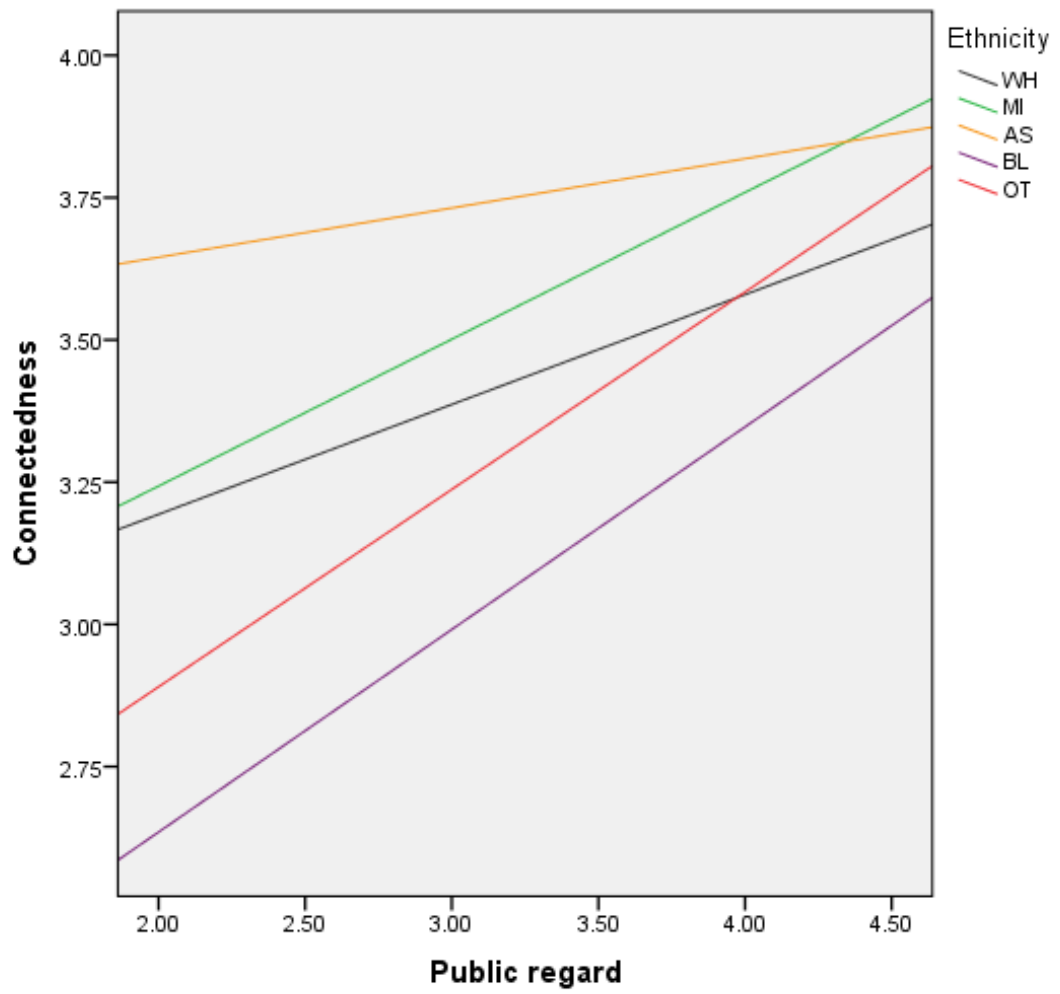


Figure A13.3 Simple slopes of Public Regard predicting School Connectedness with Ethnicity as moderator

Glossary of Acronyms

BPS	British Psychological Society
CAMHS	Child and Adolescent Mental Health Services
DAEP	Doctorate in Applied Educational Psychology
DfE	Department for Education
EP	Educational Psychologist
EPS	Educational Psychology Service
ERI	Ethnic Racial Identity
LA	Local Authority
NHS	National Health Service
ONS	Office for National Statistics
PWB	Psychological Wellbeing
SDT	Social Determination Theory
SEN	Special Educational Needs
SPSS	Statistical Package for the Social Sciences
SWB	Subjective Wellbeing
TEP	Trainee Educational Psychologist
UK	United Kingdom
US	United States