Evaluation of a Cognitive Behavioural Intervention (ThinkSmart) aimed at Encouraging Young People to Engage in Higher Education

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DECLARATION

I hereby declare that this thesis is a result of my own investigations and all authorities and sources which have been consulted have been with every effort indicated clearly with due reference to the literature and acknowledged in the reference list. This work has not been previously accepted in substance for any degree and is not being concurrently submitted in candidature for any other degree.

Emma J Jackson

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ABSTRACT

Evaluation of a Cognitive Behavioural Intervention (ThinkSmart) aimed at Encouraging Young People to Engage in Higher Education (HE).

The persistent patterns of under-representation of certain social groups at higher education (HE) identified that the current strategies used as part of the widening participation agenda required revising. Outreach activities are the main strategy used by the widening participation agenda to address the under-representation of certain groups of young people such asthose from disadvantaged backgrounds at HE. However, a shortage of robust evidence made it difficult to determine the actual impact and effectiveness of these outreach activities. This thesis addressed this gap in knowledge by establishing robust approaches to designing and evaluating outreach activities. To achieve this, a different perspective was taken; this thesisdemonstrated howpsychology can improve the design and evaluation of outreach activities.The use of psychological theories such as cognitive behavioural therapy and attribution theory were demonstrated indevising the outreach intervention ThinkSmart as being valuable for outreach activities. The evaluationof ThinkSmart showed a short-term practical significance, thus the intervention did have an impact on the recipients, this however, was not sustained. To support the evaluation of ThinkSmart a measure of intention to engage with HE was devised and validated, 'Students Intentions Towards University' (SITU) due to one not currently existing in the literature, despite progression to HE being a key outcome for outreach activities. To understand the effectiveness of ThinkSmart, unique to the thesis a process evaluation was undertaken to explore the implementation process. The approach showed that the components required for behavioural change were significantly under implemented, which impacted on the overall success of ThinkSmart explaining to some degree the small short-term gains of recipients. Finally to support the development of well-designed interventions to impact on the evident disparities in the patterns of participation in HE, as well as providing a framework for further research in this area, an ecological model of educational progression was devised. The model established the importance of the individual in understanding how best to address the objective of the widening participation; as this can explain why despite their background young people can achieve. Therefore in

summary outreach activities need to consider the individual but in light of the contextual factors presented in the model. This thesis hasdemonstrated that it is important to evaluate outreach activities robustly and to do so principles ofpsychology should be incorporated to improve the design and evaluation of outreach activities, to positively impact on the likelihood of non-traditional students, i.e. those from disadvantaged backgrounds engaging with HE, addressing the widening participation agenda objectives.

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CHAPTER 1 POSITIONING OF THE RESEARCH

1.1 INTRODUCTION

The persistent patterns of under-representation of certain social groups participating in higher education (HE) placed the widening participation agenda as a central policy theme in the United Kingdom (Burke, 2012). The widening participation agenda gathered impetus during the New Labour Government (1997-2010) as a strategy to increase the number of non-traditional students (defined as for exampleindividuals from disadvantaged backgrounds, disabled or mature learners) progressing to HE (Dearing, 1997).To engage young people with the notion of progressing to HE outreach activities are used by the widening participation agenda, to raise the aspiration levels of young people aged 13 to 19 from disadvantaged areas through a wide variety of activities.These activitieswere facilitated until recently by Aimhigher, the flagship initiative of the widening participation agenda; hence Aimhigher outreach activities were a main focus of this research project. Research reports suggested that outreach activities had an overwhelming positive impact changing young people's attitudes held towards HE (Doyle and Griffin, 2012). However, these conclusions were questionable owing to a shortage of robust evidence to determine the impact and effectiveness of outreach activities (Gorard, Smith, May, Thomas, Adnett and Slack 2006; Thomas, 2011).

Despite over a decade spent focusing on widening participation, the gap in participation rates in HE continue. Thus the current approaches to widening participation were questioned (Burke, 2012). This thesis adopted a psychological perspective to explore new ways to address the objectives of the widening participation agenda. According to Taylor and Trapp (2010), central to the work of psychologists is the promotion of inclusion and the success of under-represented groups, therefore psychology can add a further dimension to understanding the issues experienced by widening participation students. However, much of the current research is located within sociology, which focuses on the contextual factors to understand the differences in participation rates. Whereas a psychological perspective focuses more on the individual to offer a different approach to tackling the objectives of the widening participation agenda.

1.2 Structure of the Thesis

Chapter one is a brief introduction to the research study and it aims. Chapter two outlines briefly the differences in young participation rates in HE and the role of the widening participation agenda to address the evident disparities. However, as highlighted in this chapter there is lack of understanding regarding what factors facilitates and/or hinders educational progression. Thus chapter three explores the potential reasons why there are differences in participation rates in HE to determine what factors are of influence on participation and non-participation in HE to provide an evidence-base for widening participation strategies.

A key strategy of the widening participation agenda to address under-representation of certain young people is outreach activities. These activities are aimed at young people to raise aspirations and awareness of HE. The role of outreach activities as part of the widening participation agenda, and more specifically Aimhigher is discussed in chapter four. This chapter ascertains the dearth of evidence to determine the impact and effectiveness of these activities on engaging young people with the idea of HE, as well as the shortage of a suitable model to devise outreach activities.

These introductory chapters highlight the importance of a psychological approach to understand widening participation. Despite psychology having little involvement to date within the area of outreach activities. The aim of this thesis was to address both the design and evaluation of outreach activities by taking a psychological approach. Thus to address the design of outreach activities, chapter five describes an outreach interventionunderpinned by sound psychological theories, those theories being Cognitive Behavioural Therapy (CBT) and attribution re-training to inform ThinkSmart. ThinkSmart aimed to engage young people with the idea of HE as well as improve levels of self-esteem and motivation. ThinkSmart was central to the research project.

The second aim of the thesis was to address how outreach activities are evaluated. Chapter six discusses the robust evaluation framework that was to be used for the main evaluation of ThinkSmart. Several measures were piloted to determine which were most suitable in chapter seven. The conclusions of these chapters ensured that

the methods included in the evaluation framework of ThinkSmart were sufficient to address the aims of the research project.

Chapter seven identified that a measure to evaluate the core aim of outreach activities (engagement with HE), was not available in the literature. Such a measure was required to determine whether ThinkSmart engaged young people with the idea of HE. Chapter eight describes the development and validation of such a measure of intention to engage with HE to employ in the evaluation of ThinkSmart.

To evaluate ThinkSmart for a comprehensive understanding of the impact and effectiveness of the intervention a process evaluation and empirical evaluation were conducted concurrently. Chapter nine describes the empirical findings from the pre-, post- and delayed post-testing evaluation of ThinkSmart. In conjunction with this a process evaluation was undertaken to explore the implementation of ThinkSmart which is discussed in chapter ten. Combining the two approaches was unique to this research project and provided a comprehensive evaluation framework to draw firm conclusions on the impact and effectiveness of ThinkSmart.

Finally, chapter eleven sets out the conclusions of this research project and considers the limitations and avenues for future research. In this chapter, the research undertaken and discussions throughout the thesis are summarised by an ecological approach to present a comprehensive framework of the factors, stages and processes that may influence educational progression. In this chapter the application of the ecological approach is discussed as a mechanism to inform the design of outreach activities

1.3 Aims and Objectives

Studies robustly investigating the impact and effectiveness of outreach activities are scarce (Gorard et al., 2006; Chilsoi, Noble, Broadhead, Wilkinson, 2009; Thomas, 2011; Doyle and Griffin, 2012). However, it is important to investigate the actual impact of an outreach intervention to determine the best approach to encourage progression to HE. The main aim of this thesis was to:

> Evaluate ThinkSmart to determine whether it improves self-esteem levels, motivation and engagement in school and intention to progress to HE for young people aged 13 to 14.

To achieve the aim set out above, the specific objectives of this project are:

1. Develop and validate a measure of intention to engage with HE for young people aged 11 to 18 by:
    - Conducting focus groups to establish the factors that hinder and/or facilitate educational progression.
    - Construct a questionnaire in accordance with established guidelines via Streiner and Norman (2008).
    - Test the internal consistencyof the measure (Coefficient alpha).
    - Assess test-retest reliability using Pearson's *r.*
    - Examine the factor structure of the measurement using Exploratory Factor Analysis (EFA).
    - Pilot the measure with the target respondents.

2. Evaluate the outreach intervention ThinkSmart to determine the impact and effectiveness by:
    - Examining the impact of ThinkSmart on levels of self-esteem.
    - Examining the impact of ThinkSmart on levels of motivation and engagement in school.
    - Examining the impact of ThinkSmart on intention to engage with HE.
    - Conducting a process evaluation to explore the implementation of ThinkSmart.

3. Develop a comprehensive model of educational progression to better inform the design of outreach activities by:
    - Drawing together the factors that influence educational progression discussed in the thesis to inform an ecological model of educational progression.
    - Demonstrate the potential use of the model to design outreach activities.

CHAPTER 2 PARTICIPATION PATTERNS IN HE AND THE ROLE OF THE WIDENING PARTICIPATION AGENDA

2.1 CHAPTER SUMMARY

The widening participation agenda is a central policy theme in the UK to address the under-representation of certain groups in society participating in higher education (HE) (Burke, 2012). However, despite over a decade spent focusing on widening participation the patterns of participation continue to persist, which questions the current approaches used to widen participation (Burke, 2012). This chapter provides a background to the thesis by outlining the patterns of participation in HE and the role of the widening participation agenda to tackle any disparities noted.

2.2 PATTERNS OF PARTICIPATION IN HIGHER EDUCATION (HE)

Since the mass expansion of HE there has been major changes in participation rates in higher education (HE). Patterns of participation in HE have increased for 18-30 year olds from 43% in 2006/07 to 49% in 2011/12 (National Statistics, 2013). The largest growth is in young participation with 25.7% 18 year olds participating in HE in 2013 (National Statistics, 2013). The expansion of HE has increased participation rates also for women, mature learners and individuals from lower socio economic groups, which are discussed elsewhere (see National Statistics, 2013). The focus of this project is on the participation of young people at HE, as there are the group to which most widening participation strategies are aimed at , such as outreach activities (to be discussed in chapter four).

Despite the expansion of HE, disparities in participation rates in HE between different groups in society persist. There are stark differences with 57% of young people defined as from the most advantaged neighbourhoods participating in HE compared to 19% of young people defined as from the most disadvantaged neighbourhoods (Corver, 2010). This is in spite of the participation rate of those from the lowest participation areasincreasing from 14% to 19%. Corver (2010) reported that despite the overall increase of young participation significant differences still remain. These differences in participation rates were proposed to relate to the area in which a young person resides; as fewer than one in five young people from

disadvantaged areas participate in HE compared to one in two from most advantaged areas (Corver, 2010).

Geographical area is used to define the variation in participation rates (HEFCE, 2012). To understand these trends better, POLAR3 (Participation of Local Areas) classifies the UK into five groups according to the level of young people's participation. Quintile 1 is defined as the lowest participation rate area and considered the most disadvantaged to quintile 5 which has the highest participation rate area and considered the most advantaged. Across all quintiles in 2013 there was an increase in UCAS application forms, with the largest increase in areas classified as the most disadvantaged (UCAS, 2013). Despite this, young people in quintile five are on average three to four times more likely to participate in HE compared to those in quintile one (HEFCE, 2012). The POLAR3 data suggests that the north east has the lowest participation rates in HE compared to highest participation rates in London (HEFCE, 2012). There are also regional variation, for instance in Worcester, Wardon is classified as quintile one with 11.3% participation rate compared to the Cathedral area in quintile five with a 40.7% participation rate in HE. These figures highlight that the chance of participating in HE is influenced by area of residence (HEFCE, 2012). The area in which a person resides is important when considering the persistent differences in participation rates, but there are a wide range of factors that can influence progression to HE such as educational, psychological, social and economic that need to be considered (Corver, 2010).

Moreover, the largest growth in participation rates has been those in which their occupational class was not known on their UCAS application forms (Gorard, 2005). This creates its own problems as it is not known who these individuals are to understand the level of under-representation in HE. Harrison and Hatt (2009) investigated who the unknowns at HE were, from analysing 1,000 18 to 19 year olds' UCAS application forms, their research suggested that those whose social class was absent were drawn from areas of high deprivation so the target group of the widening participation agenda. These findings therefore question the reliability of official statistics on social class to determine who are under-represented at HE (Harrison and Hatt, 2009). To define the patterns of participation and therefore identify who is missing in HE there are no robust datasets available (Gorard, 2005).

In spite of the limitations of the current data available, differences in participation rates in HE are evident (Gorard et al., 2007). The student body in HE is made up of far more students from professional and managerial families than those from unskilled backgrounds (Gorard et al., 2007). It is therefore proposed that the expansion of HE benefited those young people from relatively rich backgrounds, rather than the target audience of young people from poorer backgrounds (Adnett and Slack, 2007). Gorard et al., (2007) noted there are evident disparities in participation rates in HE but it is not a simple pattern of under-representation. One strategy to address the differences in participation rates is the widening participation agenda.

2.3 The Role of the Widening Participation Agenda

The term widening participation is associated with a range of terms and has various definitions, meanings and understandings (Taylor and Trapp, 2010; Butcher, Corfield and Rose-Adams, 2012). Thus the term has a broad application in practice, policy and research (Andreshak-Behrman, 2003). There are however three board aims of the widening participation agenda; increase participation rates to HE, promote access to those currently considered to be under-represented at HE and attempt to address fairer access for non-traditional students to elite universities (Brown, 2011). The crux of the widening participation agenda is therefore to widen access to and increase participation in HE for social groups considered under-represented which includes young people from lower socio-economic backgrounds. As a result of the widening participation agenda, it is proposed that Higher Education Institutions (HEIs) are now actively recruiting a broader range of students which include those from non-traditional backgrounds (Hoskins, 2012).

2.3.1 Policy Background

An understanding of the policy context is of importance when discussing the term widening participation as it provides a critical framework of reference (Foskett, 2011). Efforts to widen access to HE date back to the Robbins Report in 1963. Yet the term of widening participation is more understood and known as a New Labour term of 1997 (Butcher, Corfield and Rose-Adams, 2012).

The 1997 Dearing Report provided the on-going political focuson widening participation under New Labour (Fuller, Heath and Johnson, 2011). In 1997, Blair

spoke of the New Labour's (1997-20) focus on 'Education, Education and Education' (Burke, 2012). Their commitment to widening participation was contextualised in the target of 50% of 18-30s will have participated in HE by 2010. An unattainable target on reflection with current participation rate in 2013 at 49% (Fuller, Heath and Johnston, 2011). Despite this the widening participation agenda became a prominent political concern and has since gathered impetus to increase the number of non-traditional students defined as individuals from disadvantaged backgrounds, disabled learners or mature learners progressing to HE (Dearing, 1997; Burke, 2012).

Widening participation became a focus of political attention to meet the needs of the changing employment and economic landscape (Hoskins, 2012). HE was seen as the place to provide the skills, knowledge and understanding needed to create a knowledge economy (Hoskins, 2012). That is an up skilling of the workforce to ensure future economic stability and growth of the UK (Hoskins, 2012). New Labour, however presented WP has a chance to extend the benefits of HE to beyond the middle class, addressingsocial injustice (Hoskins, 2012). The up skilling of the workforce was thought to subsequently increase the nation’s productivity and result in the development of a knowledge economy and economic growth, which could also have benefits for the individual in terms of well-being (Watts, 2006; DFES, 2006; Adnett, 2006). The political focus on widening access is therefore economic, society and individual benefit (Ellis and Allan, 2006). Both the economic and social justice reasons are two powerful imperatives that provide an explanation as to why the widening participation agenda has remained significant across all governments (Foskett, 2011).

The election of the Coalition Government (Conservatives and Liberal Democrats) in 2010, proposed radical changes that were thought to negatively affect the widening participation efforts of New Labour (Burke, 2012). This was due to changes made in the funding priorities for HE, which included the termination of central funding for access and outreach organisations such as Aimhigher. In 2011, the Coalition announced the closure of Aimhigher and this was to be replaced with each HEI organising their own outreach activities. The responsibility was placed on universities to create fairer access. The policies were however created to streamline the widening participation agenda and aimed at increasing the number of young people

from disadvantaged backgrounds participating in HE, but with more of a focus on access to the UKs most selective universities (BIS, 2011).

The current Coalition approach to widening participation is thus more focused on fair access.Fair access is the term now used to describe the focus on ensuring HE is available to all those who can potentially benefit (Burke, 2012). This is because the term widening participation lacked clarity. Moreover, development in the area of widening participation wanted to move away from the view of students with low entry qualifications and aspirations, to a strategy that focuses on addressing socially disadvantaged groups more broadly (Butcher et al., 2012) The new focus of widening participation is therefore about fair access and social mobility (Butcher et al., 2012).

To challenge universities to make real progress with fair access under the Coalition the role of the Office of Fair Access (OFFA) was strengthened (Atherton, 2012). Annually approved Access Agreements were included between HEIs and OFFA to ensure that fair access was protected despite the increase in tuition fees (Atherton, 2012). In these agreements HEIsset out measureable targets that focus on the outreach activities that are to be offered to offset non-participation at HE. A national scheme to achieve this aim was the National Scholarship programme, a streamlined bursary scheme to support widening participation students. How the bursary was allocated was decided locally at institution level with some universities offering a wealth of choice whereas others deducted fees for accommodation and tuition. This approach allows flexibility for each higher education institution widening participation priorities; as these will differ depending upon locality and context. The aim of the Coalition was then to inject more pace and rigour into the next phase of promoting fair access rather than undoing any previous widening participation efforts (HEFCE, 2013).

The widening participation agenda was expected to result in significant shifts in participation rates (Baker, Brown and Frazey, 2006). So the persistent patterns of participation rates in HE has according to Burke (2012) perplexed policy-makers. Widening participation efforts until this point have been criticised. What was missing in the literature was an understanding of how the political agenda is to be operationalised, simply how is it put into practice (Butcher, Corfield and Rose-

Adams, 2012). Little has been documented on how the policies were being implemented in practice limiting the ability to develop policies and strategies to address the goals of the agenda (Foskett, 2011).

This may explain why that even though there has been an enduring political focus on the widening participation agenda, the inequalities in participation rates to HE continue to prevail (Gorard et al., 2006). Thus the current strategies used in the widening participation agenda required addressing. The task of increasing the number of young people from under-represented groups such as those from lower socio-economic backgrounds continuing their educational journey at sixteen isconsidered to be one of the greatest challenges facing HEIs (Committee of Vice-Chancellors and Principles, 1999; Thomas, 2001).

2.4 Psychology and Widening Participation

A different outlook on improving fair access to HE was required. An exploration of participation rates suggest that widening participation strategies have to a degree contributed to an increase in the number of non-traditional students attending HE (Foskett, 2011). Yet stark differences still remain. To understand how to widen access, the current thinking needed to be challenged (Burke, 2012). Taylor and Trapp's (2010) *'Special Issue on Widening Participation in Psychology*' highlighted the potential ways psychology could contribute to widening participation that were explored in this thesis. Psychology can offer a different outlook from that currently evident of low achieving and limited aspirational learners (Butcher et al., 2012).The promotion of inclusion and the success of under-represented groups are issues central to the work of psychologists (Taylor and Trapp, 2010). Inclusion and success are now the aims central to fair access. Thus psychology has the potential to offer suggestions on how to widen participation by drawing from a range of theoretical knowledge.

The changes made by the Coalition government also included the need for more rigorous monitoring of widening participation activities (Butcher, Corfield and Rose-Adams, 2012). Taylor and Trapp (2010) discussed also the unique role that psychology can play in developing and evaluating new ways to widen access and improve participation for those groups considered to be under-represented. Psychologists have knowledge of qualitative and quantitative data collection

methods that address the need for robust evaluations of widening participation strategies. Qualitative data collection methods allows the collation of rich data of participants' events and experiences through approaches such as interviews and focus groups, but it is difficult to generalise findings due to limited number of participants. In constract quantitative data collection methods can gather numerical data from a large sample. A mixed method approach combines the two data collection approaches to provide a comprehensive rich understanding of a topic area; the approach to be taken in this thesis.

2.5 Conclusion

The aim of the widening participation agenda is to widen access to HE. However, as outlined in this chapter a more sophisticated understanding of the factors that impact on educational decisions is required if change is to be expected. This is because if the current approachesused to widening participation are to continue then so will the differences in participation rates (Torgerson et al., 2008). To address the inequalities discussed in this chapter, radical changes are required in the field of widening participation. A sophisticated approach to address the barriers faced by young people to result in successful participation is required.

Yet, little research has explored what facilitates and hinders progression to post-compulsory education (Gorard, See and Davies, 2012). This may be because it is difficult to identify all the factors that impact on participation rates (Corver, 2010). However,an understanding of how a young person makes a decision to participate or not at post-compulsory education can helpto facilitate the development of evidence-based policy initiatives (Gayle, Berridge and Davies, 2002). It is therefore important to understand what may influence educational decisions to provide strategies on how best to address the disparities in participation rates in HE (James, 2002). The next chapter comprehensively reviews potential explanations for the patterns of participation in HE to illuminate approaches that the widening participation agenda can use to increase the number of young people progressing to HE.

CHAPTER 3 EXPLORATION OF PARTICIPATION AND NON-PARTICIPATION IN HE: WHAT FACTORS ARE OF IMPORTANCE

3.1 CHAPTER SUMMARY

Chapter two discussed that an increase in the number of young people participating in HE is evident, yet stark differences still remain between the most advantaged and most disadvantaged neighbourhoods; this is despite a decade focusing on the widening participation agenda. There is therefore a need to better understand why some young people continue their education and others do not. A comprehensive exploration of factors that may either hinder or facilitate participation in HE are considered in this chapter, to inform discussions in the next chapter about how outreach activities, as part of the widening participation agenda, can best tackle the disparities in participation rates in HE.

3.2 BARRIERS TO PARTICIPATION

The term 'barriers' was a prominent concept to explain the under-representation of certain groups in society in HE (Fuller and Paton, 2007; Burke, 2012). The barriers observed were named situational, institutional and dispositional (Gorard et al., 2007; Fuller and Paton, 2007). Situational barriers refered to the cost, time and geographical accessibility to post-compulsory educational provision (Fuller and Paton, 2007). The mode of attendance such as part-time or distance learning and entry requirements for a course were defined as institutional barriers (Fuller and Paton, 2007). These situational and institutional barriers are both considered to be culturally constructed (Thomas, 2001). Dispositional barriers refered to motivation levels, but were currently overlooked in the literature due to a focus on the more visible barriers to HE.

Gorard et al., (2007) discussed how the use of the terminology of 'barriers' was an attractive one that provided its own solution; that is the removal of these barriers would facilitate progression to HE. Therefore the concept of 'barriers' is not of value when trying to understand participation and non-participation at HE (Gorard et al., 2007). This is because the focus on predefined barriers resulted in a lack of understanding of what factors influence an individual's intention to progress to HE (Doyle and Griffin, 2012); as it does not allow researchers to examine the true complexity of educational progression (James, 2002).

The use of the terminology 'barriers' limits the exploration of the multitude of factors that can be potential determinants of participation in HE (James, 2002). It ignores the complexity of the processes that are involved in decision-making (Burke, 2012). Social, cultural, dispositional and psychological factors are suggested to all impact on educational progression (Chilosi, Noble, Broadhead and Wikinson, 2010). However, the literature is focused on more visible barriers, rather than internal factors. Yet, understanding the role of motivation and educational attitudes may help to address educational inequalities (McGivney, 1993; Burke, 2012), rather than focusing on the predefined barriers mentioned. This chapter discusses an array of research evidence and theoretical knowledge to understand what factors can either facilitate or hinder educational progression to support the design of evidence-based widening participation strategies in the proceeding chapter.

3.3 Factors of Progression

Chapter one discussed how much of the literature on widening participation is situated in sociology and thus focuses on contextual factors and the impact this has on young people's chances of progressing to HE. Consequently, a life-long learning trajectory in education is thought to be predicted with 75% accuracy by age, family and sex, and the inclusion of initial schooling increases the model accuracy to 90% (Gorard et al., 2006). Although this is of use, 10% of this model is not predicted by the factors mentioned. This chapter will demonstrate that the individual is also of importance, which may be the other 10% of the model. However, these individual factors may have, until now, been overlooked in the literature regarding how best to tackle the aims of the widening participation agenda.

3.3.1 Contextual Factors

This section presents an overview of the contextual factors that are considered in the literature on widening participation to have a significant role in understanding educational progression.

3.3.1.1 Background Characteristics

The social group an individual belongs to is thought to play a significant role in determining their educational outcomes; this includes socio-economic background, gender and ethnicity.

3.3.1.1.1 Socio-economic Status

Research spanning decades attests to socio-economic status being the main barrier to HE (Sargent and Aldridge, 2002; Burke, 2012). This is because socio-economic status is deemed to be a mediating factor in understanding educational decisions and the different levels of participation at post-compulsory education (Conolly, 2006; Allard and Santoro, 2008; Archer, 2006; Stevenson and Willot, 2007). Thus it is thought that young people from higher socio-economic backgrounds are more likely to continue their educational journey at sixteen compared to young people of lower socio-economic backgrounds (Archer, 2006; Bates, Pollard, Usher, and Oakley, 2009). Growing up in a disadvantaged family is associated with lower educational attainment levels and thus lower participation rates in HE (Goodman and Gregg, 2010; Carter-Wall and Whitfield, 2012).

This is suggested because the more advantaged classes possess greater levels of cultural and social capital thus are more knowledgeable about the education system, in comparison to families from disadvantaged backgrounds and so are more likely to engage with idea of HE (Archer, 2003). Social capital is defined as the social relationships and personal networks of common values and shared traditions of groups in society (Archer, 2006). Cultural capital is the knowledge of language, education and intellect that guides the decisions and actions taken by certain groups in society to promote social mobility. Cultural capital is one of the main explanations in the literature for the disparities in participation rates in HE (Perry and Francis, 2010). Furthermore, it is proposed that families from lower socio-economic backgrounds have difficulty in creating an enriching learning experience due to the shortage of economic capital (Archer, 2006). Economic capital refers to the access to monetary resources. However, parents from disadvantaged backgrounds without access to monetary resources can create a rich learning environment by reading books with their child or taking their child on educational trips activities which can be free of cost, such as the library and art galleries.

Goodman and Gregg (2010: 6) reported in their review that when questioned, only 37% of the mothers considered to be of a disadvantaged background hoped their nine year old child would progress to university, leading the researchers to suggest that

‘*adverse attitudes to education of disadvantaged mothers are one of the single most important factors associated with lower educational attainment at age 11*’.

This is a particularly strong claim, however, parents from lower socio-economic backgrounds are considered more likely to have lower educational expectations for their children regardless of their academic achievement (Gutman, Schoon and Sabates, 2012). Low income families with a lower educational level typically possess a more negative view of education, in comparison to middle class parents (Archer, 2006). For young people from lower socio-economic backgrounds, progression to HE is thought to be seen as ‘*getting above one’s station*’, so parents do not support educational decisions as it goes against the grain of tradition (Archer and Yamashita, 2003).

Advice provided by parents can therefore potentially be shaped by their socio-economic background and educational levels (Gilby et al., 2008). A negative parental attitude held towards education is a potential barrier to HE progression (Strand, 2007). This is because young people make educational decisions in accordance with their parent’s preferences (Payne, 2003). Transmission of attitudes towards education may explain the perpetuating cycle of disengagement and subsequent lower rates of educational progression by certain groups. This is known as intergenerational transmission, culturally entrenched views of education that need to be addressed.

However, parents may possess a negative attitude towards education for protective reasons. Goodman and Gregg (2010) suggested that parents may not support educational decisions to protect their child from experiencing failure. Therefore, a strategy to improve participation rates is may be to teach parents that their actions and efforts with their child's education can lead to positive outcomes (Goodman and Gregg, 2010). For instance parental involvement in school can mediate the negative effects of socio-economic background (Hango, 2007). An interest in schooling and school life, encouragement to achieve in school whilst taking an interest providing social support are all important parental behaviours that can support educational success (Gorard, See and Davies, 2012). Moreover, these are behaviours that can be attributed by all, regardless of socio-economic status.

There is no doubt the socio-economic status is of importance when understanding educational progression. It is however difficult to conclude the actual impact of socio-economic status on progression to HE, as there are a number of different terms used to explain socio-economic groups (Gorard et al., 2006). The terms working, middle and upper class were used to describe social differences in the 19th century; therefore the use of these terms in today's society is questionable. Socio-economic status is most commonly used to define social status and comprises of an individual's income, education level and occupation. This definition is however an abstract concept as there is no one single agreed definition and the measures used are complex and often controversial (James, 2002). The patterns of participation cannot therefore be easily understood by social class as it is not as straightforward as perceived in the literature (Gorard, 2005). Socio-economic status is however the predominent barrier noted in the current literature to explain progression to HE, thus its importance needs to be recognised but in light also of its limitations to fully explain educational progression.

3.3.1.1. 2 Gender

It is evident from current young participation figures that sex can also explain differences in patterns of participation with more females participating at higher education than males. The gender gap shows that in 2012 49% of females were participating in HE compared to 38% of males (Coughlan, 2013). The gap is even more noticeable in the most disadvantaged areas, with 50% of women from disadvantaged backgrounds likely to participate in HE (Corver, 2010; HEFCE, 2013). The gender gap is thought to be due to males not seeing HE as relevant to them (James, 2002); an idea that may have developed during the earlier stages of the education cycle. This may also explain why girls outperform boys at both crucial educational stages, 16 and 18 (Broeoke and Hamend, 2008). One group of males who due to low levels of prior attainment, is the most under-represented group at HE is white working class boys (Paton, 2008; Strand and Wilson, 2008; Croll, Attwood and Fuller, 2009).

3.3.1.1.3 Ethnicity

Connolly (2006) suggests that it is socio-economic status and ethnicity that have a far greater influence on education rather than gender. This is because reported differences in participation rates by gender are considered to be confounded by

socio-economic status and ethnicity, in that it is certain groups of males and females that did not progress to HE, for instance white boys from lower-socio-economic background (Connolly, 2006). Strand (2011) reported that there are however limitations to just focusing on socio-economic class to explain differences. This is because even after social class and gender have been accounted for an ethnicity gap is still evident in participation rates (Demack et al., 2000). Futhermore the gap in attainment as well as participation has been identified.

The ethnic gap in attainment is thought to be associated with level of poverty, with higher rates of poverty being associated with ethnic minority groups (Ridge, 2002). However, interestingly students from Indian and Bangladeshi backgrounds achieve higher results at the age of 14 than expected for their associated social class (Strand, 2011). Strand (2011) therefore proposed that socio-economic class does not explain all ethnic differences. Evidence establishes that there are other explanations which include parental involvement, educational aspirations, academic self-concept and attitudes toward school that influence educational outcomes (Strand, 2011). Differences in student aspirations and the development of a hard work ethic can offset the disadvantaging effects of socio-economic circumstances (Kingdon and Cassen, 2010; Strand, 2011). This may explain why there has been an increase in the number of young people from ethnic minority groups applying to HE (UCAS, 2013), with the largest increase for those young people from black backgrounds with an increase of 14% between 2006 to 2013 (Coughlan, 2013).

To understand the high participation rates for ethnic minorities at post-compulsory education compared to their white peers See et al., (2011) conducted a review of the literature and reported the most influential factor that determined potential participation at post-compulsory education was an individual's socio-economic background (See et al., 2011). Participation at post-compulsory education was associated with family background and parental influence. Additionally amendable factors such as teacher expectations, school experience, peer influence and individual characteristics were also influential.

There are large variations in each culture, gender and social group that needs to be accounted for (Bowman, 1994). Socio-economic status deems to have permeating role, so for instance a male born in a low socio-economic family and of white

background may be less likely to progress to HE than say a white male born in an advantaged family. Background charactersitics are indictators of participation in HE, with socio-economic status playing an important role. To date much of the research supports this position. There are however individual variations that are missing when taking this perspective. Socio-economic background can as discussed for instance influence parental involvement, schooling and peers. Yet what is not accounted for is how some overcome the barrier placed by socio-economic status to achieve, which is the crux of this thesis. Bearing in mind past research and the importance of socio-economic factors, this thesis will focus more on the overlooked factors to understanding educational progression.

3.2.1.2 Family

A wealth of research has established the significant role parents play in shaping their child's attainment (Goodman and Gregg, 2010), as well as decisions to participate in post-compulsory education (Archer and Yamashima, 2003; Herlickson et al., 2009; See et al., 2011; Kirk et al., 2011). Parents are considered to be the most consulted source about whether to participate at post-compulsory education (Thomas and Quinn, 2007). Discussions with parents regarding HE can influence decisions of what to study and where (Brooks, 2003). This is so, even when parents have little experience of HE (Moogan et al., 1999). If parents have little knowledge then information is sourced externally through work colleagues or other family members (Brooks, 2003, 2004). There is a reliance on parental advice rather than formal career services (Paton, 2007). Parents are thus a salient factor in decision-making about post-compulsory education participation (Biggart et al., 2004).

Parental occupation, educational aspiration, educational drive and expectations for their child are all thought to be indicators of aspirations, level of self-esteem and performance in school (Gorard, See and Davies, 2011). Parental involvement is also thought to be of importance (Gorard, See and Davies, 2011). Involvement can be defined as helping with homework or attendance at parents evening (Gorard, See and Davies, 2011). A strong message of the importance of education and the value it has can be established through discussing school work in the home environment (James, 2002), this can also be associated with school progression (Feinstein and Symons, 1999). Parental involvement at the age of seven can contribute to

explaining academic attainment above and beyond the impact of cognitive ability (Topor et al., 2010).

Hong and Ho's (2005) analysis of the US National Educational Longitudinal Survey (NELS) reported a strong association between parental aspirations, expectations and student achievement. However, Jeynes (2007) reported stronger links between parental expectations and school grades, rather than parenting behaviour. Young people perform better in school if their parents expect them to (Gorard, See and Davies, 2011). Furthermore a young person's perception of their parent's expectations can impact on achievement, independently of actual parental expectations (Gill and Reynolds, 1999; Fan and Chen, 2001). Parental expectations are therefore an important factor that can have an impact on attainment (Grinstein-Weiss, Yeo, Irish and Zhan, 2009; Senler and Singar, 2009).

However, as discussed above the role of parents in understanding educational progression can relate to socio-economic factors with parents from lower socio-economic backgrounds displaying a negative attitude to education hindering educational progression. This however may be a protective strategy, in that they do not want their child to experience the same failure they did and negative emotions associated with this.

Yet not all parents from disadvantaged backgrounds negatively impact on educational progression, some are determined to provide their child with opportunities to succeed and make a better life for themselves (Gorard, See and Davies, 2012). This determination and high levels of aspiration in parents and especially in low socio-economic families can result in their children wanting to succeed (Hill et al., 2004). Therefore, parents can overcome the adverse situation they find themselves in, to support the academic development of their offspring, which in turn influences the individual. Parents are thus salient to understanding educational progression and attitudes held towards HE. Parental involvement should be the basis of any intervention that aims to improve school outcomes (Gorard, See and Davies, 2011). Parents are however not the only family members who can influence educational progression.

Other family members are also considered potential influencers on educational decision-making such as siblings. Siblings are thought to be a useful source of

information regarding post-sixteen choices (Payne, 2003). Sibling comparison in terms of academic success can either result in lower levels of self-esteem or act as a spur for greater efforts to outshine their sibling. Yet this is an under-researched area in comparison to parental involvement (Al-Yousef, 2009). The suggestion that siblings have a positive influence on HE is of interest as this goes against the grain of established sibling research. Research reports that siblings are just

'*merely additional claimants for the time and attention of their parents, soaking up finite reserves of family social capital*' (Gillies and Lucey, 2006; 480).

This is a rather negative view of siblings on development and one that applies mainly to larger families (Coles, 2006). A wealth of research conducted by Dunn and colleagues demonstrates that siblings can positively impact on emotional development, moral development and provide a powerful beneficial relationship (Dunn and Kendrick, 1982). This is the case in terms of the impact of siblings on educational progression.

As Staetsky's (2008) analysis of the Youth Cohort Study suggested that young people are more likely to progress to HE than their non-participating peers if they had a sibling who experienced HE. This supports Dale's et al., (2003) research in which sibling's first-hand experience of HE had a positive effect on HE decisions within first generational families. This term is used to describe an individual who is the first in their family to attend HE. Siblings are thus potential influencers in deciding to progress to HE, however the lack of research to understand the role of siblings on educational pathways highlights a gap in current knowledge requiring further investigation (Al-Yousef, 2009). Furthermore, the role of other family members such as cousins, aunties or uncles on educational decisions, warrants further investigation to understand the role families play in shaping educational decisions (Al-Yousef, 2009).

3.2.1.3 Peers

An individual's peer group is also thought to influence progression to HE (Maras et al., 2007). Through tracking a sample of A-level students, Brooks (2005; 163) proposed that HE choices were not discussed at length between peers, instead peers played an indirect critical role in '*informing a young person's sense of self*' and this was used to determine what were feasible university options. Additionally peers

exerted a certain amount of influence on decisions to continue at post-compulsory as well as subjects chosen for instance selecting subjects that were only deemed ‘cool’ (Thomas and Webber, 2001).

The influence of peers may relate to group aspirations, which subsequently affects individual participation at post-compulsory education (Strand and Wilson, 2008). The idea of further education may be dismissed if it is perceived as being part of an out-group identity (Maras et al., 2007). An individual’s friendship circle may therefore influence educational decisions; however this is not clear due to the lack of evidence.

Young people may stay on at sixteen if their schoolmates are as well (Payne, 2003). Thus socialising with peers who aspire to go to HE will positively influence one’s own decision to progress to HE (Joseph Rowntree Foundation, 2006). Furthermore, young people are more likely to socialise with people similar to them which may confound the impact of peer groups on educational decisions, as those that wish to succeed at school are more likely to form a social group and encourage each other. The selection of peers is associated on common values. However, young people can cross between social groups, to match different common values and aspirations. Changes within a peer group from a negative to a more positive attitude towards education may also influence the values of the friendship group as a whole. A number of factors are at play so a cause and effect relationship cannot be determined especially as there is a lack of evidence. The role of peers requires further exploration to conclude the actual impact whether it be indirect or direct of peers on educational progression (Almquist, Modin and Ostberg, 2010).

3.2.1.4 School Experience

School experience is of importance to understand patterns of participation, as once prior attainment General Certificate in Secondary Education (GCSE) and A-levels have been accounted for there are minimal differences in HE acceptance rates by socio-economic status (NAO, 2008). However, OCED (2013) reported that socio-economic status does have an impact on attainment. The uncertainity of socio-economic factors and attainment may be due to the selection process that occurs at 16 and 18. The impact of socio-economic status may appear less so due toeducational progression also being a process of selection and students from advantaged backgrounds are more likely to achieve the grades required to continue

their education compared to their peers from disadvantaged backgrounds. Socio-economic factors are therefore of importance to understanding attainment levels, as it has the potential to be a gatekeeper for educational progression. To improve participation rates in HE, the solution therefore lies outside of HE as educational qualifications are a strong predictor of educational pathways (Gorard et al., 2007). Thus proposing that prior attainment and socio-economic factors should be considered alongside one and other to understand educational progression.

Success in school examinations is important to post-compulsory education decisions (Howieson and Lanelli, 2003). This is because GCSE qualifications can dictate a learner's educational pathway (McIntosh, 2003). Goodman and Gregg (2010) suggested that the achievement gap between the rich and the poor was considerable large, with only 21% of the poorest young people achieving five GCSE grades A*-C including the core subjects English and Mathematics. Despite students from lower socio-economic background generally being positive about HE they are unlikely to achieve the GCSEs required for sixth form and a number of factors may explain this (Watson and Church, 2003).

Chowdry, Crawford and Goodman (2010) used the Longitudinal Study of Young People in England to explain the attainment gap. From the survey 21.4% of young people from the poorest socio-economic quintile attained five good GCSEs including English and Mathematics compared to 74.3% from the more advantaged classes equating to a 52.9% attainment gap. This gap in GCSE scores at 16 were explained by a number of factors; firstly attainment at the age of 11 explained 40% of the differences in attainment at 16, secondly parental attitudes and behaviours as well as young people's attitudes contributed to explaining 27% of the attainment gap, while direct effects of family background and school experience explained 19% of the attainment gap. The attainment gap which underpins educational progression is therefore a combination of factors in which socio-economic factors play a dominant role, hence the focus socio-economic background in the widening participation agenda.

Prior attainment is a critical factor in understanding educational progression (Gorard et al., 2007). Higher attainment at compulsory schooling is associated with greater probability of future participation in post-compulsory education, whereas low

attainment is likely to create material, structural and psychological barriers that deter progression (Staetsky, 2008). The unequal participation rates at HE is suggested to be due to the

'*lack of prerequisites reflecting inequalities at a much earlier stage of the educational lifecycle*' (Adnett and Tlupova, 2008: 252).

So, as long as class divisions evident in attainment in the school sector remain, the gap in HE participation rates will continue (Leathwood, 2004).

To address the number of young people progressing to HE, there is a need to increase the number of young people leaving schools with the required qualifications. One way to do this, is by exploring what elements of the school experience may influence post-compulsory educational choices (Payne, 2003). Foskett, Dyke and Maringe (2008) explored whether decisions to progress to further education were influenced by the structure, culture or organisation of initial schooling. Four school factors were reported from their research that influenced post-compulsory education choices: firstly whether the school had a sixth form, secondly the school ethos and value, thirdly the socio-economic status of the school catchment area and lastly the organisation and delivery of careers advice and educational guidance at the school (Foskett, Dyke and Maringe, 2008).

The provision of a sixth form impacted on the decision to continue at sixteen due to the careers advice offered in a school. In an 11-16 school there was a greater emphasis on impartial careers guidance, this was in comparison to sixth form schools where the advice given was limited and closely related to the sixth form provision offered at the school (Foskett, Dyke and Maringe, 2008). These qualitatively differences in the school career advice services impacted on the choices made by the young people in their research. The impact of a sixth form may only relate to the school's focus on engaging young people deemed academically able with their sixth form; although, further research is required to explore this. To consider is that as mentioned careers advice is more likely to be sourced from informal sources such as parents rather than school (Paton, 2007).

The school catchment area is also of importance. Schools located in underprivileged areas were suggested by the research to exhibit a greater preference towards

vocational post-16 choices. This was in comparison to schools in privileged areas where the focus was on academic trajectories (Foskett, Dyke and Maringe, 2008). Pupils attending schools in a deprived area noted displeasure with their education due to their schools poor resources, facilities and high staff turnover. Such experiences at school can contribute to the perpetuating cycle of not being good enough, reinforcing a student's negative sense of worth (Archer and Yamashita, 2003) The school environment therefore may influence post-compulsory choices indirectly as the environment may impact on motivation levels and aspirations levels to study further (Foskett, Dyke and Maringe, 2008). These findings however may also relate to the socio-economic background of the students recruited to the school, as schools in deprived areas are more likely to be attended by young people from disadvantaged backgrounds that are suggested to hold negative attitudes and lower levels of engagement and motivation in school.

Foskett, Dyke and Maringe (2008) reported that school experience was shaped by the social background and educational attitudes of the school catchment area which determined the school ethos and values contributing to the differences in participation rates at post-16. Schools categorised as achieving schools were attended mainly by middle class students, where the focus was on academic achievement so had access to the resources to inform and encourage progression to post-compulsory education (Croizer et al., 2005). This is in comparison to schools in deprived areas where a negative school experience was suggested to hinder the students' ability to learn and succeed due to a lack of resources.

Within schools, social class origins can translate into class related aspirations (Roberts, Atherton and Remedies, 2011). Differences in student's expectations and attainment at compulsory education feed into the disparities of participation rates at post-compulsory education (Selwyn, Gorard and Furlong, 2006). There is a need to break this perpetuating influence of school experience to ensure equality for all young people in terms of educational opportunities.

School experience is an umbrella term for the number of inter-related elements of a school that influence on educational achievement, such as school ethos. These elements are also influenced by other factors, such as the influence of peers. Involvement of parents may help to alleviate some of the negative impact of school

also, by creating a culture of learning. What is evident is that socio-economic factors play a key role in understanding the role schools play in educational progression. Socio-economic factors can have a permeating effect on school experience and attainment, which is the gatekeeper to educational progression. Associated to school experience are the teachers whose job it is thought is to help students to succeed regardless of social background.

3.2.1.5 School staff

School staff, specifically teachers, shape aspirations through messages about academic performance (Gutman and Akerman, 2008). Teacher expectations can influence students' motivation and self-esteem level, as the classroom environment and/or direct interactions with students can either promote or demote students' motivation levels (Harde, Davis and Sullivan, 2008). Teachers play an important role in raising aspirations and supporting the progression of students (Johnson et al., 2009). Teachers are however only one part of a complex system, as Johnson's et al., (2009) research reported and because of this, teachers do not think they have the power to change young people's destinations.

One of the roles of teachers is thought to be to alert students to the opportunity of progressing to HE (Moogan, Baron and Harris, 1999).The advice and support of teachers is therefore of importance. However, teachers may push young people in a direction that is primarily in the interest of the school (Foskett, Dyke and Maringe, 2008). McHarg, Mattick and Knight (2007) suggested that advice provided by teachers is fragmented, with students perceived to be academically able receiving more support to facilitate educational progression so think about studying at HE earlier than students perceived as academically less able. This is problematic as early intentions at secondary school are potential predictors of long-term engagement with the education system (Croll, 2009). Therefore to improve attainment levels there is a need to engage students with the idea of HE earlier in their educational journey. Moreover, to promote social justice all students should be given the same information to consider post-16 participation (Milles and Gale, 2002; Moogan, 2011). However, it is suggested that advice given by teachers is ill-advised and not up to date (Gorard et al., 2006). Careers advice is currently considered to come too late in schooling when attitudes and aspirations have been fixed (Foskett and Johnston, 2010). Yet young people are more likely to source informal advice

from parents and peers, so although teachers play an important role, decisions made about progression are potentially based on advice sourced elsewhere, which may question the importance of the teachers advice.

Life-long participation in education is thought to be determined by time, place, sex, family and initial schooling (Gorard et al., 2006). Contextual factors discussed suggest that an individual's background, family and school experiences can impact on educational progression. Young people who stay on at sixteen do so to gain qualifications for HE (Raffe et al., 2001), therefore a decision to enter HE is made before the transition period at sixteen. The individual must then play an active role in deciding what path to take, yet the research has overlooked the importance of the individual.

While progressing through the education system, some young people give up on the idea of HE; perhaps owing to exploring different identities and becoming aware of the perceived barriers that may hinder their future plans (Gottfredson, 1981). These barriers may reflect the realisation of their social positioning, so for instance where their working class background positions them in society and/or their academic ability (Archer and Yamashita, 2003). Archer and Yamashita (2003) suggested from their research that the awareness of social positioning in young working-class people disadvantaged them in terms of accessing post-compulsory education. The young people interviewed in their research regarded educational institutions as alien places, a place for middle-class young people and not for people like them (Archer and Yamashita, 2003). Their working-class identities meant they felt they were not good enough, thereby shaping what they thought to be their place and their limits. The research highlights the impact socio-economic factors can have on young people's outlooks. It may influence their perception of ability, confidence and self-esteem, which are known as psycho-social factors.

To support the psychological approach taken in this thesis is evident from research establishing how an enjoyment of school creates a lifelong positive learner identity (Gorard and See, 2011), which is described as

'*how individuals come to understand themselves as learners and their relationship to learning opportunities*' (Rees et al., 2006; 932).

Prior school experiences influences motivation, self-esteem and confidence levels as well as education intention which relate to the formation of a learner identity (Donaldson and Granham, 1999).

School experience can lay the foundations for an enduring learning identity (Gorard et al., 2006). If a students' initial schooling is perceived negatively this is likely to form a negative learner identity. After interviewing adult students to explore their reasons for returning to education after sometime Reay, Croizer and Clayton, (2010) noticed there was a distinct difference in the undergraduate students depending on their school experience. Students who reported a negative school experience held a fragile and unconfident learner identity. The researchers proposed that their school experiences had had an enduring impact on their self-esteem and confidence levels.

Learner identity is suggested to explain why some young people become disengaged from the education system (Stanley and Goodlad, 2010). It is suggested that an individual's learner identity can either constrain or encourage educational progression (Ecclestone, 2007). If a young person possesses a negative learner identity in which they perceive they are not academically capable, hold low levels of self-esteem and confidence then they are less likely to engage in school and achieve. A negative learner identity is a concern to the increase the number of students progressing to HE (Gorard et al., 2006). A lack of role models, a sense of HE is not for us and poor initial school experience can contribute to a negative learner identity (Gorard and Smith, 2010).

Progression to HE is a complex intertwined process with socio-economic factors playing an central role as discussed (Abbott-Chapman, 2011). However, young people from lower socio-economic backgrounds can however succeed despite the constraints highlighted (Thomas, 2001); why this occurs has yet to be explored indepth. It is of importance to understand the role of socio-economic factors but there are limitations to note.

Socio-economic factors have been estbalished in the literature as being important in explaining the differences in participation rates in HE. It is thought that unlike their more advantaged peers, young people from disadvantaged backgrounds have a problematic relationship with HE (Morrison, 2011). It is believed that being middle class leads to a straightforward progression to HE compared to young people from

disadvantaged backgrounds (Power, Edwards, Whitty and Wigfall, 2003). However, complex differences in accessing HE such as cultural and material resources within the middle class are not considered in the current research (Power et al., 2003).

Much of the literature discusses upper, middle and lower socio-economic backgrounds homogenising socio-economic groups. The homogenising of social groups evident in the literature is an issue, because it leads to the heterogeneity of the middle class to be overlooked (Brooks, 2003). Brooks (2003) interviewed young people from the liminal middle class which questioned the idea that HE was the natural progression for young middle class people. Not all young people wish to progress to HE, Morrison (2011) interviewed three young females who despite their middle class background had rejected the idea of HE. No social group, whether defined as middle class or lower class, is homogenous (Brooks, 2003; Carter-Wall and Whitfield, 2012).

It is also not known whether due to external circumstances resulting in a change of socio-economic class can result in a change of intention to engage with HE. Neither has it yet been explored how for example individuals who are of different birth cohorts but of similar social backgrounds show different patterns of participation (Gorard et al., 2007). There is also little known about how some young people from disadvantaged backgrounds progress to HE and others do not. Just because someone is from a disadvantaged background does not mean they cannot achieve and progress to HE. Socio-economic factors are of importance, however to understand how best to tackle the widening participation agenda there is a need to explore why some individuals from disadvantaged backgrounds succeed and what makes them different.

It may be confidence levels and a positive belief in their perceived ability that helps young people from disadvantaged backgrounds to achieve (James, 2002). Young people with high aspirations, motivation levels and high attainment are more likely to attend HE. Attitudes and behaviours also play an important role. Young people do well in their GCSEs if they have a greater belief in their ability, have external locus of control thus feel they have control over their actions, believe they can apply to HE, engage in positive activities and have supportive parents (Chowdry, Crawford and Goodman, 2010). Jackson and Martin (1998) proposed there to be several factors

which may explain why in the face of adversity some young people still achieve, all of which relate to being resilient; highly intrinsically motivated, high levels of locus of control, positive attitude to school, academic self-efficacy, high self-esteem and high expectations; all characteristics internal to an individual.

It is important to acknowledge the role of significant others, school experience and pre-defined birth factors as established in the literature on educational progression. Emotional closeness and time spent together as a family can support a child's ability to overcome adverse circumstances (Wyman, Cowen and Work, 1999) However, as highlighted there needs to be more of a focus on the individual, which to date has been overlooked. Much of the literature as focused on contextual factors, which are important but do not provide a complete picture. This is because a child's positive outlook and confidence levels can help cope with the adverse situations (Caspi, Henry and McGee, 1995).

In taking a psychological perspective in this research project, the individual is of great importance. Factors such as confidence, self-belief are being demonstrated in the literature as being important (Moogan, 2011). Bond and Saunders (1999) suggested that individual ability and motivation are key, and once these have been accounted for class origin is almost irrelevant. Yet these factors are rarely considered in the literature as much of the research is concerned with social rather than individual factors (Maras et al., 2007). These factors are to be explored in more depth to establish a new approach to addressing the objectives of the widening participation agenda.

3.2.2 Individual Characteristics

Psychological constructs such as, attitude, motivation, self-esteem and aspiration potentially play an influential role in understanding patterns of participation at post-compulsory education (Gorard, See and Davies, 2011). Yet at present have been overlooked in the literature. In this section the complexity of the relationship between aspirations, attitudes and subsequent behaviours relating to educational decision-making are discussed. This is essential as typically these psychological constructs relating to the individual are underestimated in the literature; as noted earlier research focused instead on the more visible barriers to HE such as socio-economic factors; which as discussed are of importance but the invisible barriers may hold the

key to unlocking how to address progression to HE . It is important to note early on that very little rigorous research has been undertaken to explore how attitudes, aspirations and behaviours facilitate or hinder post-compulsory education; this is despite improving HE participation rates being a central policy theme in the UK (Gorard, See and Davies, 2011).

3.2.2.1 Aspiration

The root cause of the disparities in progression rates to HE is thought to be the possession of low aspiration levels in young people from disadvantaged backgrounds (Goodman and Gregg, 2010; Brown, 2011). Widening participation initiatives therefore focused on raising levels of aspiration to improve participation rates in HE (Cabinet Office, 2009).The term aspiration is however not clearly defined in the literature on understanding progression to HE (Sellar, Gale and Parker, 2011). It is thought to be related to an intention to stay on in full-time education after 16 with a particular focus on progress to HE (Cuthbert & Hatch, 2009; Gorard & Smith, 2010). This use of the term aspiration is highly contextualised compared to the definitions found in the literature that focus on hopes and beliefs. For example, Quaglia and Casey (1996) define aspiration as an ability to identify and set goals for the future, while also being inspired in the present to work towards these goals.

The view of aspiration used in the widening participation literature proposed that by raising aspirations levels a young person's desire to achieve and their self-belief would improve (Johnson et al., 2009). Levels of aspirations were thought to explain why young people from lower socio-economic backgrounds attain lower grades at school, thus by raising them would increase attainment levels (Goodman and Gregg, 2010). The relationship between educational outcomes and aspiration levels is however complex (Gorard, See and Davies, 2011). The relationship is bi-directional, so attainment may influence levels of aspirations or alternatively levels of aspirations may influence educational outcomes (Gutman and Akerman, 2008).

Furthermore, understanding what shapes a person's aspirations is difficult; individual characteristics such as a belief in one's ability, parenting, peers, school experience and neighbourhood are all factors that shape aspirations (See Gutman and Akerman, 2008 for a review on aspiration). Lower aspirations are associated with poor academic self-concept and commitment to school compared to higher

aspirations which are associated with a strong academic concept, positive peer support and commitment to school (Strand and Wilson, 2008). Further indicators of aspiration levels are thought to be a young person's parental occupation and educational aspiration, educational drive and expectations for their child and the young person's belief in their ability and intention to continue with their education (Gorard, See and Davies, 2011). Aspirations thus do not standalone, a number of other psychological constructs are of influence, in addition to contextual factors.

Information young people receive about their options after compulsory school can also influence aspirations held. Not having the knowledge to connect aspirations to learning outcomes and desired goal is proposed to result in uncertain aspirations (Appadurai, 2004). Individuals from disadvantaged backgrounds are thought to be more likely to lack knowledge about careers and future options (Wigfield, Lutz and Wagner, 2005); thus be most at risk. This perspective suggests that because young people from disadvantaged backgrounds hold potentially uncertain aspirations about their options after post-compulsory education, they have lower aspiration levels compared to their peers (Gutman, Schoon and Sabates, 2012). However, Cuthbert and Hatch (2009) argue that young people from disadvantaged backgrounds do not have fundamentally different aspirations to more advantaged young people.

All young people, regardless of their socio-economic background aspire (Brown, 2011). Patterns of aspirations are rather similar for all social groups despite different levels of attainment (Turlock et al., 2008; McKendrick et al., 2007; Calder and Cope, 2005). Moreover, aspirations can change, progressing through the education system young people can express an intention to stay in education and intention not to (Croll, 2009). Therefore, the assumption that young people from lower socio-economic backgrounds lack higher aspirations compared to their more advantaged peers cannot be evidenced, or if they do whether this leads to a difference in educational outcomes is extremely uncertain (Gorard, See and Davies, 2012).

It is therefore not as simple as raising aspirations as this is intertwined with other psychological constructs, such as level of self-esteem, beliefs in one's ability and family factors such as parental aspirations and expectations (Phillipson and Phillipson, 2007). Despite this, a causal relationship between aspiration levels and educational outcomes has been accepted in the field of sociology of education

regardless of the inconclusive evidence and used to underpin widening participation efforts (Gorard, See and Davies, 2011). Furthermore, little research has been conducted to evaluate whether interventions that raise aspirations are affective in influencing educational outcomes (Gorard, See and Davies, 2011). To understand the role of aspirations in improving participation rates in HE further exploratory research is warranted.

The efficacy of the strategies used to raise aspirations has in this section being questioned. This is because to raise aspirations there is also a need to consider levels of self-esteem, attitudes and other factors discussed in this section which are not considered in the current widening participation strategies. Attitudes in particular for example can contribute to the formation of high or low aspirations (Strand and Wilson, 2010; Gutman and Akerman, 2008). Furthermore, educational attitudes may be stronger predictors of educational choices than aspirations (Kirk et al., 2012). However further research is required to explore the formation of attitudes towards HE (Kirk et al., 2012).

3.2.2.2 Attitudes

Attitudes are *'our method for finding our way about in an ambiguous universe'* (Allport (1935; 806). An attitude can either be a stable entity so stored in an individual's memory or a temporary construction which is formed on the spot using only the information currently available (Gawronski, 2007; Bohner and Dickel, 2011). The underlying structure of an attitude can relate to different attitude strengths and this strength can affect what we see, hear, think and do (Petty et al., 1997). Stronger attitudes are considered to be longer lasting across situations and time, whereas weaker attitudes are more at risk to external influence (Bohner and Dickel, 2011). The strength of an attitude can thus affect the processing of information, as attention is paid towards information that reflects our own beliefs, selectively processing information received to match our own attitudes rather than considering an array of information.

Attitudes held towards school are reported to predict aspiration levels (Geckova et al., 2010).Educational attitudes are formed from pro- or anti- feelings towards school and personal educational aspirations (Elffers and Oort, 2012). Higher aspirations are associated to positive attitudes to school, which can impact on school engagement

and attainment (Key and Fernades, 1993). Thus to impact on educational progression, young people need to possess a positive attitude towards school.

To understand the differences in attainment levels of young people from lower and higher socio-economic backgrounds attitudes held towards HE at the age of 14 can support understanding (Goodman and Gregg, 2010). Attitudes are thought to be a transmitter of social educational disadvantage which can impact on attainment (Gregg and Washbrook, 2010). Young people from lower socio-economic backgrounds are suggested to possess an attitude that HE is 'not for the likes of us' (Archer and Yamashita, 2003). These young people perceive themselves as not academically able, thus university is seen as unattainable (Archer and Yamashita, 2003). This type of attitude is thought to decrease motivation levels to work and achieve the grades needed to stay on in education after the age of 16 (Payne, 2003; Chowdry, Crawford and Goodman, 2010). Conversely, a positive attitude towards school is related to increased school attendance and level of enthusiasm for learning (Schoon, 2008; Hillman, 2010).

Bradley and Miller (2010) explored the attitudes of sixth formers on the idea of *'going to university*' and identified five types of views all associated with other factors. Holding a positive attitude about going to university was associated with social, educational and career benefits. Whereas those that expressed perplexed and pragmatic attitudes of going to university were unsure of whether to attend HE. This attitude was due to the thought of leaving friends and family; also known as their bonding capital. The attitudes less in favour of HE such as 'put off' were due to either financial or practical reasons such as not fitting in.

Attitudes regarding HE are associated with a number of other factors, such as value of school, socio-economic factors, self-esteem and enjoyment of school to name but a few (see Gorard, See and Davies, 2011). Significant others can also influence attitudes held by young people. Attitudes are then interwoven by psycho-social, socio-economic and personal factors (James, 2002).These factors need to be considered to understand how best to support young people with educational decision-making, such as confidence levels in ability (James, 2002).

Attitudes do not however always predict behaviour as assumed. Young people may express a positive attitude to engage with HE but ultimately never attend. The theory

of plannedbehaviour devised by Icek Ajzen (1991) aims to explain why there is a dissonance between a person's actions and their attitudes. According to this model, an individual will perform a behaviour if it is evaluated positively (intention), experience social pressure to perform the behaviour (subjective norm) and believe they can achieve the behaviour (perceived behavioral control).

Attitudes can be influenced by personal and situational factors that can predispose an individual to act in a certain way (Ajzen, 2005). The MODE model devised by Fazio (1990) demonstrates that in fact behaviour can only be predicted by attitudes in a limited number of circumstances. The acronym MODE summarises the notion that

'Motivation and Opportunity act as DEterminants of spontaneous versus deliberative attitude to behaviour processes' (Fazio, 1995: 257).

The research evidence would seem to suggest that to improve levels of participation changing attitudes towards school would be of beneficial effect on school outcomes (Goodman and Gregg, 2010). A change in attitudes held towards education could impact on educational decisions young people make as well as increase confidence levels (Archer and Yamashita, 2003). It is not enough however according to the MODE model to assume that an individual's attitude will predict behaviour, therefore in widening participation efforts it is not suffice to just change attitudes young people hold. It may help to change attitudes, but attitudes are not the sole determinant of a person's behaviour.

There is little evidence to propose attitudes can impact on patterns of participation in HE (Gorard, See and Davies, 2011). This is may be because of the focus on aspiration levels and contextual factors in the widening participation literature or that attitudes alone cannot explain educational progression. A different approach to understanding widening participation needs to account for the importance of attitudes, as the evidence seems to suggest a positive attitude is of significance. A positive attitude towards school would help to engage young people and motivate them to achieve and vice versa. However to change attitudes this involves changing motivation levels, as motivation is underpinning to attitudes and can contribute to explaining an individuals behaviour.

3.2.2.3 Motivation

Motivation can be described as a psychological process that leads to a specific behaviour occurring; it is the inner energy that pushes people to succeed and achieve their desired goals, fulfilling their aspirations (Boekaerts, van Nuland and Martens, 2010; Tirri and Nokelanien, 2011). It is thought to be something that can be attained by all, thus potentially motivation levels are not influenced by socio-economic status (Bennett, 2007). Gutman, Schoon and Sabates (2012) however suggest otherwise, that young people from lower socio-economic backgrounds in comparison to their higher socio-economic peers can possess lower levels of motivation., Individuals can hold different values and aspirations that shape motivational levels to learn and this may or may not be associated with socio-economic factors (Gorard et al., 2006). Socio-economic factors may explain motivational levels in both a positive or negative way, for instance a young person from lower socio-economic background may have high motivation levels to overcome adverse situtations. It needs to be explored in the literature the importance of motivational levels on educational progression, to understand there importance.

Levels of intrinsic motivation and extrinsic motivation are salient to understanding differences in motivation levels. If a person is intrinsically motivated they have a personal interest in for example completing their coursework, they are innately interested and enjoy learning (Ryan and Deci, 2000). For a person who is extrinsically motivated, their completion of a task is based on an external reward or avoidance of punishment (Ryan and Deci, 2000). At the extreme end of the motivation spectrum is amotivation, which is defined as the lowest level of motivation with no desire to study, as the individual feels they cannot change their educational outcomes (Vallerand, Fortier and Guay, 1997).

To ensure academic success an individual needs to be intrinsically motivated because viewing activities as worthwhile will increase levels of effort and engagement (Ryan and Deci, 2000). High levels of intrinsic motivation is thus essential for academic success (Boekaerts, van Nuland and Martens, 2010). Students who are intrinsically motivated receive higher grades than students who report themselves as being extrinsically motivated (Hayenga and Corpus, 2010). However, this is not a direct effect as higher grades could also lead to an increase in intrinsic motivation levels.

Furthermore, motivation levels are context-specific. Young people may be highly motivated in one subject but not in another. Teachers are thought to be important influences on motivation levels. For instance, from their study Weinstein (2002) reported that children monitor teacher's behaviour noting differences in interactions, tone of voice and work provided to conclude the teacher's beliefs about their own ability. This conclusion if negative, so thought the teacher did not expect much of them, lowered levels motivation and resulted in a dislike for the subject. The teacher-student relationship if a high quality relationship can improve motivation and engagement as well as increase participation and value of education (Martin, 2010). Teachers can have a significant impact on motivation levels which can impact on educational outcomes (Martin, 2010). The role of motivation in education is complex and intertwined with a number of other factors (for a comprehensive review of motivation in education see Schunk, Pintrich and Meece, 2010).

To understand motivation levels in an educational setting, theories are used to explain student's educational choices, performance in school and engagement in school (Meece, Anderman and Anderman, 2006). A well-known explanation for how to make sense of our behaviour and how this informs motivation levels is Attribution theory. Attribution Theory can explain the impact of motivational levels on educational outcomes (Weiner, 2000; Roskam and Nils, 2007). The theory describes how individuals explain the causes for their failure or success at a task and the impact this has on their future motivation levels. This theory is of use, as the focus is understanding how individuals differ and the impact this has on educational progression. Attributing success to internal causes (ability or effort) increases motivation, whereas attributing failure to internal causes lowers motivation (Gutman and Akerman, 2008). A wealth of research has ascertained the impact of attribution styles on academic achievement (see Weiner, 1985, 1986, 1994 and 2000).

In achievement situations, Weiner noted that people tended to attribute one of the following to explain their success or failure at a task; ability, effort, luck or task difficulty. These attributes are also related to emotional responses felt by the students which are associated with increased effort and motivation. Only when an individual performs to their expectations is the outcome attributed to their ability (Szabo, 2006). If, or when a person performs inconsistent to their expectations then the outcome is attributed to luck or situational factors (Szabo, 2006). Attributing

success to one's ability and failure to the lack of effort is known as an adaptive attribution style. Whereas attributing success to luck and failure to ability is described as a maladaptive attribution style (Szabo, 2006).

Attribution style can influence the way an individual thinks about things and their subsequent behaviour (Szabo, 2006). Attributes made to explain the cause of an event whether it is a success or failure can impact on educational outcomes. An adaptive attribution style can increase motivation and confidence levels as success is attributed to internal, stable and controllable factors. Failure for those in possession of an adaptive style is a reminder to increase their effort, whereas for a maladaptive style it is reminder of their inability to achieve (Pajares and Schunk, 2002). Young people with a maladaptive attribution style are more likely to experience repeated failure, which can lead to a person withdrawing from the situation in which they are faced with persistent failure, such as school. This is related to Seligman's (1975) theory of learned helplessness, in which repeated experiences of failure in which the person does not feel in control can result in withdrawal and a negative apathetic attitude.

A maladaptive attribution style can therefore negatively impact on educational progression. Students need to think positively about themselves by changing their attributions made for the success and failure of learning (Toland and Boyle, 2008). Not only can this improve motivation levels but also aspiration levels, as attributing success to internal causes (ability to effort) can increase aspirations, whereas attributing success to external cause (luck, fate or task difficulty) can lower them (Gutman and Akerman, 2008). The motivational style young people possess can thus be considered important to improving attainment levels (Somers et al., 2009).However, this needs to be understood alongside other factors, a behaviour cannot be easily predicted by one sole factor, thus changing a number of amenable factors may help to improve progression rates to HE.

One strategy to improve participation rates in HE is to intervene and work on developing a positive thinking style. The development of a positive adaptive attribution style can also improve self-esteem as well as motivation levels (Weiner, 2005). To develop a positive thinking style one strategy used is attribution re-training; this is an effective technique to develop a more adaptive thinking style, providing

individuals with the strategies to make more rationalised casual attributions to explain their successes and failures at a task (Szabo, 2006).

Research has established that motivation is a salient factor in explaining attainment levels (Bennett, 2007; Somers et al., 2009; Quirk et al., 2009; Ream and Rumberger, 2008). Despite this, it is somewhat surprising that there has been little direct evidence of the potential influence of motivation on participation rates in HE (Gorard, See and Davies, 2011). Motivational levels are important to facilitate effective learning and school engagement (Goodman and Gregg, 2010; Alivernini and Lucidi, 2011). To raise attainment levels motivational enhancing techniques should be considered. Associated to this is self-esteem, as this is an important topic in understanding motivation levels, as it can impact on young people's attainment.

3.2.2.4 Self-esteem

Self-esteem refers to an individual's evaluation of their self-worth which is associated with their attitudes, expectations and beliefs (Gorard, See and Davies, 2012).According to Mruk (1999) self-esteem has two dimensions; a cognitive dimension which relates to attitudinal, evaluative processes and an affective dimension which relates to competence and worthiness. Research suggests that self-esteem is an important factor that impacts on educational progression (Maras et al., 2007); for instance individuals with low levels of self-esteem are less likely to attend university (Trzensniewskie et al., 2006).

Higher levels of self-esteem are related to school success (Ma and Kishor, 1997).It is suggested that young people are more likely to perform better in tests if they possess a greater belief in their ability to achieve (Goodman and Gregg, 2010). This association between self-esteem and academic success is however thought to be a reciprocal relationship (Pajares and Schunk, 2001). Academic success may influence levels of self-esteem because success at school is something that is praised early on in childhood (Ivcevic, Pillemer and Brackett, 2010). Therefore, subsequent evaluations of academic ability are then explicitly linked to feelings of self-worth. Levels of self-esteem can thus be boosted by achievement in school (Ahmavaara and Houston, 2007). Self-esteem is related to educational accomplishments and aspirations (Marsh, 2005). The relationship may therefore be considered bi-directional; as this is a reinforcing circle as success at school can

improve self-esteem levels and then as a result an increase in self-esteem can impact on efforts to continue achieving (Scott, 2004).

Scott (2004) suggested that self-esteem could impact on doing well in school. Yet her analysis of the 1994-1999 British Household Panel Study interviews with 11 to 15 year olds reported that self-esteem had no impact on young people's GCSE performance. The survey did use an adapted version of Rosenberg's self-esteem scale to measure self-esteem, the five items selected reported a low alpha level indicating the internal reliability of the measure below acceptable standards, questioning the reliability of the data. However, research conducted by Valetine and colleagues also suggested self-esteem has little or no effect on achievement (Valetine, Dubois and Cooper, 2004).

On the contrary, in their research Maruyama et al., (1981) followed 1,613 children from age four to 15 in the Educational Follow-Up Study born in early 1960s to investigate self-esteem and attainment. Self-esteem and academic achievement were suggested to be correlated yet no causal link could be reported between the two variables. The authors thought this may be due to social class being closely related to ability so '*it [was] impossible to separate the unique influences on other variables*' (Maruyama et al., 1981; 972). Rosenberg (1989) also reported there to be a relationship between socio-economic background and self-esteem, yet other research has found no such relationship (Schmitz, 2006).

Research conducted by Wang et al., (1999) established that self-esteem had a weak correlation with academic success. Higher self-esteem has been associated with higher grades and academic success (El-Anzi, 2005; Tangney, 2004). The association between self-esteem and attainment is thus inconclusive. Several researchers report there to be no association whereas other suggest there to be a weak association between self-esteem and academic achievement.

Discrepancies in research findings may be explained by a number of factors. A number of factors can influence a young person's self-esteem, which includes perception of significant others, their beliefs, expectations, attitudes, parental support and peer influence can also shape self-esteem levels (Gorard, See and Davies, 2012). For instance in their review, Gorard, See and Davies (2011) noted ambiguity in studies between the two terms self-esteem and self-concept. Self-concept is

described as the ideas, feelings, attitudes and expectations a student has about themselves and this can relate to academic subjects (Woolfolk, Hughes and Walkup, 2008). It is suggested that self-esteem is the evaluative aspect of self-concept (Marsh and Craven, 2006). However the two terms are distinct. This confusion may have contributed to the assumption that self-esteem does not impact on attainment levels.

Additionally the characteristics of an individual may also impact on results (Ma and Kishor, 1997). Self-esteem is a global concept so is influenced by many daily factors, so is not just influenced by experiences in educational settings. Therefore low academic achievement does not equate to a lowering in self-esteem. This is because self-esteem is not directly related to one's ability; it can be derived from one's physical attractiveness, personality and moral behaviour (Gorard, See and Davies, 2012). Self-esteem is associated with a number of concepts and processes which makes it difficult to determine the actual impact it has on educational progression (Mruk, 1999). Therefore the evidence of whether self-esteem plays a role in improving attainment is inconclusive (Gorard, See and Davies, 2011).

How self-esteem may relate to individual accomplishments and aspirations is however evident by exploring the strategies used by young people to protect their self-esteem. Alves-Martin, Peixotiso, Gouveia-Pereira, Amaral and Pedro (2002) investigated the strategies used by young people to protect their self-esteem when under threat by a negative self-evaluation of school competence. From their research the younger students who were low achievers experienced lower levels of self-esteem. This however was not evident for the older students, who were able to maintain their level of self-esteem despite their poor performance through the use of self-protective strategies. The results suggest that for younger students academic results play a more important role on levels of self-esteem.

Peixoto and Almedia (2010) further supported this, their research demonstrated that protective strategies are used to maintain levels of self-esteem, such as devaluing school. Their research suggested that a negative attitude towards school was related to a low level of self-esteem of ability. The use of such a protective strategy is associated with social identity theory, in that when one's social identity is under-threat a person either leaves the group or creates a new one to regain a positive

self-identity (Peixoto and Alemdia, 2010). Young people therefore withdraw from the domain, such as school, because a threat to their level of self-esteem is present. To maintain a positive self-esteem young people who see school as threatening their levels of self-esteem, devalue the importance of school and seek bolstering self-representation outside of the educational setting (Alves-Martin et al., 2002; Piexoto and Alemedia, 2010). This explains the creation of an anti-institutional culture towards schools in which school is deemed as being of no value, and how energies are invested in other areas to protect their levels of self-esteem. Disengagement in school may therefore represent a protective strategy for students who see school as threatening their level of self-esteem. However, self-esteem is associated with levels of motivation and attitudes young people hold, thus withdrawing from the situation may be a result of a combination of reasons, associated to the theory of learned helplessness. Behaviour cannot be explained by one factor, these constructs combined potentially explain educational progression. What the research does suggest is that self-esteem on some level is associated with levels of attainment.

If school is seen to negatively impact on levels of self-esteem this also reduces motivation towards the situation (Elliot and Mapes, 2005). For instance, it can negatively impact on self-esteem levels when students are placed in the lower ability groups (Galbraith and Alexander, 2005). Once a learner's ability begins to grow and they proceed to a higher ability group so their self-esteem increases. A higher level of self-esteem is therefore associated with higher levels of ability (Hansford and Hattie, 1982). Students in possession of high self-esteem are also more likely to engage in school (Coopersmith, 1967).

On some level self-esteem impacts on attainment or be of importance to educational progression due to self-esteem enhancement interventions being a key feature of educational settings (Miller and Moran, 2005). Hanley and Dulak (1998) reported that self-esteem interventions can positively impact on young people, of the one hundred and twenty interventions included in their meta-analysis, the most effective intervention to improve levels of self-esteem included attribution re-training. It is however difficult to gauge the long-term impact of these interventions as only five of those included in the meta-analysis assessed the long-term impact. Self-esteem is however an important concept to explore in educational settings (Beane, 1991). To improve educational progression it can be suggested that an intervention should

consider the influence of self-esteem levels in conjunction with other variables. Further research is warranted to explore the impact and effectiveness of self-esteem enhancement interventions to better understand their inclusion in improving academic attainment.

Motivation, self-esteem, aspirations and attitudes are psychological constructs that contribute to understanding educational progression (Gorard, See and Davies, 2011). These constructs are intertwined as highlighted in the discussions of this section, thus the relationship of these factors to understand participation in HE is complex. In explaining educational progression there is a need to consider the inter-related nature of these constructs. Furthermore, the role of schools, parents and other significant others are predictors of participation in HE that should also be considered (Gorard et al., 2007). However perhaps, mostly importantly the permeating role of socio-economic factors as evidenced during this chapter should not be dimissed.

3.3 Ecological Model

In this chapter a number of factors associated with understanding progression to HE have been discussed. To conclude it appears that all factors are of importance, however currently some factors such as motivation and self-esteem, are overlooked in the literature. Whilst contextual factors should be considered, a greater focus on psychological factors is required. It is this gap which this thesis aims to address. In depicting the complexity of understanding educational progression and how determining factors are intertwined, it is proposed that an ecological model is useful.

Ecology is a term that refers to the interrelations between organisms and their environment. An ecological approach demonstrates how the environment has a direct influence on behaviours as well as indirectly though factors such as self belief. It addresses the multiple levels of factors or systems that influence behaviour. Models based on an ecological approach are described to be comprehensive, multifaceted and dynamic. This is because there is no unified theory; it embraces a wide variety of theoretical approaches. In an ecological model all levels of influence are described, which differs from theories that focus on one or two factors of influence.

The philosophical underpinning of the ecological approach is the idea that behaviour does not occur within a vacuum. Urie Bronfenbrenner (1979) is one of the main contributors to the ecological approach. Bronfenbrenner's (1977) Ecological Systems Theory (EST) depicts the individual with its biological, cognitive, emotional and behavioural characteristics and the context with systems and times (Bronfenbrenner, 2005). The ecological approach has origins in several disciplines e.g. health psychology in health promotion, physical education and sex education. It has however not yet been applied to explain educational progression, but such an approach would explain the multiple levels of influence on the education system intrapersonal, socio-cultural and policy and how this impacts on the developing child; as described in this chapter.

The ecological perspective depicts the range of factors proximal and distal to the individual that potentially impact on educational progression. Educational progression is influenced by proximal factors, which explains those related to the student such as self-esteem and motivation and distal factors related to the school and community. Applying an ecological approach provides an understanding of the multiple levels which may influence educational progression. This model thus summarises the discussions in this chapter that educational progression is determined by interactions with the immediate environment (parents, peers, neighbourhood and school) and the wider society (economy and media). It is therefore important that further work is undertaken to explore the role of distal factors as this chapter has established that at present this is overlooked in the literature but is of great importance. This is the theoretical stance underpinning this thesis and will be referred to later on.

3.4 Conclusion

The aim of the widening participation agenda is to widen access to HE, this was anticipated to be achieved through the removal of the barriers that are suggested to hinder educational progression. To date much of the literature focused on more visible barriers, which considering the disparities in participation rates persistent needed to be acknowledged but addressed. Labeling young people as disadvantaged or advantaged in terms of understanding progression to HE, ignores the individual variation in achievement (Jones, 2004).

Young people face a multitude of barriers to academic success; as described by the Bronfenbrenner's (1977) ecological model. At present much of the research focuses on contextual factors such as socio-economic status. However as will be discussed further in this project not all advantaged neighbourhoods have high participation rates in HE as well as not all most disadvantaged areas have low participation rates. Although socio-economic factors are important understanding participation and non-participation is complex.

Young people from disadvantaged backgrounds can in the face of adverse situations still achieve. This is due to individual characteristics that make them resilient to situations faced. This chapter addressed the need to focus on the individual which at present although mentioned was overlooked. To tackle the disparities in participation rates in HE there was value in exploring the impact of psychological constructs such as motivation, attitude, aspiration and self-esteem on educational decisions (Taylor and Trapp, 2010; Gorard, See and Davies, 2011).Young people's desire to continue their education is related to positive attitudes, adaptive attribution style resulting in high motivation levels, high levels of self-esteem and aspirations. Collectively these factors help explain how students achieve.

Progression to post- compulsory education is associated with several psychological factors that influence choices (Payne, 2003; Gorard, See and Davies, 2011). Exploration of psychological theories of individual differences, motivation, learning styles, confidence, aspiration levels were of importance to understand educational progression (Taylor and Trapp, 2010). A lack of confidence and self-esteem can have a sustained impact on attainment and levels of progression (HEFCE, 2010). Also a low level of self-esteem, motivation and negative attitude can result in a negative learner identify creating a downward spiral of disengagement (Payne, 2003).To tackle persistent differences in progression rates to HE these factor should be incorporated into any strategies used as part of the widening participation agenda.

To improve attainment levels, interventions need to help young people change these psychological constructs as mentioned whilst also being aware of the influence of contextual factors and significant others. In doing so young people are more likely to achieve at their GCSEs if they have greater belief about their own ability at school,

believe their actions can make a difference, value school and aspire toprogress to HE (Goodman and Gregg, 2010). An intervention that raises expectations of what they can achieve as well as providing practical solutions to help continue with education is needed.

The political focus of widening access to HE resulted in a significant amount of activity in ways to improve participation rates of under-represented groups. This chapter has identified key factors to understand educational progression that will offer practical steps in the widening participation agenda to improve the participation rates in HE, i.e. designing outreach activities. Outreach activities are strategies used in the widening participation agenda to raise the aspirations of young people to engage them with the idea of HE to increase progression rates. In using the knowledge of this chapter it can help to determine how best to address the disparities in participation rates through the use of outreach activities. The next chapter discusses the limitations of the design and evaluation of outreach activities based on conclusions of this chapter to inform how best to include the individual characteristics that can hinder educational progression (chapter five).

CHAPTER 4 EVIDENCE-BASE OF OUTREACH ACTIVITIES

4.1 CHAPTER SUMMARY

The political focus on increasing the number of non-traditional students progressing to HE led to a plethora of outreach activities to address the under-representation of certain groups of young people inHE, including those from lower socio-economic backgrounds (Chilosi, Noble, Broadhead and Wilkinson, 2010).Although outreach activities are no longer facilitated by Aimhigher (see chapter two), they continue to be of importance in the current model of fair access to HE. Thus outreach activities are a potential strategy to tackle the disparities in participation rates in HE.When considering how to enhance the role of outreach activities to address the patterns of participation, it is useful to reflect back to Aimhigher. This chapter discusses the evidence-base of outreach activities, highlighting the limitations regarding the design and evaluation.

4.2 OUTREACH ACTIVITIES

Outreach activities are a feature of the widening participation agenda devised to raise young people's (aged 13-19) aspiration levels and awareness of HE, ultimately increasing the likelihood of these young people progressing to HE (Atherton, 2012). Aimhigher was established in 2004 through the amalgamation of two previous widening participation programmes, Aimhigher Excellence Challenge (established in 2001) and Partnership for Progression (established in 2003) to deliver outreach activities. Each Aimhigher partnership devised activities that were tailored to specific regional barriers to HE (Dismore and Smith, 2007; Evidence Plus Consulting, 2011).These activities were classified as either low level or intensive. Low level activities were typically one-off events, described as fun practical activities that effectively raised the aspirations of the attendees (Smith, 2009). Intensive activities on the other hand involved a sustained level of contact with young people, such as Summer Schools and the Associate Scheme. Intensive activities were suggested to provide a turning point in attitudes towards HE as they offered young people a taste of university life (Hatt, Baxter and Tate, 2009). There were however differences in activity content, delivery and evaluation across Aimhigher partnerships.

Prior to 2011 outreach activities were delivered by the flagship initiative of the widening participation agenda, Aimhigher. The shortage of evidence to demonstrate the impact and effectiveness of those activities facilitated by Aimhigher, contribued to its demise in 2011. Consequently outreach activities are now the responsibility of Higher Education Institutions (HEIs) as part of their access agreement, a document that outlines how universities are to promote fairer access. Universities charging more than £6,500 in tuition fees are monitored by The Office of Fair Access (OFFA) to ensure they deliver their planned strategies to widen access outlined in their access agreement. Outreach activities are thus still critical to ensure that young people who have the potential to benefit from going to university have the opportunity to do so.

There is now a need to ensure outreach activities are well-designed to overcome the suggested poor coordination and ad hoc provision previously provided by Aimhigher (Cabinet Office, 2009). This is further supported by OFFA stipulating that robust research should inform the outreach provision provided. There is a greater expectation to demonstrate the transformative impact activities have on access and retention (Butcher, Corfield and Rose-Adams, 2012). To achieve this; this chapter examines the evidence-base of Aimhigher activities and the mechanism to which outreach activities were designed and evaluated highlighting flaws to which this thesis will address.

4.3 Evidence-Base of Aimhigher

Much of the research on Aimhigher activities suggested an increase in levels of aspiration, changes in attitudes towards HE, improved levels of confidence and self-esteem (AHKM, 2009; HEFCE, 2009; Miller and Smith, 2011; Doyle and Griffin, 2012). For example mentoring schemes were considered to be highly effective in changing attitudes towards HE and aspiration levels (NFER, 2010; EKOS, 2007). Yet there was relatively little reliable evidence to support such claims of a positive impact (Gorard et al., 2006; Thomas, 2011). Poor research design and reporting hindered the ability to draw firm conclusions of the actual impact and effectiveness of outreach activities (Gorard et al., 2006; Thomas, 2011). Robust research has yet to explore the impact as well as the effectiveness of outreach activities to ascertain how and why activities had such a positive impact (Gorard et al., 2006; Thomas, 2011; Doyle

and Griffin, 2012). It is therefore difficult to conclude whether outreach activities are a suitable method to address the patterns of participation inHE.

Despite this, evident in the literature are claims such as summer schools being the crown jewel of outreach provision (Aimhigher Hampshire and Isle of Wright, 2009), as this activity was thought to increase levels of motivation towards school and positively influence attitudes towards HE (Hatt, Baxter and Tate, 2009). The residential feature of the summer schools was regarded as the aspect that was most effective in raising learners' aspirations and awareness of HE (Hatt, Baxter and Tate, 2009). However, little research explored the effectiveness or the impact of this activity to discover what the key components were and whether they did change attitudes and raise aspirations (Gorard et al., 2006).

Ambassadors were also considered to be the key ingredient in widening participation activities to raise aspiration levels (Ylonen, 2010).The employment of undergraduate students as Ambassadors to facilitate outreach activities was extremely popular (Austin and Hatt, 2005), and continues to be so. This was because Ambassadors were thought to be able to break down barriers to progression whilst also providing a level of psycho-social support, improving levels of confidence and self-esteem (Smith, 2009; Rogers, 2009). Being closer in age to the young people the Ambassadors were also thought to be able to discuss the benefits of staying in education while alleviating any fears the young people may have regarding university (Doyle &Griffin, 2012). Their inclusion in outreach activities was to deliver the message of the widening participation agenda by demystify what HE was and to engage learners on a journey to achieve their full potential (Austin and Hatt, 2005).

Research suggested that the potential impact of an outreach activity was dependent upon the Ambassadors. The style of delivery and engagement with the activities was thought to be affected by the personality of the Ambassadors (Dismore and Smith, 2007). Lewis and Ritchie (2010) explored this by facilitating focus groups with forty-six young people who had participated in the Aimhigher Associate Scheme, which involved an Ambassador meeting with a young person for an hour a week over an academic year to provide continuous support for the young people to complete their studies. The young people thought the Ambassadors were good role models but to

be this they must be bubbly, understanding, a good listener, trustworthy as well as have similar interests (Lewis and Ritchie, 2010).

Lewis and Ritchie's (2010) exploration of the Associate Scheme reported that the Ambassadors level of commitment was key. The mentees in their research discussed the importance of the Ambassadors commitment to developing a positive relationship with their mentee (Lewis and Ritchie, 2010). Where relationships had not developed in the Associate Scheme it was thought to relate to the Ambassador being either disorganised or not frequently attending the pre-arranged meetings. If an Ambassador was perceived as noncommittal, the young people discussed the scheme as a waste of time as there was no opportunity to develop a positive working relationship (Lewis and Ritchie, 2010; The Focus Group UK, 2009). The effectiveness of a mentoring scheme as explored in this research was suggested to relate to the actions of the Ambassadors. Highstandards of preparation and motivation were required for the scheme to be of impact (Lewis and Ritchie, 2010).

The enthusiasm and attitude of Ambassadors for the activities had the potential to influence the overall success of an activity (Kerrigan and Carpenter, 2008). Yet little research explored the direct impact of Ambassadors on outreach activities (Ylonen, 2010). Relatively little was known about the impact of Ambassadors in spite of their significant presence in outreach activities (Gorard et al., 2006). Further exploration of the role of an Ambassador and their experiences is therefore required to support such assumptions (Ylonen, 2010).

Research suggested also Aimhigher activities increased confidence levels, levels of self-belief as well as improved attitudes towards future studies (Evidence Plus Consultancy, 2011). Yet there was a lack of evidence to support such claims. These claims are primarily based on information gathered on the immediate impact of participating in an activity. That is, attendees were asked to complete an evaluation form immediately after the event had occurred. Therefore no baseline data was collected to measure the distance travelled to determine the impact of an activity. Moreover, due to the completion of an evaluation form taking place immediately after the event, the mood of the individual may have affected the responses provided, as after an event the young people may have had a more positive outlook on HE overriding previous thoughts, known as the 'wow effect' (Brown, 2011). This affective

emotional response was due to the young people observing something different (Brown, 2011). The attitudes being measured may not therefore have a sustained presence. Research has not yet explored whether the immediate impact has a sustained impact on educational decisions at the two crucial transitional stages, 16 and 18. This is due to a shortage of long-term evidence to determine the actual benefit of participation in outreach activities on attainment and educational progression (Gorard et al., 2006).

The actual benefits of participation were rarely reported. Partnerships commonly used questionnaires to evaluate activities (Younie, 2009). These were however not standardised measures to evaluate the impact of an activity (Passey and Morris, 2010). Research reports often omitted descriptions of the questionnaires used, numbers completed and information to replicate the research. This approach to the evaluation of activities provided little conclusive evidence of impact. It did not inform why anintervention had been a success (Kerrigan and Carpenter, 2009). The questionnaires used to evaluate outreach activities were neither reliable nor valid to draw firm conclusions of the actual benefits of participating in an outreach activity. Furthermore, there was relatively little research exploring the effectiveness of activities such as summer schools (Hatt, Baxter and Tate, 2009).

This shortage of evidence was somewhat related to the infrastructure of Aimhigher. It was difficult to access pupil datasets to enable the tracking of participants (Passey et al., 2009). Furthermore, the initial set up of activities did not provide the opportunity to collect baseline information to track participants (Passey et al., 2009). Due to these limitations much of the research focused on the immediate impact. Moreover, practitioners generated a wealth of evidence but lacked the skills to robustly evaluate outreach activities and carry out statistical analysis contributing to the evidence gap (Chilosi, Noble, Broadhead and Wilkinson, 2009).

Reliable evidence is required to overcome the number of limitations noted above and that also feature in the HEFCE commissioned review of the widening participation literature led by Stephen Gorard in 2006. The papers appraised in their review provided insufficient detail of the methods used, rarely included a comparison group and used datasets without a consideration for there limitations (Gorard et al., 2006). Papers reviewed explored only the perceptions of the staff and young people in

school-based interventions instead of exploring the actual effectiveness, echoing the limitations noted in this chapter (Gorard et al., 2006). For instance research evaluating summer schools focused on the young people's perceptions of impact rather than the actual impact of participating. Shortcomings were also detailed for the written reports as there were frequent omissions of basic information for replication such as number of participants, sample selection and research design (Gorard et al., 2006). Moreover, a major blind spot in the evidence-base of outreach activities was not evaluating the efficiency of interventions (Gorard et al., 2006). The poor quality of research and reporting questioned the reliability and validity of the current evidence. The limitations in the reporting prevented the review to draw firm conclusions of the impact and effectiveness of outreach activities.

On the contrary, it was considered the limitations of the current evidence-base of outreach activities identified were too critical, as the critique resided with a new orthodoxy approach to evidence (Doyle and Griffin, 2012). This approach is thought to restrict and modulate practices in the field of education just to produce good science and inform policy and practice (Hodkinson, 2001). Methods of data collection according to this approach should maximise objectivity and reduce subjectivity (Hodkinson, 2001). Unlike each piece being standalone, this approach would ensure findings could be replicated and generalised so to provide direction for new research. However, this approach was considered unfeasible for widening participation research. For instance experimental design advocated by the new orthodoxy approach was thought to be unethical for evaluating outreach activities (Doyle and Griffin, 2012). However, an objective approach is necessary to inform policy and practice.

Bold statements of impact and effectiveness were evident in the literature. Yet papers infrequently provided the evidence to support such conclusions. Moreover rarely were the limitations of the research design noted. Each paper discussed was standalone (Gorard et al., 2006). However, to build an evidence base, it is important to learn from previous research and provide direction for further research. The presentation of limitations and counterfactual evidence was rare, but thisis of importance to judge the merit of the research undertaken (Thomas, 2011). However, funding for outreach activities was based on impact thus the information provided by practitioners may have been tainted due to the pressures to report findings that

adhered to a predetermined plan (Gorard et al., 2006). To evaluate the potential impact and effectiveness of outreach activities and to limit researcher bias, an independent evaluation is necessary.

There was little evidence to demonstrate the impact of pre-entry interventions such as those provided by Aimhigher (Gorard et al., 2006). Outreach activities aim to encourage participation inHE, yet there was a significant absence of research evidence to conclude whether this has occurred (Gorard, See and Davies, 2012). To overcome the limitations noted, OFFA has stipulated that robust research needs to inform the outreach provision provided by HEIs. Therefore these flaws required addressing. The review of the Aimhigher evidence-base highlights areas in which improvements can be made to enhance the evaluation process. To improve the evaluation of outreach activities it must start with the design, which is also an area of concern (Cabinet Office, 2009).

4.4 Learner Model of Progression

As mentioned above the design of outreach activities varied across Aimhigher partnerships, to streamline the design of activties across partnershipsthe learner model of progression was devisedin the later stages of Aimhigher. The model was thought to be a practical tool to develop activities that focused on raising aspirations, awareness of HE and attainment (Action on Access, 2008; Leonard, 2010; Stanley and Goodlad, 2010), the three aims of Aimhigher. According to the equation, effective progression was the function of three interrelated factors; aspirations, awareness and attainment.

Figure 4.1: Learner Model of Progression

Aspiration + Awareness + Attainment = Progression

Learner of Model Progression (Stanley and Goodland, 2010)

The learner model of progression was an equation rather than a model as illustrated in Figure 4:1. It was assumed that without high levels of aspiration and awareness of HE young people would not attain and progress to HE. Each variable was therefore of importance, if a young person has high aspirations but was not aware of how to achieve their goals, they would not be motivated to attain thus would not progress to HE.

As discussed in chapter three, raising aspirations was a central theme of the widening participation agenda as a mechanism to address the under-representation of certain groups of young people. The root cause of young people from lower socio-economic backgrounds not achieving at school and progressing to HE was considered to be low aspirations (Goodman and Gregg, 2010; Brown, 2011). Thus is the starting point for outreach activities and for the learner model of progression. So if a person's aspirations were raised then the young person's desire to achieve and continue with their education would increase (Johnson et al., 2009). This is associated with the status attainment view of aspiration which stresses that aspirations are cognitive states that drive young people to achieve (Strand and Wilson, 2008). Yet, as discussed in chapter three, aspirations are complex and intertwined with a number of psychological constructs. Low aspirations are mediated by a poor self-concept, low educational aspirations in the home, negative peer influence and low commitment value to education (Strand and Wilson, 2008); factors that may have not been considered.

There are a number of determinants that influence and/or shape the formation of aspirations that are not considered by the learner model of progression (Gutman and Akerman, 2008).Motivation levels, parenting, peer support, school experience and neighbourhood are all factors that shape aspirations held (Gutman and Akerman, 2008; Strand and Wilson, 2008). In shaping aspirations a belief in one's ability to achieve is important, which relates to the motivational theory of Attribution theory discussed in chapter three (Gutman and Akerman, 2008). Individuals who are highly motivated have higher aspirations and do well in school (Bond and Saunders, 1999). In the same instance higher levels of motivation are reported to be associated with higher career aspirations and exam performance (Schoon, Martin and Ross, 2007). Research demonstrates how the factors are inter-related. Aspirations do not exist in a vacuum (Gutman and Akerman, 2008). The complexity of aspirations and the importance of other psychological constructs such as motivation is not evident in the model limiting its ability to explain educational progression.

Furthermore, aspirations can adapt and change in light of new experiences, environments or information (Gutman and Akerman, 2008). Aspirations are related to the information young people receive about options after school (Wigfield, Lutz and Wagner, 2005). Careers advice can be of importance as this knowledge can help

connect young people's aspirations, learning and attainment to achieve their goals (Appadurai, 2004). In connecting aspirations with educational outcomes can also improve levels of motivation. Research demonstrates that aspirations are not fixed (Gutman and Akerman, 2008). The model suggests that to raise aspirations young people need to be made of their options, but this is focused on HE, other options should be made available, awareness could also link with what qualifications a young person requires for their dream job. This requires further expansion in the model, as aspiration raising may precede awareness or may follow awareness raising.

The model assumes that by raising awareness and aspirations young people will progress to HE. The association between aspiration levels and attainment is however complex something which the linear model does not account for (Gorard, See and Davies, 2011). The dynamic processes that influence aspirations can ultimately affect achievements and expectations. Research suggests that aspirations can be a predictor of educational attainment but also an outcome. The relationship is associated with psychological constructs such as self-esteem/ self-efficacy, personal characteristics as well as school experience and family factors (Gutman and Akerman, 2008; Strand and Wilson, 2008). The model does not present a holistic understanding of aspiration (Brown, 2011). Therefore to address inequalities in educational attainment, there is a need to understand what contributes to this gap as aspirations are not the sole factor (Kirk, Lewis, Scott, Wren, Nilsen and Colvin, 2012).

As highlighted in chapter three, prior attainment is one of the main barriers to educational progression as it significantly influences educational pathways (Gorard et al., 2006). Prior attainment is a prerequisite to post-compulsory education. The learner model of progression suggests that to improve attainment, outreach activities need to raise awareness of HE and aspiration levels. However, academic achievement is associated with a number of socio-psychological variables such as interest in school, motivation levels, levels of self-worth, attributions and perceived ability (Tella, Tella and Adeniyi, 2009). Additionally, the role of significant others discussed in chapter three such as parents and peers as well as previous educational experiences is not described by the model. Also the model does not account for socio-economic factors that influence attainment, such as social

background, sex and ethicnity, all these factors were discussed in chapter three has being important.However none of these factors were considered by the learner model of progression, which unfortunately limits its ability to support the design ofeffective outreach activities.

The perception a student constructs of their academic capabilities can shape their aspiration to achieve (Pajares, 2002). This is especially salient for learners from lower socio-economic backgrounds and low participation rate neighbourhoods, the target cohorts of the widening participation agenda. Reay (2001; 2006) argues this can be attributed to the English education system serving the interest of the middle-class and undermining the self-confidence and self-belief of the working class, for whom education is about failing rather than opportunities. Success in school is not just dependent upon ability but also upon changeable concepts such as confidence, motivation and determination (Hatt, Baxter and Tate, 2009).

The model suggested that an individual has to achieve the right grades to progress to HE. So with raising aspirations there is also a need to raise competence levels as young people still need to obtain the grades necessary for post-compulsory education (Gorard, See and Davies, 2011). Therefore what happens if young people have participated in aspiration raising activities but do not achieve the grades to progress to HE, the complexity of the interactions between the different factors was not accounted for.

The learner model of progression was thought to be a holistic model of lifelong learning (Leonard, 2010). Yet it does not depict the complexity of educational progression it assumes a linear transition. Whereas educational progression especially for those from disadvantaged backgrounds is a variety of educational choices and pathways (Abbott-Chapman, 2011). This was demonstrated in the ecological model discussed in chapter three, in that both contextual and distal factors are of importance in understanding educational progression. The learner model of progression is therefore under-developed and under-researched (Stanley and Goodland, 2010). The assumptions that underpin the design of outreach activities are thus ill-founded. The activities are therefore unlikely to be effective (Thomas, 2001).

The model oversimplifies the connection between aspirations, awareness and attainment. Moreover, these simplistic assumptions are evident more generally in policy regarding widening participation (Thomas, 2001). Thomas's (2001) paper critically reviewed the assumptions that underpin widening participation agenda to conclude that policy makers ignore the complexity of the issues faced by non-traditional learners. Thomas (2001) proposes that policies are written based on assumptions about what hinders educational progression, thus recommendations are developed on the basis of these unfounded assumption. A more effective approach would be to identify the barriers that hinder educational progression, while taking into account individual differences to overcome the one size fits all approach as this has been found not to be effective (Thomas, 2001); as highlighted by the ecological model in chapter three.

Despite inconclusive evidence, a causal relationship between aspiration levels and educational outcomes is accepted in the field of sociology of education, which underpins the design of outreach activities (Gorard, See and Davies, 2011). Yet there is a shortage of evidence to show that changing aspirations will lead to a difference in educational outcomes (Gorard, See and Davies, 2011). This may be due to the general lack of robust research evaluating outreach activities as outlined in this chapter.

A number of psychological factors can prevent a student from realising their full potential as established in chapter three (Hatt, Furness and Tate, 2012). To study at HE, young people need to believe they are capable of doing so (Passey and Morris, 2010). This is associated with psychological constructs that can influence educational outcomes which includes perceived ability, confidence, self-esteem, attitude, aspirations, expectations and motivation (Payne, 2003; Gorard, See and Davies, 2011). A low level of self-esteem, motivation and a negative attitude can result in a negative learner identity creating a downward spiral of disengagement (Payne, 2003). These psychological barriers can have a sustained impact on attainment and progression (HEFCE, 2010). Thus psychological theories can help to understand educational progression and inform the design of outreach activities (Taylor and Trapp, 2010).

4.5 Conclusion

The poor research design and reporting made it difficult to draw firm conclusions of the impact and effectiveness of outreach activities (Gorard et al., 2006; Chilosi, Noble, Broadhead and Wilkinson, 2010). The evidence-base for outreach activities is therefore described as patchy (Passey and Morris, 2010). A reason for this was due to partnerships lacking the infrastructure to conduct robust research (Passey and Morris, 2010). Conclusions that are drawn are tentative rather than definitive (Gorard et al., 2007). Therefore the current evidence-base provides little insight into the key mechanisms of an outreach activity (efficacy) and the impact they have on young people.

The shortage of evidence was a contributing factor to the closure of Aimhigher in 2011 (Gove, 2012). Despite this outreach work founded by Aimhigher are increasing (Atherton, 2012). The evaluation of outreach activities is now a crucial component of the new format of outreach provision. Evidence is required to determine what works (Atherton, 2012; Gove, 2012). There is a greater expectation to demonstrate the transformative impact of activities on retention and access (Butcher, Corfield and Rose-Adams, 2012). The evidence must be robust, to move to a new enhanced approach that aims to improve outreach activities (Cable and Willlets, 2010).

In the literature regarding outreach activities, reports mention an improvement in self-esteem or confidence levels as an indirect outcome of the intervention, yet this is not measured. This is of importance as chapter three demonstrated that individual factors need to be considered when designing outreach activities, something overlooked by the learner model of progression. Future outreach activities need to consider the individual and the associated factors mentioned in chapter three. Moreover, to ensure effectiveness, future outreach activities need to be informed by theoretical knowledge and empirical research (Hanley and Durlak, 1998; Reay et al., 2005). Using theoretical knowledge to inform outreach activities may offer the opportunity to predict what outcomes may arise from an intervention or activity to inform an evaluation framework, as well as a new perspective on the topic (Woolfolk, Hughes and Walkup, 2008).

The evaluation and design of outreach activities needs to be improved so the new generation of outreach activities can successively address the objective of the

widening participation agenda. This thesis aims to achieve just that, the subsequent chapters based on the discussions of this chapter and previous chapters is to use a psychological perspective to establish how best to improve the evaluation and design of outreach activities. The next chapter is to outline the methods to the design of an outreach activity using psychological theories, ThinkSmart.

CHAPTER 5 THINKSMART: AN OUTREACH ACTIVITY INFORMED BY PSYCHOLOGY

5.1 CHAPTER SUMMARY

Chapter four highlighted the limitations of the design and evaluation of outreach activities. To address these limitations, outreach activities need to be informed by a range of high quality research and theoretical knowledge to be effective (Reay et al., 2005). Chapter three discussed that progression to HE is associated with a number of psychological constructs that include perceived ability, confidence, self-esteem and motivation (Payne, 2003). Therefore psychology has the potential to play a significant role in addressing the objective of the widening participation agenda. Psychology uses theoretical models that can suggest ways to improve the opportunities for widening participation learners (Taylor and Trapp, 2010). A positive self-belief about ability alongside high levels of self-esteem, confidence and motivation level can support post-compulsory education participation as established in chapter three. This chapter is to discuss the design of ThinkSmart, a personal development programme informed by two psychological theories, attribution re-training and cognitive behavioural theory. The development of ThinkSmart demonstrates how psychology can enhance current practices used to design outreach activities.

5:2 THINKSMART

ThinkSmart was devised by Aimhigher Hertfordshire and Worcestershire, to address a locally identified barrier to educational progression. The two counties are considered to be fairly affluent areas; however, in the West Midlands these two regions have the second lowest rate of UCAS applications (Brownless and Thompson, 2006). As discussed in chapter three, participation rates can vary in areas considered most advantaged and most disadvantaged. Miller and Smith (2011) suggested this low progression rate in Herefordshire and Worcestershire was due to something known locally as the ‘Severn Valley Sickness’ which described rural nonchalance. These young people were thought to be able underachievers, who lacked the motivation and self-belief to achieve (Miller and Smith, 2011).

ThinkSmart was devised as a unique outreach activity which focused on personal development and was underpinned by sound psychological theories to address 'Severn Valley Sickness' (Upton and Upton, 2009; Miller and Smith, 2011). The personal development focus of ThinkSmart aimed to encourage the target learners with school life, planning their future as well as improving their levels of self-esteem and motivation to advocate a positive thinking style. This was because a positive thinking style can reduce negative attitudes and make asignificant contribution in preventing underachievement (Chrowdry, Crawford and Goodman, 2010).

5.2.1 THEORETICAL UNDERPINNING

It is thought that outreach activities that focus on behavioural change can raise aspirations and increase educational participation, yet an outreach activity of such kind is not evident in the literature to support this proposal (Gorard, See and Davies, 2011). ThinkSmart focused on transforming negative self-perceptions, improve motivation and self-esteem levels, emotional well-being, develop the skills necessary to cope with anxiety and to be more confident (Upton and Upton, 2009). This is in addition to developing team working skills, interpersonal skills, self-discovery and problem-solving (Upton and Upton, 2009). This approach to designing an outreach activity was taken to overcome the limitations mentioned in chapter four in relation to the learner model of progression. To achieve this ThinkSmart had two components, affective and cognitive that drew from the principles of cognitive behavioural therapy (CBT) and attribution re-training. The affective element focused on changing feelings and the cognitive element focused on changing thoughts which combined aimed to change behaviours.

5.2.1.1 Cognitive Behavioural Therapy

ThinkSmart aimed to change how young people think, act and feel to be more positive (Upton and Upton, 2009). This is because negative thought patterns can contribute to whether a young person succeeds or fails at learning (Toland and Boyle, 2008). The notion of modifying thought patterns to develop positive behavioural changes is underpinned by the psychological approach Cognitive Behavioural Therapy (CBT) (see Beck, 2011 for a comprehensive review of evidence). The inclusion of CBT was to change negative thinking to bring about positive changes to emotions and behaviours.

Core beliefs are an important part of CBT that relate to strong enduring ideas about ourselves. The core beliefs people hold influence the way information isprocessed, such as making cognitive assumption, which are either positive or negative automatic thoughts (Greig, 2007).If young people hold negative core beliefs this can result in faulty thinking strategies, focusing on only negative automatic thoughts such as *'I am stupid, I can't do this homework*'. CBT aims to break this negative cycle so in ThinkSmart negative automatic thoughts regarding education and academic ability were addressed. In employing cognitive behavioural principles in ThinkSmart the young people were taught how cognitive processes intervene with their feelings and behaviours to form a cycle of negative thinking (Grieg, 2007).

CBT is typically used in clinical settings to help clients recognise the relationship between their thoughts, feelings and behaviour. It has however also been shown to be effective with young people in a school setting (Greig, 2007). Schools are suitable for the delivery of interventions of a therapeutic nature due to the significant amount of time young people spend at school. Research has demonstrated the effectiveness of CBT in a number of situations with adolescents such as psychotherapeutic approaches to help develop self-control in the classroom setting, alleviation of anxiety levels, depression and low levels of self-esteem (Squires, 2001; Yahav and Cohen, 2008).

Cognitive behavioural interventions have also been shown to be an effective treatment for school refusal, a refusal to attend school due to anxiety and emotional distress. King, Tonge, Heyne, Pritchard, Rollings, Young, Myserson and Ollendick (1998) implemented a four week cognitive behavioural programme for young people aged five to 15 and concluded that schoolattendance increased for the treatment group as well as improvements on self-report scales measuring fear, anxiety depression and coping, relative to the control. These positive outcomes were sustained for two years after the intervention (King et al., 2001). However, at the follow-up stage those that had not positively responded to the initial intervention continued to experience significant school attendance problems. Therefore anindividual's desire to change is of importance in understanding the impact of cognitive behavioural interventions.

Cognitive behavioural interventions can also help young people cope with the stressors of modern life. Yahav and Cohen (2008) combined cognitive behavioural therapy with biofeedback to devise an intervention to help young people to cope with the stressors of life, with one of those stressors suggested to be achievement at school. The eight week intervention run by psychologists with master's degrees covered how to identify emotional, physical and behavioural reactions to stressful situations and how to deal effectively with these. The intervention improved state anxiety a fear of a particular situation and more specifically test anxiety this is worry about taking tests as well as self-esteem in comparison to the control group. CBT is thus asuitable strategy to support changes in attitudes young people have about their academic ability as well as self-esteem, confidence and motivation.

The cognitive, the thinking part in ThinkSmart addressed patterns of dysfunctional thinking. This was by monitoring negative unhelpful cognitions and through cognitive restructuring and balanced thinking addressed any dysfunctional thinking noted or observed (Upton and Upton, 2009).ThinkSmart aimed to reduce unhelpful cognitions towards education such as an individual'sbelief about ability and poor school performance or vice versa which may result in a decision not to attend post-compulsory education. This is underpinned by attribution theory in that attributes made by young people for success or failure can influence dysfunctional thinking.

The process of altering cognitive processes aimed to address the maladaptive thinking that affects emotional and behavioural adjustment at school (Greig, 2007). One of the strategies used in ThinkSmart to identify any unhelpful negative cognition and alter these thoughts was monitoring thoughts.In monitoring their thoughts the young people were taught how to restructure their thought patterns to be more positive by using two techniques known as cognitive restructuring and the process of balanced thinking (Upton and Upton, 2009). It was proposed that if learners were more positiveabout themselves and by changing their attributions made for the success and failure of learning motivation levels can improve (Toland and Boyle, 2008).

Toland and Boyle (2008) explored this with primary school aged children with learning difficulties who had been identified as having poor self-esteem. Outcome measures included reading and spelling on the British Abilities Scale (Elliot, 1996),

the child's teacher and parent's views of changes in self-esteem and the children also completed a questionnaire measuring their esteem. Using worksheets and role play the children were taught about the association between their thoughts, feelings and actions in groups of five for half an hour sessions over a period of twelve weeks. Significant changes were reported in motivation and self-esteem levels by the children and their parents. Toland and Boyle (2008) suggested CBT provided a fruitful way to transform attributions to explain success and failure. Cognitive behavioural interventions therefore have the potential to be effective in challenging a negative self-perception of ability that may hinder academic outcomes (Martin and Marsh, 2003).

The affective element of ThinkSmart aimed to give young people the tools to be emotionally aware. For CBT interventions to be effective there is a need to attend to young people's levels of emotional understanding and ability to regulate their emotions (Kingery, Roblek, Suveg, Grover, Sherrill and Bergman, 2006). In the sessions, young people identified and distinguished between core emotions to develop strategies to deal with unpleasant feelings (Upton and Upton, 2009). Young people were taught the skills to identify, label and understand emotions and the causes or consequences of events. Attending to emotional understanding early on in ThinkSmart was seen to be important as it can have a positive impact on intervention outcomes. This is because CBT interventions are associated with the need to develop the ability to regulate ones emotions (Kingery et al., 2006). In the ThinkSmart sessions the young people discussed with their Ambassador why certain emotions arose in certain settings, to develop strategies to monitor these emotions and to express them more appropriately (Qualter, Gardner and Whiteley, 2007).

CBTwas established as an effective approach to change the way a person thinks about and responds to emotions which shaped the content of ThinkSmart (Sofronoff et al., 2007).The inclusion of CBT in ThinkSmart offered a flexible approach to changing attributions, however further research is required to draw firm conclusions. Furthermore, evaluative studies are required to evaluate the effectiveness of CBT style interventions delivered in school as this is becoming an increasing popular method (Rait, Monsen and Squires, 2010).

5.2.1.2 Attribution Re-training

The aim of ThinkSmart was the changing of cognitions; these cognitions are beliefs, so are also known as attributions - beliefs about the cause of an event (Fosterling, 1985). Therefore changing cognitions in ThinkSmart is the process of also changing attributions, such an approach is associated to the attribution theory discussed in chapter two. To modify negative attributions also known as a maladaptive thinking style attribution re-training underpinned the principles of ThinkSmart. There is however little evidence that attempts to combine attribution re-training and CBT to change the negative attributions seen in young people (Fosterling, 1985). Fosterling (1985) suggests this however is a potentially effective approach to address underachievement, which is of interest considering this is the goal of the widening participation agenda, hence the inclusion of both in ThinkSmart.

An objective of CBT is to address dysfunctional thinking inhibiting effective behaviour (Szabo, 2006). Thus there has been much interest in attribution re-training in the field of cognitive behavioural therapy (Szabo, 2006). Attribution re-training is informed by several prominent theories of psychology; Bandura's (1977) theory of self-efficacy, Seligman's (1975) theory of learned helplessness and Weiner's (1985) attribution theory. A central assumption of attribution re-training is that behaviours, emotions and motives are the consequence of attributions made about the causes of an event. Attribution re-training aims to develop more adaptive thinking, providing individuals with the strategies to make sounder casual attributions to explain their successes and failures at a task (Szabo, 2006). It teaches individuals to make more favourable attributions, to think positively about failures,altering any dysfunctional thinking, to enhance future motivational levels and persistence (Szabo, 2006). Attribution re-training has been established to be an effective technique to re-train attribution styles (Hanley and Durlax, 1998).

Attribution re-training is underpinned by attribution theory which describes how people explain the causes for their failure or success at a task, and the impact this has on their future motivation levels. Attributing success to internal causes (ability or effort) increases motivation, whereas attributing failure to internal causes lowers motivation (Gutman and Akerman, 2008). In relation to school performance, attributing success to one's ability and failure to the lack of effort is known as an adaptive attribution style whereas attributing success to luck and failure to ability is a

maladaptive attribution style (Szabo, 2006). Attribution style can influence the way an individual thinks about things and their behaviour (Szabo, 2006). The development of a positive adaptive attribution style can therefore improve self-esteem and motivational levels (Weiner, 2005).

It is important in the case of success an internal attribute should be made whereas for failureexternal factors such as bad luck or a lack of effort should be attributed. Kistner et al., (1988) conducted a two year project with young people with learning difficulties to increase academic progression, effort was emphasised in the study as determinant of educational difficulties. If an individual attributed their learning difficulties to an unstable uncontrollable factor such as their lack of effort, this emphasised a need to increase effort levels. However, if an individual attributed their difficulties to more stable uncontrollable factors such as ability, this decreased motivation levels and self-esteem. An intervention designed to change these maladaptive attributions reported increased levels of self-esteem and motivation to learn (Kistner et al., 1988).

Transforming maladaptive thoughts can therefore have a powerful impact (Szabo, 2006).The aim of attribution re-training is to prevent unrealistic assumptions impeding effective behaviour; a goal associated with the field of CBT (Szabo, 2006). Positively changing a person's cognition and behaviour can be achieved by combiningCBT, attribution re-training and using strategies that include cognitive modification, feedback, homework assignments for self-reflection and model presentation so role-play to cement ideas taught (Szabo, 2006). These strategies would also be able to teach a set of durable skills to ensure the student had more objective thoughts and improved in theirprocessing of information.

The approach taken to devise ThinkSmart was unique. As noted in chapter four outreach activities were rarely informed by theoretical knowledge and/or research. ThinkSmart was informed by psychological theoriesand supported by a wealth of research. The novel approach of combining CBT and attribution re-training in ThinkSmart will seek to explore whether together these theories can tackle under-representation as suggested. Due to the unique design the implementation of ThinkSmart differed greatly to the traditional outreach activity model.

5.3 IMPLEMENTATION OF THINKSMART

5.3.1 DELIVERY OF THINKSMART

The delivery of ThinkSmart differed to that of the typical outreach activity model in a number of ways due to the psychological nature of the activity. ThinkSmart was designed to be delivered systematically (Upton and Upton, 2009). To support consistency in intervention delivery structured manuals were used (Greenberg et al., 2003). Upton and Upton (2009) devised two ThinkSmart manuals, one for the young people and another for the Ambassadors. This was to ensure intervention adherence (King et al., 1998). The ThinkSmart manual prescribed that the sessions be fast paced to motivate and to engage the young people (Upton and Upton, 2009), similar to CBT sessions (Squires, 2001). Each session was designed to clearly state the objectives within an introductory explanation and then be summarised again during the plenary; somewhat similar to school lessons. The activities were sometimes completed in a group or individually (Upton and Upton, 2009).

From a review of the literature, several techniques were included in ThinkSmart as research considers them to be crucial for the success of an intervention informed by attribution re-training and CBT, this included role-play, behavioural experiments, worksheets and homework (Toland and Boyle, 2008). An intervention that includes attribution re-training should include; instruction, cognitive modification, cognitive and behavioural rehearsal (role-play), homework and a model depicting a programme of change to be a success (Szabo, 2006). The programme of activities in ThinkSmart centered on the magic circle, this model represented how feelings, behaviours and thoughts are associated. The magic circle aimed to modify cognitions through the ten-week intervention in such ways as role-play for behavioural rehearsal and homework exercises. Role play provided a place to rehearse new thinking styles and enabled the young people to enhance their understanding of topics discussed by acting them out (Sofronoff, Attwood, Hinton and Levin, 2007). Self-talk was also of importance to provide the young people with an opportunity to reflect and monitor their thoughts and behaviours.

Homework is an integral component of cognitive behavioural interventions (Mausbach et al., 2010). It is a key feature of successful interventions (Greig, 2007). To reflect on each ThinkSmart session, to monitor their thoughts and feelings the

young people were provided with homework activities. The completion of homework was voluntary to develop self-discipline and autonomy (Upton and Upton, 2009). Yet homework compliance has a significant relationship with intervention outcomes (Mausbach et al., 2010). The effectiveness of an intervention is thought to lie in the completion of homework (Mausbach et al., 2010). Thus although voluntary the completion of homework in ThinkSmart may have important consequences on the impact of the intervention. Therefore the manual stated that homework should be discussed at the start of the session and at the end by the facilitators.

To modify behaviour and thinking patterns, ThinkSmart based activities on the principle of self-discovery (Greig, 2007).Guided self-discovery was reliant upon the ability to build a dialogue with the young people to challenge their negative thoughts in ThinkSmart. So for ThinkSmart to be a success, building rapport and trust to collaborate was important (Kingery et al., 2006). The first session of ThinkSmart was solely dedicated to this. In this session ground rules were set as well as the young people being provided with further information about the intervention to set goals and expectations for the ten weeks. Activities in the first session aimed to also build trust to develop positive rapport, so the young people felt comfortable discussing their emotions and thoughts as the intervention had planned.

To convey the principles of CBT to the young people recruited for ThinkSmart, the concept of the magic circle was the focus of session two (see appendix 4). The magic circle depicted the underlying principle of CBT which is how we think, affects how we feel, which affects what we do for the young people to easily grasp the concepts. It demonstrated to the young people that thinking precedes feelings and this precedes behaviour (Toland and Boyle, 2008). The magic circle provided a framework for the ten sessions, an understanding of the magic circle was therefore important in the implementation of ThinkSmart, as without this knowledge it would not be possible to change the thoughts patterns of recipients.

Session three focused on the thinking component of the magic circle to identify any thinking errors or automatic thoughts to work through to result in a more balanced thinking. Automatic thoughts and thinking errors can include jumping to conclusions, exaggerating an event, ignoring the positives by focusing on the negative, blowing up minor errors and taking things personally (Greig, 2007). To dispute any irrational

thoughts cognitive restructuring was used to replace these thoughts with more positive effects and consequences (Kee Tony, 2003). To achieve this, the young people were given the skills to observe their negative automatic thoughts, collate any evidence that supported these thoughts and if there was not, then with their Ambassadors the young people challenged these thoughts to encourage more positive thoughts.This process of intervening with negative thoughts can bring about positive changes in feelings and behaviours (Beck, 1976). One of the skills taught wasself-monitoring which allowed the young people to become aware of their automatic thoughts in order to change them (Toland and Boyle, 2008). Positive self-talk was also included in session three and four to give the young people the skills to restructure their thinking errors.

Sessions five and six related to the feeling element of the magic circle. In these sessions, young people were taught the skills needed to identify their emotions and how to control them. Anxiety can for example negatively influence student's engagement and enjoyment with school, therefore the young people require strategies to deal with anxiety levels (Martin, 2010). The recognition of emotions can help to understand how they influence behaviour (Ruini et al., 2009).

The affective element of ThinkSmart gave the young people the tools to be more emotionally aware. In the sessions, young people were able to identify and distinguish between core emotions and develop strategies to deal with unpleasant feelings (Upton and Upton, 2009). In the sessions the young people were given the chance to discuss with their Ambassadors why certain emotions arose in certain settings and learn how to be aware of and regulate their emotions (Humphrey, Curran, Morris, Farrell and Woods, 2007). This was to develop strategies to monitor these emotions and to express them appropriately (Qualter, Gardner and Whiteley, 2007). To develop these skills to identify, label and understand emotions in one of the sessions the young people spoken about and acted out different emotion expressions.

The last three sessions focused on the behavioural part of the intervention. In session seven the skills to identify behaviours was the focus. One approach used was the ABC model, A equates to the antecedent event, B is the belief about an event and C is the consequence of beliefs held (Ellis and Tafrate, 1999). The ABC

approach was informed by Ellis Rational Emotive Behaviour Therapy (Rait, Monsen and Squires, 2010). This theory describes that individuals have a number of beliefs, thoughts and ideas about activating events and that this has an impact on responses whether that be cognitive, emotional or behavioural. Irrational beliefs are unhelpful resulting in self-defeating behaviours and emotions. In the manual for this session the young people completed worksheets that depicted the ABC approach to identify any faulty beliefs or irrational self-statements and change them for more rational beliefs.

In session nine the focus was on how to choose the right behaviour and manage problems effectively. Problem-solving was the focus of session nine due to best practice interventions considering this to be an important technique (Kavanagh et al., 2009). The session aimed to provide the young people with the skills to tackle problems faced in school and show them how to break them down into smaller steps. The message of the session was that it is important not to give up early or feel you cannot achieve something. The techniques in this session aimed to overcome this, so when in school and the young people were faced with a problem or task they knew the strategies to use to tackle it successfully.

Session ten combined what had been learnt across the intervention and this related back to the first session to identify the next steps for young people and the distance the young people have travelled. Kavanagh et al., (2009) meta-analysis reported that ten or more sessions of a CBT intervention was more effective three months afterwards compared to interventions that were nine weeks or less in duration and interventions delivered by school staff were more effective than those delivered by outsiders. This is interesting as for ThinkSmart; the intervention was delivered by outsiders, these being the Ambassadors recruited by Aimhigher.

5.3.2 Ambassadors

Ambassadors' area crucial feature of outreach activitiesas discussed in chapter four. Undergraduates were employed to deliver outreach activities as this was considered the most effective way to promote the message of the widening participation agenda (Austin and Hatt, 2005). Similar to all outreach activities ThinkSmart was facilitated by a team of trained university students. The training session delivered by the

ThinkSmart Coordinator covered the principles and intended delivery of each ThinkSmart session.

The Ambassadors worked in teams to plan and deliver ThinkSmart. This was a unique experience for the Ambassadors, as typically outreach activities were organised by the Aimhigher partnership (Austin and Hatt, 2005). Instead for ThinkSmart the Ambassadors planned the sessions as well as facilitated them. For the sessions to be effective the Ambassadors needed to develop a positive rapport with learners (Squires, 2001).This is similar to the Associate Scheme, in which the programme was only a success if the young people had been able to establish a positive rapport to trust the Ambassadors (Lewis and Ritchie, 2010). The enthusiasm and attitude of the Ambassadors is thought to influence the overall success of an activity (Kerrigan and Carpenter, 2008). However, further research was required (see chapter three). ThinkSmart provided the opportunity to address the shortage of evidence of the actual impact of Ambassadors on outreach activities and the experience of Ambassadors in delivering outreach activities (Gorard et al., 2006; Ylonen, 2010).

5.3.3 TARGET LEARNERS

Aimhigher targeted learners who had the potential to enter HE but who were underachieving, undecided or lacking in confidence.ThinkSmart included this alongside its own recruitment criteria which related to the aims of the intervention. ThinkSmart was for young people in year 9 who were middle ability with low self-esteem, motivation, confidence and at risk of disengaging. The actual selection of students for ThinkSmart was however left for teacher judgment. The recruitment of learners was not dictated by Aimhigher, rather the schools were left to select.

The selection of young people from year 9 was due to this being an important school year group, where potentially life changing decisions are made which young people may need support with. This includes the decisions on what GCSEs to take which can have the potential to affect educational journeys (Strand and Wilson, 2008). In this year also motivational levels can decrease and continue to do so until the point young people prepare for their GCSEs in year 11 (Payne, 2003; Peetsma, Hascher, van der Veen and Roede, 2005; Martin, 2009). This is a concern as motivation levels can impact on academic performance (Wagner and Szamoskozi, 2012).

At this age also enduring learner identities that constrain or encourage educational progression are formed (Raphael-Reed et al., 2007). Therefore to increase the opportunity for young people from disadvantaged backgrounds to consider HE, year 9 was a target year group. Working with this year can aim to tackle the underachievement at compulsory education which is a major underlying problem to widening access to HE (Strand and Wilson, 2008). If early aspirations are nurtured then activities can have an impact on participation at post-compulsory education (Strand and Wilson, 2008). ThinkSmart aims to transform negative self-perceptions to heed the formation of enduring negative learner identity and additionally provide the young people with the tools to be successful in their GCSEs so to continue their educational journey at 16.

5.4 Conclusion

Chapter four concluded there were flaws in the design and evaluation of outreach activities thus a new generation of outreach activities in which universities are responsibile for outreach provision needed to overcome this. This chapter focused on the design of an outreach activity, ThinkSmart.ThinkSmart was unique as it was devised using theoretical knowledge and research. ThinkSmart combined attribution re-training and cognitive behavioural principles as a way to address maladaptive thinking patterns that may hinder educational progression. These principles provideda different way to address the disparities in HE.

CBT and attribution re-training were discussed as ways to transform negative self-beliefs, low self-esteem and motivation levels. Attribution re-training aims to transform maladaptive attribution styles to improve levels of self-esteem and motivation which is associated with the field of CBT that also aims to address maladaptive thinking and change behaviours. Research has demonstrated the positive application of CBT in a number of settings with young people. Fosterling (1985) noted there is however little research that has combined the two approaches, although this would be useful to tackle underachievement. This is somewhat surprising considering the goal of outreach activities is to address underachievement.

ThinkSmart wastherefore a unique outreach activity as it was underpinned by sound psychological theories (Upton and Upton, 2009). The young people were given the

tools to address their maladaptive patterns of thinking with their Ambassadors (Upton and Upton, 2009). A tailored behavioural change approach to outreach activities has the potential to be effective in shifting attitudes, changing behaviours and improving educational outcomes (Social Exclusion Task Force, 2008). The application of ThinkSmart discussed in subsequent chapters provides evidence to support whether this assumption is valid.

ThinkSmart was the focus of this research project to overcome the shortage of evidence to determine the impact and effectiveness of outreach activities as highlighted in chapter four. To understand how to widen participation a project was needed to conduct a '*series of controlled trials and design experiments'* based around '*only one intervention*' (Gorard et al., 2006; 139). Subsequent chapters discuss the robust evaluation of ThinkSmart to address the scarcity of such robust evidence, to establish the impact and effectiveness of an outreach activity, ThinkSmart (Gorard, Smith, May, Thomas, Adnett and Slack, 2006; Thomas, 2011). The next chapter is the start of this process by describing the intended evaluation framework for ThinkSmart.

CHAPTER 6 THE EVALUATION FRAMEWORK FOR THINKSMART

6.1 CHAPTER SUMMARY

As discussed in chapter four, the evaluation of outreach activities endured a number of methodological flaws that hindered the ability to determine the impact and effectiveness of such activities in engaging young people with the idea of HE. The design and evaluation of outreach activities therefore needed to change. Chapter five focused on the design aspect and this chapter focuses on the evaluation framework for ThinkSmart Psychologists have knowledge of and use a range of qualitative and quantitative data collection methods and analyses that are to be used to inform the evaluation of ThinkSmart (Taylor and Trapp, 2010). This chapter discusses the evaluation framework to be implemented in the proceeding chapters.

6.2 EVALUATION APPROACH

To address the research aim, it would not have been sufficient to use one data collection approach due to the complexity of ThinkSmart. The approach taken for the evaluation of ThinkSmart could be compared to ethnographic research, in that the aim was to understand a new area by detailed exploration of one case, that being the evaluation of ThinkSmart devised by Aimhigher Herefordshire and Worcestershire. However, in ethnographic research, the researcher typically immerses themselves in the area of research using the approach of participant observation which involves a significant time with participants (Runswick-Cole, 2011). With this approach there is reliance on spoken and written words to produce a reflective account of the research area; as such data from this approach cannot be generalised. Furthermore the researcher is not independent of the project.

Yet the evaluation of ThinkSmart was designed deliberately to be independent in order to address the limitations noted in earlier chapters concerning previous evaluations of outreach activities. A mixed method approach is most suited to ensure a comprehensive understanding of the impact and effectiveness of ThinkSmart.The evaluation of ThinkSmart therefore differs somewhat to ethnographic approaches as there is a focus on numbers as well as spoken words to understand a new area of research but more importantly the researcher remains independent of the wider phenomena under investigation.

In combining qualitative and quantitative research approaches it enabled the collection of richer data, thus providing a greater understanding of the phenomena being researched (Powell et al., 2008); this is a strength of the project due to the knowledge gap in regards to the impact and effectiveness of outreach activities. Such an approach can be described as a multi methodapproach as the research project combines elements of qualitative and quantitative data collection approaches for the purpose of adding breadth and depth of understanding to a topic (Johnson et al., 2007). The evaluation approach taken provided a complete picture of the research problem (see Tashakkori and Teddlie, 2003 for a review of mixed methods). This is of importance due to the increased demand to explore how outreach activities work and why there are effective, if they are.

The process evaluation explored the implementation of the intervention which informed the effectiveness of ThinkSmart and the empirical evaluation reported the impact of ThinkSmart. However due to the complex nature of ThinkSmart the process evaluation was also used to elucidate the results of the empirical evaluation; as whether the results were positive, modest or insignificant the process evaluation could interpret the findings to best describe the overall outcomes of the evaluation of ThinkSmart (Davies et al., 2000; Linnan and Steckler, 2002; Saunders, Evans and Joshi, 2005).

6.3 Data Collection Approaches

To address the limitations of the previous research evaluating outreach activities (as discussed in chapter four) a number of approaches were included in this research project to enhance the evaluation of ThinkSmart.

6.3.1 Comparison group

A comparison group was included in the research design as it is not best practice for all participants to receive the intervention being evaluated. However, this is not an approach evident in the evaluation of outreach activities. Gorard et al., (2006) noted the ignorance to the need for comparison groups in the evaluation of outreach activities. The inclusion of a control group in outreach activities was rare. This is due to the use of a comparison group being considered unfeasible and perhaps even unethical (HEFCE, 2006). It is thought to be inappropriate because if a programme had targeted with precision then there would be no suitable comparator school, area

or individuals with similar backgrounds (Hatt, Baxter and Tate, 2005). However without this, it is not possible to identify causal relation between outreach activities and educational progression (Spall, 2005; Tate and Baxter, 2006). It is also argued that it is unethical to involve human participants in interventions where efficacy has not been thoroughly tested.

Moreover, without the inclusion of a comparator group it is not possible to determine whether any changes reported in the outcome measures are attributed to their experience of the intervention. It is only possible to infer causality through the comparison of two controlled situations in which one group receives the intervention and the other does not (Mill, 1865). A research design that does not include a comparison group is of almost no scientific value (Campbell and Stanley, 1963). It is therefore essential to have at least two conditions in an experimental evaluation study; one group who receives the intervention and one who does not. At present the conditions of an experimental design are considered difficult to meet in a widening participation context (Chilosi et al., 2009). This research project aimed to demonstrate it possible.

Randomly assigning participations to conditions is considered to be the gold standard in experimental designs (Borman, 2002). This is however not always feasible especially in naturalistic studies such as this research project. A naturalistic study evaluates an intervention that is natural occurring. Randomly assigning participants can improve the internal validity of the research as well as eliminate the possibility of individual differences and group differences (Larkin and Thyer, 1999). Yet, control on participants and restrictions on the intervention may result in low ecological validity. It was important the results of this research project could be generalised and applied to real-life situations. Ecological validity describes how the results of a research project can be applied to real-world situations (Field, 2009). Higher ecological validity describes that the project is representative of the real-life world application, thus considered a naturalistic research design. Results from a research project that has evaluated an intervention in an artificial setting such as assigning participants to conditions or restricting what would be the natural implementation of an intervention can sometimes be irrelevant to understanding the area being explored (Schumuckler, 2001). Thus the methods of evaluation for this research project are to ensure high ecological validity. Therefore restrictions were

not put in place on the allocation of participants; the implementation of the intervention which was overseen by Aimhigher Herefordshire and Worcestershire, so the evaluation of ThinkSmart was independent.

Additionally as part of the evaluation a six month follow-up was included. This is because previous evaluations merely reported the short-term impact of outreach activities. The inclusion of a delayed follow-up was to determine the intermediate impact of ThinkSmart on recipients relative to the control group.

6.3.2 Sample size

For the evaluation of outreach activities sample size was rarely considered. The main concern was that the evaluations were kept small to ensure they were manageable for practitioners (Passey and Morris, 2010). Research reports often noted a small sample size for the evaluation of outreach activities, which with a qualitative approach meant the point of data saturation was possibly never reached. Moreover this would mean the views of all the young people who had participated in Aimhigher activities were not accounted for (Kerrigan and Carpenter, 2009). For the qualitative approaches used as part of the process evaluation in this thesis a representative sample was required. Thus all participants, including the young people, Ambassadors, Aimhigher staff and school staff, were asked to participate in the process evaluation of ThinkSmart. This ensured a representative proportion of the participants were interviewed to ensure the views provided were reflective of the general consensus of the research population.

If inferential statistics are to be used, as was the case in this research project to analyse evaluation data, a priori power analysis (an assessment of statistical power carried out prior to a study being undertaken), should be conducted. A priori power analysis was carried out to ascertain the number of participants that should be recruited for the data to be meaningfully analysed statistically. Statistical power is the probability of a test to detect a statistically significant effect, if one exists (Field, 2009). To ascertain the minimum sample size required for this study, G*Power a software for power calculation was used, the estimated sample size required utilising G*Power was minimum of 32 participants in total. Using such software to determine the sample size before data collection places confidence in the results and enables

generalisation of the findings. However, the recruitment was outside of the researcher's control.

The recruitment of the schools, young people and the Ambassadors was the role of the ThinkSmart Coordinator employed by Aimhigher Herefordshire and Worcestershire. The evaluation was independent to overcome the inherent biases of practitioners evaluating their own activities. The naturalistic nature of this project increased the ecological validity, thus improving the application of the research findings outside of the research context. This is of importance to improve current practices in the design and evaluation of outreach activities. An independent evaluation also enabled reliable and valid conclusions to be drawn.

6.3.3 Standardised measures

Questionnaires were commonly used to evaluate outreach activities, yet these were devised at practitioner level. This questions the reliability and validity of these measures and thus whether the results reported were credible. Passey and Morris (2010) reported that the use of the standardised measures to collect data was too difficult. However standardised measures were used in this research project to measure the actual impact of the intervention. To determine the most suitable measures to evaluate ThinkSmart, the next chapter describes the pilot studies that were conducted prior to the main evaluation.

6.4 Process Evaluation

Chapter four discussed the number of claims made in the widening participation literature regarding what are the key aspects of an activitys success, yet these were assumed rather than supported with evidence. Why an activity had worked was not explored, yet this information is of importance. To unravel the components that contribute to the success or that may hinder the success of an intervention a process evaluation is key. A process evaluation was incorporated into the evaluation of ThinkSmart to uncover what the active ingredients of ThinkSmart are (Oakley, Strange, Bonell, Allen & Stephenson, 2006). The process evaluation helped to understand why ThinkSmart was a success or not to inform improvements of outreach practices (Linnan and Steckler, 2002).

To evaluate ThinkSmart rigorously a single data collection approach was not suitable due to the complexity of the research aim. The inclusion of a process evaluation in

the evaluation approach provided a complete picture of the research area. To uncover what was of importance a process evaluation was salient for a comprehensive evaluation of ThinkSmart. The process evaluation explored the fidelity of implementation (training of Ambassadors and delivery of material i.e. use of the workbook), reach (recruitment of the intended learners) and other factors that may have mediated intervention impact on measure outcomes (e.g. the Ambassadors, school environment). The inclusion of a process evaluation was unique to this research project as it is typically used to evaluate public health interventions. There is no one set approach to conducting a process evaluation (Linnan and Steckler, 2002). Therefore guidance was mainly sought from Saunders, Evans and Joshi's (2005) paper '*Developing a Process Evaluation Plan for Assessing Health Promotion Program Implementation: A How-to Guide'*, as it provided a comprehensive and systematic approach to plan the process evaluation of ThinkSmart.

6.5 Ethical Considerations

The University of Worcester Health and Life Science Institute Ethics Committee approved all the studies to be documented (see appendix 1); all the ethical procedures outlined by the university were adhered to. At all times the safety of the participants was prevalent. Informed parental consent was sought for all the young people participating, this was in accordance with the British Psychological Society's ethical guidelines when working with minors. Addtionally informed consent was sought from the Ambassadors, school staff and Aimhigher staff who participated in the studies to be documented in the proceeding chapters (see appendix 2 for an example consent form). After an oral exploration in addition to the parental informed consent, informed assent was sought from the young people (see appendix 3). Assent is good pratice to be used when participants are defined as vulunerable or unable to provide informed consent, which the young people in this project would be catagorised as. All the data collected was locked in a secure cabinet. To ensure anonymity as stated on the informed consent forms, no personal details were reported and consent forms were kept separate from the raw data. All the participants were informed of their right to withdraw at any point from the studies. At the end of each study the participants were debriefed about the research purpose and thanked for their participation.

6.6 Conclusion

Chapter four established there was a lack of credible evidence to determine the impact and effectiveness of outreach activities. Robust evidence is however required by the Office of Fair Access to demonstrate the transformative impact of outreach activities (Butcher, Corfield and Rose-Adams, 2012). To achieve this requires a radical change in current evaluation practices in outreach departments. To evaluate ThinkSmart there was little guidance that could be sought. Drawing from psychological literature, this chapter has described an evaluation framework for ThinkSmart.

The use of standardised measures was novel to the evaluation of outreach activities. Therefore piloting of the intended measures was necessary to provide advance warning of any potential failings of the measures selected in the evaluation design (van Teijingen and Hundley, 2002). To ensure a reliable evaluation was undertaken it was necessary to pilot the instruments and approaches that were intended to be used. Chapter seven describes the pilot studies that were conducted to select the most appropriate measures to use in the main evaluation of ThinkSmart in chapter nine.

CHAPTER 7PILOT STUDIES OF THE EVALUATION MEASURES

7.1 CHAPTER SUMMARY

Chapter six discussed the framework to be used for the evaluation of ThinkSmart. To overcome the limitations noted in previous chapters, standardised measures to determine the impact of ThinkSmart were included. This is a novel approach to the evaluation of outreach activities, thus no guidance could be sought as to which measures would be most suitable. The pilot studies described in this chapter provided the chance to trial out the instruments to ensure a reliable and valid evaluation of ThinkSmart was undertaken in the main evaluation described in chapter nine.

7.2 THE IMPORTANCE OF PILOTING

Also known as a feasibility study, pilot studies are a mini version of the main study conducted in preparation for the main evaluation (Baker, 1994). Pilot studies are considered to be *'under discussed, underused and under-represented*' (Prescott and Soeken, 1989; 60). However are a crucial element of a good research project (van Teiljlingden and Hundley, 2002). A pilot can provide invaluable insights highlighting any potential areas of failing thus must be discussed to demonstrate lessons learnt and how these have informed the main evaluation (van Teijlingen and Hundley, 2002).

The empirical evaluation of ThinkSmart aimed to explore whether it worked, thus a quasi-experimental design was the most suitable (Borman, 2002). An experimental design measures prior to and at the end of the intervention to determine the distance travelled, with one variable being manipulated while the other variables are held constant; introducing a change and noting the impact on the factors of interest reliably determines the impact on an intervention. However to date for the evaluation of outreach activities, or more generally in educational research, such a design has not been employed (Borman, 2002). Moreover, Chilosi et al., (2009) noted that despite this unwarranted claims of causality are evident in reports documenting the evaluation of outreach activities. A pre- and post- test quasi-experimental design was the ideal approach for the evaluation of ThinkSmart. The pilot studies in this chapter ensured the measures selected for the empirical evaluation of ThinkSmart were

suitable. This was of importance as these instruments may have required amending or improving before the main evaluation.

7.3 Pilot Study 1

The aim of this pilot study was to ascertain the suitability of the measures selected for evaluating ThinkSmart. At this stage it was to improve the test measures. The pilot was able to provide an insight into the suitability of the measures selected to evaluate ThinkSmart. This was important as to date such an approach of using standardised measures had not be used.

7.3.1 Method

7.3.1.1 Design

The young people completed three measures; Myself-As-A-Learner (Burden, 2000), Rosenberg's Self-Esteem Scale (Rosenberg, 1965) and The School Engagement Scale (Fredrick, Blumenfield, Friedel and Paris, 2003).

7.3.1.2 Sample

In total thirty nine young students (twenty two boys and seventeen girls) from four secondary schools in Herefordshire and Worcestershire returned their informed consent form and completed all three measures. All participants were from Year 9 so aged between 13 and 14 (mean age 166.74 months (3.6 SD)). The number of young people for each school site is detailed in table 7:1.

Table 7.1*Sample Numbers for the Pilot of Outcome Measures at Each School Site*

	School A	School B	School C	School D	Total
Sample Size	5	6	24	4	39

7.3.1.3 Measures

The selection of instruments was based on the intended outcomes of ThinkSmart: improvement of self-perception, self-esteem and school engagement.

Myself-as-a-Learner Scale (Burden, 1998) is a self-report measure that assesses young people's perception of themselves as learners and problem solvers (see appendix 5). A student's ability to succeed in school is associated with the attributions they make about their success and failures. Other measures of self-

concept are evident in the literature such as those devised by Herbert Marsh and Susan Harter, these are however measures of general self-concept so comprise of a number of items increasing the time of administration (Burden, 1998). So not to interfere with the implementation of ThinkSmart, the measures needed to be quick to administer. Myself-as-a-Learner (MALS) was quick to administer and measured the aims of ThinkSmart. MALS was considered suitable as it is for use with the same target audience asThinkSmart; as the intended use of the measure was for students with low self-perception and has been reported as a useful tool to evaluate similar programmes to ThinkSmart.

The measure is deemed straightforward to administer with all the items being easy to understand for the intended participants. It is a twenty itemed self-report measure which the young people scored their answers from an A (very true) to an E (definitely not true); these were then converted into scores via the scoring sheet. The maximum score is 100 and the minimum score is 20. The measure is robust with both validity (face and construct) and internal reliability (alpha value .8) been established (Burden, 1998). Overall this appeared to be an efficient scale for measuring the multifaceted nature of self-concept (Burden, 1998).

Rosenberg's Self-Esteem scale (Rosenberg, 1965) is a well-established measure of self-esteem (appendix 6). Self-esteem is thought to play a role in explaining educational progression as one of a number of psychological constructs, thus the measure was included in the ThinkSmart manual for the young people to complete at pre- and post--test. A wealth of research has attested this to be a reliable and suitable measure for the inclusion in the evaluation of ThinkSmart, with alpha values ranging between 0.78 and 0.90 (Rosenberg, 1965). It is a self-report measure that is comprised of ten items (five positively worded and five negatively worded). The scale can be administered as either a four, five or seven point Likert scale, for this study a four point scale was used; as this was what was included in the ThinkSmart manual to eliminate the neutral ground thus respondents had to provide an answer in either direction, positive or negative.

School Engagement Scale (Fredricks, Blumenfeld, Friedel and Paris, 2003) is an American measure of school engagement on three dimensions; behavioural, emotional and cognitive (Fredricks, Blumenfeld, Friedel and Paris, 2003) (appendix

7). ThinkSmart aimed to increase the young people's engagement with school because research proposed disengagement with school was associated with low achievement. This scale suggested there are three components to understanding school engagement. The behavioural engagement measured by five items (alpha .75) related to the idea of participation at school, social activities and it was included in the scale as this type of engagement is deemed necessary for positive academic outcomes. Emotional engagement measured by six items (alpha .83) focused on relationships with teachers, peers and school and how these emotional relationships influenced engagement. Cognitive engagement measured by eight items (alpha of .82) discussed the investment with school work. The items for the measure were constructed from a number of measures as well as adding in new items (see Fredricks, Blumenfeld, Friedel and Paris, 2003). The scale comprised of nineteen statements on a 5-point Likert scale from strongly disagree to strongly agree.

The measure was developed for a project that explored children's (aged 8- 11) engagement in school. When piloted the measure demonstrated good face validity and adequate internal consistency measured by Cronbach's alpha .75 to .83. This project piloted the measure with an English sample of pupils two years older than the original sample used for the construction of the measure to deem whether the measure was suitable with this age group. It was a newly devised scale, so unlike the other two measures there was little empirical research.

7.3.1.4 Procedure

Permission was sought for the young people to participate in the study.Letters explaining the study, their child’s right to withdraw and assurance of anonymity and confidentiality were sent to parents/carers. Those young people who returned their parental consent forms were informed about the research and asked if they wished to participate. Those who agreed completed the three measures at the same time in a classroom setting. At the end participants were debriefed about the project and asked to provide feedback on the questionnaires.

7.3.2 RESULTS

7.3.2.1 Descriptive Statistics

Table 7:2*The Means and Standard Deviations for Pilot of Study Measures*

Measure	Means and Standard Deviations
Myself-As-A-Learner Scale (MALS)	65.05 (9.03)
Self-Esteem Scale	16.64 (4.1)
School Engagement Scale	56.59 (8.5)

The initial standardisation of the MALS scale provided a benchmark of scores between 60 and 80 to represent the average scores expected for students between the ages of 11 to 16. Table 7:2 shows the mean score to be close to the lower end of the benchmark with a small variation in scores understood by the standard deviation. Thus proposing the measure might not be suitable. This is also similar for the School Engagement Scale, in which the mean score is relatively low. These scores however might be due to the sample selected having low levels of self-perception and school engagement thus the reliability of the measures was also assessed.The mean for the Rosenberg self-esteem scale demonstrate the mean score to be above the score of 15 which is considered to be the cut off for low levels of self-esteem, and the scores are concentrated due to the small standard deviation.

7.3.2.2 Reliability of Measures

To assess the appropriateness of the outcome measures for the main evaluation, the internal consistency of each scale was examined using Cronbach's alpha. Internal consistency measures whether the items 'hang well together', so they are all measuring a similar construct. MALS and Rosenberg's self-esteem scale reported good internal reliability- see table 7.3. The School Engagement Scale reported an alpha level of .74 just above the standard benchmark of .7 used to determine the reliability of a measure (Streiner and Norman, 2008).

Table 7:3 *The Cronbach's Alpha for Pilot Measures*

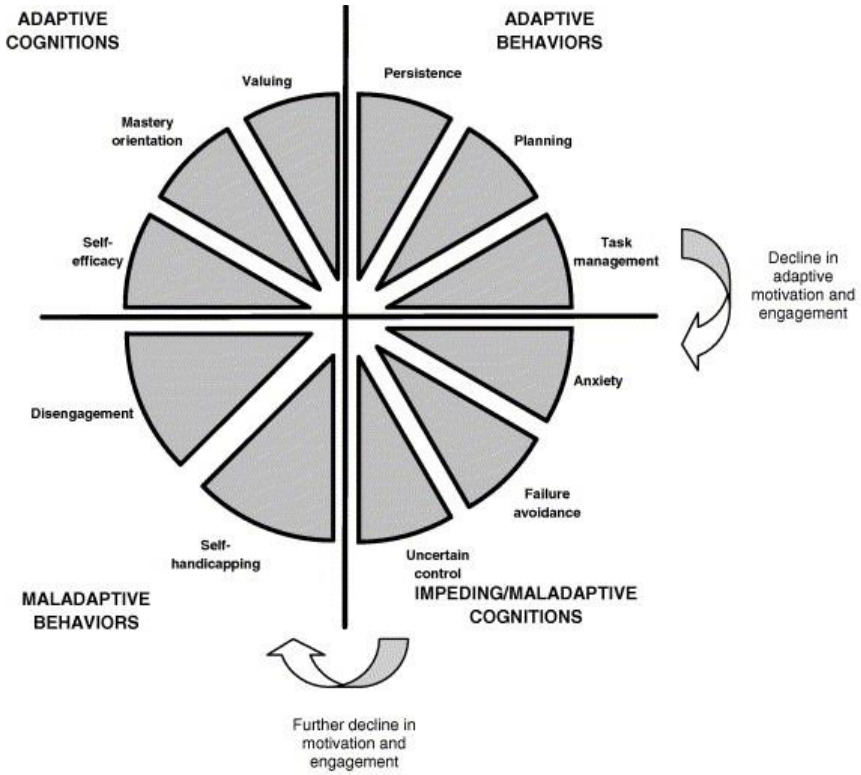
Measure	Cronbach's Alpha
Myself-as-a-learner (MALS)	.82
Self-Esteem Scale	.82
School Engagement Scale	.74

The evaluation of ThinkSmartwas not to interfere with the implementation of the intervention, as it was an independent evaluation to improve ecological validity. However, feedback from the young people indicated that the completion of three measures was burdensome, and a number of non-responses were evident. Missing data can make it difficult to make valid statistical inferences as non-responses are systematic (Jones, 1996). The root cause must therefore be investigated. Two measures, MALS and School Engagement Scale, were highlighted by the young people. The School Engagement Scale was a newly devised scale that Fredricks et al., (2003) noted the scale may need adapting for older children. The young people struggled with the completion of the measure, as a result this measure was not included in future studies. Furthermore, the measure MALS was standardised with students in year 7 and 8, Burden (2010) reported that with older students the scale may be less reliable. These results suggest for this project to be the case, as the scores are close to benchmark. Thus a more suitable measure of motivation and engagement to include in the evaluation of ThinkSmart was needed.

7.4 Pilot Study 2: Motivation and Engagement Scale

The pilot study discussed above concluded that a more suitable measure of motivation and engagement levels was required for future studies. After a review of the literature the Motivation and Engagement Scale-High School developed by Andrew Martin was most suitable to include in the test battery. The scale measures four levels of motivation and engagement; adaptive cognitions (self-efficacy, mastery orientations and valuing), adaptive behaviours (persistence, planning and task management), maladaptive cognitions (uncertain control, failure avoidance, anxiety) and maladaptive behaviours (self-handicapping and disengagement) - see figure 7:1.

Figure 7:1 *Motivation and Engagement Wheel*



Adapted from Martin (2008)

Those that enhance motivation are known as boosters; such as self-belief, value of schooling and persistence. Those that reduce motivation and engagement are known as guzzlers and include anxiety, low control and self-sabotage. Validation of the measure demonstrated a strong factor structure and high internal reliability (Martin, 2008). Furthermore, the use of the measure in the evaluation of multidimensional interventions establishes it as a reliable measure to explore an increase in adaptive components and reduction or eliminate of maladaptive components (Martin, 2008). ThinkSmart aimed to increase motivational levels, thus the measure was deemed appropriate for the research project. Cyles of ThinkSmart ran frequently enabling it to be possible to pilot the Motivation and Engagement Scale- High School with the activity toverify whether it was a suitable measure to evaluate ThinkSmart.

7.4.1 METHOD

7.4.1.1 Design

A pre- and post- test with a follow-up design was adopted; with group (ThinkSmart or Control) as the between group factor and time of testing (three time points) as the within group factor.

7.4.1.2 Sample

Recruitment of schools was managed by Aimhigher Herefordshire and Worcestershire. Schools were informed to use the Aimhigher criteria to recruit young people to ThinkSmart. In total fourty young people participated in the intervention and fourty seven young people were recruited to the control group, as table 7:4 illustrates. For the ThinkSmart condition there were seventeen boys and twenty three girls and for the control condition there were fourteen boys and 33 thirty three girls.

Table 7:4*Sample Characteristics for the Pilot of MES-HS*

School Site	Sample
ThinkSmart (Total)	40 (17 boys & 23 girls)
School A	13
School B	17
School C	10
Control (Total)	47 (14 boys & 33 girls)
School D	17
School E	14
School F	16
Total	88

7.4.1.3 Measure

Motivation and Engagement Scale- High School (Martin, 2010); assesses motivation and engagement with four dimensions. It is a fourty four -itemed instrument,the psychometic propoerites of the scale was estabslished by 21,579 students across 58 high schools completing the measure, the mean reliabiliy value was .79 for the eleven subscales (Lifelong Achievement Group, 2012). The scale takes approximately 15 minutes to complete, in which respondent's score on a scale of 1 (strongly disagree) to 7 (strongly agree).

7.4.1.4 Procedure

ThinkSmart was publicised by the ThinkSmart Coordinator at Aimhigher Herefordshire and Worcestershire to all schools in the two counties via e-mail. An initial meeting with the coordinator and researcher was arranged with interested schools to discuss the intervention and research project. Three schools agreed to take part in the study and these schools were matched with control schools recruited.

Participating schools selected up to 15 Year 9 students that they considered met the criteria provided (see sample section). At one school ThinkSmart was implemented as part of their PSHE programme, so the class of 30 participated in the programme in two groups of 15 learners (see chapter five for the delivery of ThinkSmart). Permission was then sought from the young people to participate in the study. Letters explaining the study, their child's right to withdraw and assurance of anonymity and confidentiality were sent to parents/carers. Those young people who returned their parental consent forms were informed about the research and asked if they wished to participate.

Those who agreed completed the measure before the initial start of ThinkSmart (time one), a week following the end of the intervention (time two) and six months after the intervention had ended (time three). At each time point the researcher was present to answer any questions. At time point three participants were debriefed about the project and thanked for their participation.

7.4.2 RESULTS

7.4.2.1 Descriptive Statistics

Table 7:5 *The Mean Scores and Standard Deviations for MES-HS*

Motivation and Engagement Scale-High School	Time Point 1		Time Point 2		Time Point 3	
	Intervention Mean (SD)	*Control Mean (SD)*	*Intervention Mean (SD)*	*Control Mean (SD)*	*Intervention Mean (SD)*	*Control Mean (SD)*
Global Booster Thoughts (self-belief, valuing school and learning focus)	49.53 (6.596)	49.57 (8.374)	47.06 (8.257)	48.82 (8.396)	43.28 (12.470)	50.67 (7.710)
Global Booster Behaviours (planning, task management and persistence)	49.7 (7.9)	50.3 (9.7)	50.2 (6.9)	48.9 (8.6)	48.6 (5.8)	50.0 (7.6)
Muffler (self-handicapping and disengagement)	48.91 (9.519)	50.06 (8.929)	47.06 (9.091)	49.66 (8.486)	47.56 (6.688)	49.82 (9.075)
Guzzlers (anxiety, failure avoidance and uncertain control)	46.09 (7.902)	48.35 (8.511)	47.11 (7.307)	46.86 (7.467)	51.00 (8.825)	46.74 (7.999)

The mean scores for the control group remain relatively stable across all four elements at each time point, which is to be expected, indicating the measures to be stable. The changes in the intervention groups mean scores across the four features of the scale at each time point suggest that the measure can detect change. A measure that was sensitive to change was required, this is a scales ability to measure a degree of change in the sample (Streiner and Norman, 2008). The descriptive statistics propose that the Motivation and Engagement Scale-High School be a suitable measure to include in the evaluation of ThinkSmart.

7.4.2.2 Scale Reliability

The internal reliability of the scale was assessed, Cronbach's alpha was reported for the four dimensions of the scale, each demonstrating the measure to be acceptable for the evaluation of ThinkSmart- see table 7:6.

Table 7:6 *The Cronbach's Alpha for the MES-HS*

Motivation and Engagement Scale- High School	Cronbach's Alpha
Booster Thoughts (positive thoughts)	.85
Booster Behaviours (positive behaviours)	.85
Mufflers (negative behaviours)	.62
Guzzlers (negative thoughts)	.75

It was imperative to understand that the aim of the pilot study was to ascertain the suitability of this measure for the future studies evaluating ThinkSmart. The pilot was able to establish that the Motivation and Engagement High School Scale was a suitable measure for the evaluation of ThinkSmart.

7.5 Conclusion

The two studies were conducted to pilot the selected instruments to determine there suitability in evaluating ThinkSmart. This was necessary as reliable evaluations of Aimhigher activities were scarce. Pilot studies are thought to be overlooked, however the focus on the pilot process in this chapter highlights that pilot studies have an important role in evaluative research.

The two pilot studies were able to provide an insight into any uncertainties in the research framework. For instance, the young people identified that two measures were, for some, difficult to complete, resulting in non-responses. The young people suggested that to increase completion, measures should be easy to understand and use a simple rating scale. In this chapter these problems were able to be rectified increasing the likelihood of success in the main evaluation of ThinkSmart (van Teijingen and Hundley, 2002). To improve the main evaluation of ThinkSmart a more responsive measure was piloted to measure motivation and engagement. The Motivation and Engagement High School Scale was subsequently included in future evaluations of ThinkSmart.

Chapter four mentioned that questionnaires were used to evaluate outreach activities but these were flawed. In sourcing a suitable measure of intention to engage with HE for this project, it was apparent that a standardised measure of intention to engage

with HE was not available. This is of interest considering progression to HE is the main objective of the widening participation agenda. Furthermore an outcome of outreach activities is to demonstrate the impact they have had on increasing the number of young people participating in HE. To evaluate ThinkSmart such a measure of intention to engage with HE was required. This was because like other outreach activities, ThinkSmart aimed also to impact on engagement with HE, this could however not be measured. Moreover, the Office of Fair Access wants to see that robust evaluations are undertaken to establish the impact of outreach activities on progression to HE, which is not possible without a valid measure. A research instrument that can evaluate whether outreach activities can change thoughts towards HE was thus required (Doyle and Griffin, 2012). To achieve this, chapter eight discusses the development, validation and piloting of such a measure which was included in the evaluation of ThinkSmart (chapter nine).

CHAPTER 8 THE DEVELOPMENT AND VALIDATION OF A MEASURE OF INTENTION TO ENGAGE WITH HIGHER EDUCATION 'SITU'.

8.1 CHAPTER SUMMARY

Established in chapter six was the need for a valid and reliable measure to evaluate the impact of ThinkSmart on young people's thoughts on engaging with HE. Evaluation questionnaires were previously constructed to focus on the enjoyment of activities providing little value in understanding the actual impact of outreach activities in relation to the objective of the widening participation agenda. To improve the evaluation of outreach activities a robust measure for practitioners to use was warranted. This chapter was to address this flaw in the current evaluation approach by developing a valid and reliable measure of intention to engagewith HE to evaluation of ThinkSmart.

8.2 USE OF QUESTIONNAIRES IN THE EVALUATION OF OUTREACH ACTIVITIES

Questionnaires enabled practitioners to gather with ease data from the large number of young people who attended outreach activities. Thus was the most common evaluation approach (Passey and Morris, 2010). However as discussed in previous chapters,reports often omitted descriptions of the questionnaires used, numbers completed and information to replicate the research.

The commisioned review by EKOS Consulting (2007) for the Higher Education Funding Council for England (HEFCE) reported from their evaluation of questionnaires used that items focused on the young people’s enjoyment of the activity, whether the young person found it worthwhile and whether it changed their perceptions in relation to HE. The questionnaires did not focus on whether or not a person already intended to progress to HE, or had participating in an activity changed their intentions to progress to HE (EKOS Consulting, 2007). Evaluating the enjoyment of an activity can inform whether an activity was worthwhile or that it required modification to be effective. However, the questionnaires used to evaluate outreach activities were too flawed to report valid conclusions of effectiveness (Johnston and Paton, 2008). The quality of the questionnaires used to measure outreach activities were therefore below acceptable standards. This was because

little was known about how these measures were constructed, so there was uncertainty over whether the measures used were reliable and valid (Chilosi, Noble, Broadhead and Wilkinson, 2010). The items did not allow for long-term impact or comparison across a number of activities (Doyle and Griffin, 2012; EKOS Consulting, 2007). A short scale can reduce the burden on young people and motivate young people to complete it. Three items is however insufficient to explore a change in a young person's intention to progress to HE from participating in an outreach activity. The limitations of the questionnaires used undermine the claims that attitudes towards HE were positively changed as a result of an outreach activity. The poor quality of the questionnaires used subsequently fed into the poor quality of research evidence that limits the ability to determine the impact and effectiveness of outreach activities (Gorard et al., 2006; Thomas, 2011; Doyle and Griffin, 2012).

The main goal of the questionnaires devised may not have been to statistically measure impact, as unlike standardised measures there was not an attempt to compute a total score. Items were rated on a scale of either 1-5 or 1-10, what the numbers equated to in some cases was not clearly defined. Moreover, a rating scale could also have simply been yes, no or maybe. This did not provide the opportunity to compute a score to compare against other attendees and across the number of events an outreach department organises. The aim of the questionnaires administered therefore was not to subject the data collected to statistical analysis in attempt to explain the impact of an outreach activity. This may be because there was poor knowledge of statistical techniques within Aimhigher partnerships (Passey and Morris, 2010). The research tools used at present to evaluate outreach activities are thus unreliable providing inconclusive evidence, questioning the overwhelming positive impact of outreach activities reported (see chapter four).

The lack of measures with a strong psychometric properties is a concern in educational research, generally (Picho, Katrichis and McCoach, 2010). It raises questions, over the rigour of methods used and the validity of the findings reported. To enhance knowledge and evaluate effectively, an appropriately designed measure was required to evaluate the impact of outreach interventions.

Outreach activities aim to increase the number of young people considering the possibility of participating in HE, thus in the evaluation of activities this is a key

outcome. Yet at present a reliable and valid measure to do so was not evident. Evaluation research is now an integral part of an activities process. Outreach departments are required by the Office of Fair Access (OFFA) to demonstrate that robust research has been undertaken to determine the impact and effectiveness of activities. The construction of such a scale to measure changes in intention towards HE which would enable practitioners to determine the actual impact of outreach activities. Such a measure is missing but this would have a key role in addressing OFFA's requirement to devise a reliable evidence-base. This chapter demonstrates the steps taken to devise a reliable and valid measure of intention to engage with HE for use in the evaluation of ThinkSmart.

8.3 WHAT MAKES A RELIABLE AND VALID QUESTIONNAIRE?

The two terms reliable and valid were mentioned to describe how the measure constructed in this chapter differed from the approach typically used by outreach activities to devise questionnaires. To have faith in the results reported it is important evaluation research uses standardised measures that are reliable and valid. Validity and reliability are two key concepts for the acceptance of a new measure; validity focuses on establishing the accuracy of the measure. Reliability is a measure of consistency; this is either within the scale (internal consistency) or across people's responses at different moments in time (test-retest reliability). There were a number of ways to measure validity and reliability.

8.3.1 VALIDITY

Before the application of a measure in a research project validity must be established (Picho, Katrichis and McCoach, 2010). There are several types of validity that should be considered in scale construction.

8.3.1.1 Face and content validity

Face and content validity are the two most basic methods of validation that require no statistical technique to measure. Face validity assesses whether the items appear to measure what they are intending to measure. For the scale in this chapter, this was established through using focus groups with the target respondents to construct the scale items then subsequently checking the items. This process ensured the items were relevant, clear and unambiguous. Thus the aim of the measure was clear to the respondents motivating them to respond (Kline, 2000).

Content validity is considered to be a more sophisticated version of face validity. To establish content validity, judgments by experts in the field of widening participation were sourced to ensure the measure was comprehensive and covered all the domains it intended to measure (Onwveglouzie, Bustamante and Nelson, 2010).

Face and content validity are prerequisites for the acceptance of a new measure (Streiner and Norman, 2008). Therefore much time was spent to ensure the items were clear, easy to follow, there were no biases in item content and all relevant issues were covered. This was because poorly designed items at this stage of the scale construction would have led to problems later on in the scale development (Worthington and Whittaker, 2006; Streiner and Norman, 2008).

8.3.2.2 Construct validity

Construct is described to be a 'mini theory' which can explain a relationship among various behaviours and attitudes (Streiner and Norman, 2008). Most psychological scales tap into some aspect of a hypothetical construct (Streiner and Norman, 2008). For instance, the concepts of motivation, attitudes and self-confidence are constructs that are not directly observable so are referred to as hypothetical constructs.

Construct validity is a more rigorous approach used in scale development to establish validity. The approach assesses the extent to which the measure is a good representation of the construct being evaluated. It is central to the appraisal of a measure. The inclusion of construct validity demonstrates the separation between non-scientific methods used at present to devise questionnaires to evaluate outreach activities and the scientific approach to be used to develop the measure in this chapter.

Cronbach and Meehl (1955) suggested that construct validity comprises of three steps; set out the theoretical constructs to be measured and how they relate, develop a scale to measure these hypothetical constructs and test the relationship between the constructs and their observable manifestations. The emphasis on theory is to focus thinking about the theoretical issues prior to the scale process to increase the chance of the scale impacting on the literature (Clark and Watson, 1995). The ideal method to establish construct validity is factor analysis, a technique used to validate newly constructed scales. Factor analysis is a technique to identify a smaller number of factors or latent constructs from a larger set of observed items

whilst retaining as much of the original information as possible (Worthington and Whittaker, 2006; Field, 2009).

Construct validity can also be assessed by investigating the relationship between other constructs, both related (convergent validity) and unrelated (discriminant validity) (Pallant, 2006). Establishing construct validity is an on-going process, there is no one single experiment to demonstrate construct validity as new predications can made be from learning something new about the construct tested (Striener and Norman, 2008)

The development of the scale in this chapter used the approaches discussed above to establish the validity of the measure. This ensured that the measure was measuring what it was intended to measure. Reliability of the scale is also of importance when developing a new measure.

8.3.2 Reliability

Reliability is a measure of consistency, by either people's responses (external reliability) or consistency (homogeneity) within the scale (internal reliability). The reliability of a measure can be assessed in two ways; internal reliability also known as internal consistency and test-retest reliability which can be referred to as external reliability. Measures of reliability are independent of each other.

Internal reliability also known as internal consistency, explores how the items hang together, ensuring the items are related in a similar way. It provides valuable information about the item homogeneity of a measure and is important in scale development. Internal consistency is usually measured using Cronbach's alpha (α), which assesses within-scale item intercorrelation. Cronbach's alpha is recommended in comparison to Kuder-Richardson formula and spilt-half reliability to examine internal consistency, as Cronbach's alpha can be used with binary-type data and α is the mean of all possible spilt-half reliability solutions. Cronbach's alpha should be above .7 for a measure to be considered to be of good internal reliability (Streiner and Norman, 2008). If internal consistency is low it is assumed the measure is measuring more than one variable (Kline, 2000). A limitation of assessing internal consistency is that the reliability will depend on the number of items in the scale and this was taken into consideration. Cronbach's alpha is the technique most commonly used and was used in this research project.

External reliability is more commonly known as test-retest reliability and explores whether the measure produces similar results with the same people, it is the extent to whether the scores on the measure do not change considerably over a short period ensuring the measure is reliable over time. Test-retest reliability involves the completion of the measure on two separate occasions and the two sets of scores are reported to be positively correlated. For a measure that is to be used for evaluative purposes, high test-retest reliability ensures that changes in scores in the intervention group are reliable and not due to an unstable measure where scores fluctuate under unchanging conditions. Thus can reliably report that changes in outcome measures used for evaluation purposes are potentially due to the intervention itself.

The measure was developed using the approaches discussed to establish the measure to be reliable and valid.

8.4 Questionnaire Development

Streiner and Norman (2008) provide a clear chronological guide for devising a reliable and valid measure that was adhered to. This ensured that sound methodology was used to develop the measurement tool. For the construction of a new measure several crucial stages were undertaken; generate an item pool, determination of the measure format, experts to review the measure, administration of the items and evaluate, amend based on this and pilot again (DeVellis, 2003).

The measure was for a new topic area therefore the generation of items derived from a number of sources, including a comprehensive literature review, focus groups with the key informants and relevant experts in the field (Streiner and Norman, 2008; Onwveglouzie, Bustamante and Nelson, 2010). The initial stage reviewed the current evidence-base to support the development of the instrument (see chapter three). It was evident there were a number of gaps in the literature, therefore focus groups were used to inform the construction of the scale items. The use of focus groups provided a dynamic social interaction which allowed the voices of the key informants to be heard (Onwveglouzie, Bustamante and Nelson, 2010). Although this is typically overlooked in scale development it wasa useful strategy that informed the phrasing of the items increasing the validity of the questionnaire. Key informants were involved throughout the initial construction of the measure from their words informing

the phrasing of items to providing feedback on the items to ensure clarity, relevance and length to enhance the validity of the measure (Onwveglouzie, Bustamante and Nelson, 2010).It was therefore important the voices of the target audience were included (Onwveglouzie, Bustamante and Nelson, 2010). A careful planned approach to generate items was important in the initial stage of the scale development as it improved the internal validity of the measure.

The items generated were checked with a group of intended respondents in addition to experts in the field to establish context validity. This stage in the generation of the item pool checked the items thus far were not complex, ambiguous, double-barrelled, leading or contain jargon and that any ambiguous items were either eliminated or rewritten (Streiner and Norman, 2010). The rule of thumb was that the reading age of a questionnaire should be that of a 12 year old child (Streiner and Norman, 2010).

The measure that was to be constructed needed to be able to compare between groups of participants and across different outreach activities with ease. Therefore a self-report mode for the questionnaire was most suitable. In using this approach respondents can complete items without assistance and enable practitioners to make numerical comparisons easily. To easily compute numerical data for comparison the response scale used was a Likert scale, in which each item score contributes to computing an overall score of intention, so a higher score equated to a higher level of intention to progress to HE.

To answer an item involves respondents using a number of cognitive processes, which includes recalling the relevant behaviour, attitude or belief, map the answer onto the response scale and edit their answer (Streiner and Norman, 2010). Therefore questions should not be over demanding. To identify any areas of difficulty when answering questions, cognitive interviewing is recommended to explore the mental processes respondents use to answer the items, thus to develop this new measure cognitive interviewing was conducted (Streiner and Norman, 2010). The approach of cognitive interviewing overcomes the limitation of the nomothetic approach typically used in scale development, a method that does not include the intended respondents to test the assumption that items developed are consistent with the intended audiences' interpretation of the items.

A psychometric approach was used to select the items for the scale; a unique approach to the development of a scale to use in the evaluation of outreach activities. Factor analysis is a statistical method that organises items into factors based on their relationship with each other. The use of this approach ensures the scale is valid, as all the items are measuring the same construct. The technique ensuredthe scale was homogenous. To determine the final item set for the scale required human intuition as well as statistical analysis, which is the common approach when using a psychometric approach.

Pre-testing of a measure before the inclusion in the main evaluation is crucial for a new measure. The measure was administrated as it would of been for the intended respondents to highlight any potential pitfalls or misinterpretations. The length of the scale was also considered during the process. The time taken to respond to the questionnaire was noted to ensure the measure was no longer than ten to fifiteen minutes as this can be problematic due to reducing motivation levels (Worthington and Whittaker, 2006). The scale constructed was quick and easy to administer, it was a short scale to reduce burden and to motivate respondents (Streiner and Norman, 2008; DeVellis, 1991).

The approach taken to develop the measure was unique compared to practices used previously in the area of designing questionnaires for the evaluation of outreach activities. The use of the processes and approaches in this chapter ensured the measure was a reliable and valid for the evaluation of ThinkSmart.

8.4.1 Method

8.4.1.1 Aim

The study developed and validated a self-report measure of intention to progress to HE to use in the evaluation of ThinkSmart (chapter eight).

8.4.1.2 Design

A three phase approach to develop the measure was based on that outlined by Streiner and Norman (2008) to ensure a sound methodology approach was used to establish a reliable and valid measure of intention to engage with HE. The first stage was concerned with item construction, which was the generation of the item pool, the refinement of the item pool and the use of cognitive interviewing to explore the response process. The second stage involved testing the psychometric properties of

the measure developed with the use of factor analysis.The reliability of the scale was explored by using Cronbach's alpha to measure internal consistency and test-retest reliability (external reliability). The final stage piloted the measure with the intended audience, a sample of participants who had engaged with ThinkSmart to determine the measures suitability.

8.4.1.3 Sample

At each stage of the scale construction an opportunistic sampling method was used, both males and females aged 11 to 18 years were recruited. The majority of the participants were of White British ethnicity due to the population characteristics of the two counties Herefordshire and Worcestershire. The sample size for each stage is to be discussed in each section of the scale construction.

8.5 Scale Development

8.5.1 Generation of Item Pool

Chapter three informed the initial stage of the scale development. To recap, a wealth of factors can influence educational decision-making. It was certain the literature that socio-economic factors are of importance in educational progression but there was ambiguity to how this played out.There was also a lack of understanding of what other factors influence an individual's intention to progress to HE (Doyle and Griffin, 2012). The precise role of parents, children's attitudes and behaviour, schooling and peers play in influencing educational decisions was uncertain (Carter-Wall and Whitfield, 2012). For instance siblings are considered an important source of information regarding university, yet little research has explored this in any depth (Payne, 2003; Al-Yousef, 2009). Further research was required to understand the role of peers and teachers in shaping education decisions; as it may be a combination of interrelated complex factors, stage and influencers that impinge on choices made (Paton, 2007). To develop a comprehensive understanding of the factors that influence intention to HE a sample of young people participated in focus groups to discuss what they thought influenced educational decisions to provide the basis for the construction of scale items in this study.

8.5.1.1 METHOD

8.5.1.1.2 Sample

Focus groups were carried out at two secondary schools and one Further Education College in the two counties Herefordshire and Worcestershire with 68 young people aged 13-18 (Years 9-13) recruited to one of eleven mixed-sex focus groups.

8.5.1.1.3 Procedure

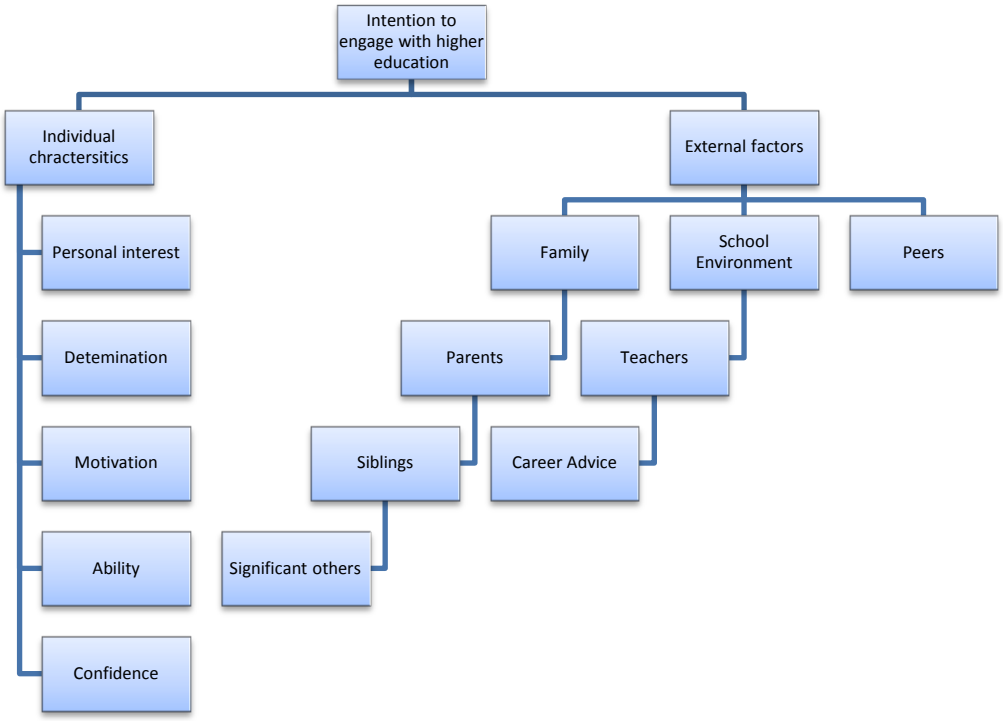
To generate the item pool, focus groups were conducted with young people as this was the most appropriate form of data collection to gain a multitude of views in the time available at the schools and college (Al-Yousef, 2009). Moreover this approach provided the chance to explore different educational experiences and attitudes about education (Carlsen and Glenton, 2011).A number of focus groups were arranged to reach a point of data saturation (Onwveglouzie et al., 2010). Each focus group was scheduled for an hour with no more than eight young people as too many young people may have hindered the social interaction among the group leaving some participants unable to express their thoughts and opinions (Carlsen and Glenton, 2011).

8.5.1.1.4 Analysis

The transcripts were analysed for common themes using thematic analysis, see figure 8:1. This approach explores patterns within the data and by doing this describes in the dataset in rich detail (Braun and Clarke, 2006).Thematic analysis was selected as the most suitable method at this stage as it is a flexible approach to analysing qualitative data (Braun and Clarke, 2006). Braun and Clarke's (2006) guidelines for thematic analysis were employed to ensure a rigorous analysis of the data. These themes informed the wording of the scale, this approach to constructing the items, grounding them in the statements of the young people enhanced the content and face validity of the measure (Dowson and McInerney, 2004).

8.5.1.2 RESULTS

Figure 8:1*Thematic network of factors that influence progression to HE*



Individual Characteristics

The theme individual characteristics described how the young people explained that their educational decisions were based on a group of factors related to psychological concepts of personal motivation, interests, determination and perceived ability. These psychological concepts were suggested to influence their educational decisions. Although the young people acknowledged that external influencers can modify their educational choices, central to their educational decision-making was their own personal choices, reflecting autonomy in the educational decision-making process.

'Aren't you yourself so you do what you want to do, not what everyone else wants you to do'.

(Year 9 student)

'You do what you want to do as it is your decision, I will do what I want to do'.

(Year 10 student)

The young people expressed that to progress to HE, there was a need to be confident in your academic ability so that you can achieve the necessary grades,'*if you think I am no good at this, you won't carry it on*' (Year 10 student).

'If you do not have the confidence in yourself then you wouldn't apply [to university] because you would always be thinking someone is better than me and they won't choose me'.

(Year 13 student)

'It is about having confidence in your own ability'.

(Year 12 student)

Self-belief and motivation were also noted along with confidence as characteristics needed to succeed. Intrinsic motivation that is an enjoyment of learning was seen to be an important influence on educational choices, echoing the discussions of chapter three.

'Motivation is a personal thing, if you do not want to learn, you are not going to learn, whether someone is telling you to learn, you are not going to unless you want to.'

(Year 11 student)

'*If someone is prepared to learn, they can go a long way, but if you are not prepared to learn, or if you do not want to learn then you are not going to progress to university.'*

(Year 11 student)

'I think I have always known that I wanted to study further because I like the practice of studying'.

(Year 13 student)

'There is no point in doing a subject for like three/four years at university if it doesn't interest you'.

(Year 13 student)

Determination

Determination was expressed as a factor that may underlie success. This supports previous research conducted by Archer (2007) in which individuals who strive to achieve can overcome socio-economic barriers to progress to HE. The young people highlighted this in their discussions, as all young people '*have the same opportunities*' but for some '*they did not want to be here [school]*' (Year 13 pupil).

'It doesn't matter where you come from, if you are determined to get an education then you will get it'.

(Year 12 student)

According to the young people in this study, personal interest, enjoyment of learning, intrinsic motivation, confidence and determination are individual characteristics that are central to educational decision-making. These thoughts support comments made in previous chapters on the importance of individual characteristics and why these need to be considered when exploring ways to widen participation to HE. The young people did also express how significant others can modify their educational choices.

External factors

Parents

Parents have been established in the literature as a key influencer on educational decisions and that this influence can be evident in a number of ways (see chapter three). The young people articulated parental involvement in educational decision-making to be apparent in two ways: supportive involvement and financial involvement. Parental support was reiterated in each focus group as being important in their decisions to engage in school and post-compulsory education.

'Generally if your parents are involved and encourage you more and help you, you are more likely to do better'.

(Year 13 student)

'If your parents do not care then you might not have the motivation to do well in school and not want to carry on, to get to the point of sixth form'.

(Year 13 student)

'I think if your parents are uninvolved then you wouldn't bother'

(Year 13 student)

Parents were described as role models as they had already '*been there*'. Therefore, they can guide their children through the process of decision-making. The role of a parent was thought to be providing informal advice on educational decisions.

'They have been there before so they know what is good and what is bad, so they can help you and encourage you on your way'.

(Year 10 student)

'She [mother] hasn't got any formal qualifications and they want me to get gain some qualifications because they know things are getting more difficult out there'

(Year 11 student)

'If you are not inspired by your parents because they haven't done anything so when you get the opportunity to carry on and stuff you do not want to take them because there isn't nothing that you want to do'.

(Year 13 student)

In discussing parents as role models, some of the young people articulated direct examples of how their parents had shaped their potential educational pathway.

'*My mum speaks languages and I thought I would like to do that'.*

(Year 10 student)

'I have lived in a pub pretty much all my life and I am more interested in catering like what my mum does. Your parents do give you an insight into what you want to do.'

(Year 11 student)

Previous research suggested that young people make educational choices based on parental preferences, without explicitly acknowledging it (Payne, 2003). The notion of pleasing parents was explicitly articulated in these focus groups, an emotional

requirement to make parents proud was expressed as a factor in the decision-making process and general attitude held towards education.

'Like when you get your results and you feel proud if they [parents] feel proud of you'.

(Year 12 student)

'You want to make them proud of you. You do not want them to be disappointed in you'.

(Year 11 student)

'You are motivated to do well, to make them [parents] proud'.

(Year 9 student)

The financial involvement of parents to enable further studying, as without this support, university would be less viable was also discussed. This is described in the Bates, Pollard, Usher, and Oakley (2009) as the parental financial safety net which is a main method to funding university study.

'Parents need to help, as you need a lot of money to help you through it.'

(Year 10 student)

'I think if your parents are willing to support you and like give you a home through sixth form and help you with funding through university then you are more likely to go into further education rather than saying have to do it yourself'.

(Year 13 student)

Siblings

Sibling rivalry is considered to have a negative consequence on development; however, some respondents articulated that sibling competition motivated their educational engagement, as they wanted to *outshine* their sibling. This suggests that sibling rivalry can enhance academic engagement. However, further research is required to explore the nature and scope of this relationship, as the majority of the participants were the eldest child in the family so could not articulate the impact of siblings on progression to HE.

'There is sibling rivalry too, as you always want to do better than them. I always want to beat my brother'.

(Year 11 student)

'My brother gets A in everything, and it makes me want to do it better, motivates me to do it better'.*

(Year 10 student)

Peers

Peers are cited in the literature as potential influencers in the decision-making process (Brooks, 2005). Respondents were however divided on the influence of their peers on educational decisions. This may be due to, as suggested by Brooks (2005), peers not being directly involved in the decision-making process but indirectly through evaluating ones academic ability in relation to peers. A divide, was evident between older and younger students, as the younger students articulated they were influenced more by their peers educational choices, whereas the sixth formers were more focused on their own educational choices.

'I think it would depend if you were stuck between two things and did not know what to do and all my friends were doing one thing, I would think I will do that one to then'.

(Year 10 student)

'I think it is forced out of you [following friends] by going to different lessons [at sixth form]. I have made my own mind and have justified reasons, so I am not following the herd'

(Year 13 student)

Participants articulated the moral support peers provided during adolescent years, in addition to or in replace of parental support and the potential influence this had on educational decisions.

'When you are a teenager you rely on your friends a lot more because you are going through the rebellious stage, your friends are your main source of advice'.

(Year 11 student)

'If you are feeling a bit low in your confidence of own ability, having your friends around you can boost your confidence to do well'.(Year 12 student)

Peers can be considered a source of moral support across all age groups. However, their influence on educational decisions seemed to differ, with younger students articulating that peers may influence their educational decisions. Whereas the sixth formers already in post-compulsory education discussed that this was not the case as it was '*forced out of you'*, so you make choices on what you want to do, not what your peers are doing. Further research is required to explore this in depth.

School Experience

Research has demonstrated that school experience has an important influence on educational decisions. However understanding what elements of the school environment influence post-compulsory progression was unclear (Payne, 2003). The young people thought that the school environment either encouraged or discouraged further studying and that this was attributed to the teachers, lessons and school ethos.

'I think it is about the experience you have in education that will affect you. If in all your lessons you have teachers that openly dislike you or a boring teacher, and you are not going to think much of education. So what is the point in carrying on because you don't like it.'

(Year 12 student)

'Different schools make different efforts to encourage students to go to university don't they, so that would affect it'.

(Year 12 student)

'I think if you go to a good school they will give you lots more options, but if you go to a bad school then you do not have much options'.

(Year 9 student)

Teachers

It was articulated that teachers could have either a negative or a positive influence on educational decision-making. The attitudes and behaviours of teachers was thought to be either inspirational or disheartening.

'If you have a teacher that really inspires you in something, then you are more likely to go and do more in that subject and want to try more in it.'

(Year 10 student)

'Teachers can put you off'

(Year 10 student)

'Like my English teacher sort of helped me decide that I wanted to do film studies at A-level, because I was talking about films and they said you should really do this'.

(Year 10 student)

An interesting point conveyed by the sixth formers was the personal interest they felt teachers had in their education, so had more of an influence on educational decisions. A reason for this may be the pressure on teachers to recruit students to the school sixth form and their course (Foskett et al., 2008). However, the sixth formers discussed this personal interest and advice to be of a genuine nature and of use due to it being from a professional person.

'If you say I want to do that, they [teachers] will say you don't want to do that and they will probably be right because they know your academic ability and give you their opinion at a professional level'.

(Year 13 student)

'They are interested in you, it does not seem superficial, and they are genuinely interested.'

(Year 13 student)

'There are some teachers who really want you to do well and care about you and your personal education. They are not just wanting you to get grades for them, that motivates you. But when you know they are just doing it to get good grades to make them look good then it does demotivate you.'

(Year 13 student)

At this stage of the scale construction current viewpoints on what factors influence educational decision-making were explored to generate a comprehensive item pool. The young people articulated factors that included individual characteristics, parental involvement, peers, schooling and teachers. The responses provided support the ecological model described in chapter three. The model illustrated that educational progression is complex in nature and that both contextual and distal factors are of importance. These themes therefore suggest the ecological model may be of use to understand how best to address educational progression, this will be discussed further in chapter eleven.

The themes were used to inform the items which were generated at this stage, the next stage refined the item pool.

8.5.2 Refinement of the Item Pool

To improve the internal validity of the measure it was important the items were assessed to ensure that the respondents found the items easy to answer and from this process any ambiguous items were amended or discarded (van Teijlingen and Hundley, 2002). This was because poorly worded items can induce a potential source of error diminishing the usefulness of the measure developed (Worthington and Whittaker, 2006). Additionally content analysis was established at this stage to ensure the items covered the area of interest and were of relevance (Streiner and Norman, 2008).

8.5.2.1 Method

8.5.2.1.1 Participants

A sample of 65 (twenty-nine girls and thirty-six boys) young people aged 13-18 (Years 9-13) were recruited to nine mixed-sex focus groups to refine the item pool and also comment on the clarity of the items and provide suggestions for improvements.

Interviews and e-mail exchanges were conducted with twelve selected experts to comment on whether the items covered the intended topic area. The criterion for selection was having researched or been employed in the area of widening participation. Experts represented different perspectives on the matter of widening participant and or educational progression with five holding academic posts, two

Aimhigher practitioners, two teachers, two connexions officers and one postgraduate student.

8.5.2.1.2 Procedure

The sample recruited read each item to ensure it was easy to answer as well as assessed whether it related to the topic of intention to progress to HE. Each focus group was organised for an hour in a quiet room on the school premises. The focus groups were arranged by year group and were of mixed-sex. Based on the feedback provided some items were amended to ensure item clarity so to motivate respondents to complete the measure reducing the likelihood of non-completion (Kline, 2000)

Content validity was established through experts in the field of widening participation assessing all elements of the measure and to ensure all items were representative of the area that they intended to measure. Experts were interviewed for an hour at either the University of Worcester or their place of employment. For some e-mail exchanges were used due to location.

8.5.2.2 Results

8.5.2.2.1 Analysis

Content analysis was used to explore the frequencies of suggested item amendments. Content analysis was the appropriate method to explore the keywords and content of transcripts to amend the scale items; as it is a flexible method to analyse text data (Cavanagh, 1997).

A number of changes were made to the items generated following discussions with the key informants and experts in the field. Although not a typical approach to scale construction, the inclusion of the key informants in the development of the scale ensured the measure was suitable for the intended respondents.

8.5.2.2.2 Measure Structure

'**Young people's attitudes towards HE'**. The title was considered wordy, and respondents suggested changing to either 'Your attitude towards HE', 'How do young people feel about HE? 'Attitudes towards HE'. 'Your thoughts about HE?'

Instructions and background information. Tick boxes were included for background information to simplify completion for respondents. Instructions were

considered clear, but could be shortened, so respondents '*don't lose interest'* as '*loads of people do not read instructions*'.

Demographics. As discussed an individual's socio-economic status is of importance when exploring educationa progression. Therefore the young people were asked to tick which social group they thought they belonged to. This item however proved to be difficult to answer, the respondents were unsure of their social background, the item was therefore omitted. To replace,seeking guidance from previous research, an item on entitlement to free schools meals was included as an indicator of social class, with the 'unsure' option changed to 'I do not know', due to the importance of socio-economic factors.

Comments box and thank you. At the end of the measure an additional comments box was suggested for respondents to explain their answers.

Measure length. The respondents considered the length too long and that this could potentially negatively influence completion. Shorter scales are more appropriate for the target audience to motivate the learners to complete the scale. Thus to reduce the burden the length of the scale was reduced.

A number of items were omitted from the item pool due to either be considered not relevant to the objective of the measure or ambiguous or difficult to answer and/ or repetitive.

Table 8:1 *Explanation of Items Omitted*

Omitted Item	Reason
I have the confidence to pursue my dreams of going to HE	The wording of this item was considered ambiguous and the point of the item is similar to other items.
I find it hard to motivate myself to learn	Similar to other items.
I want to go to HE as I like learning	Difficult to answer for intended respondents as some had little knowledge of HE to respond.
I want to go to HE to continue my interest in a subject	Difficult to answer as for some it was not known what they were interested in and what you could study at university
My parents/carers inspire me to achieve	Ambiguous, what is meant by inspire.
My parents/carers look out for opportunities to support my education	Considered ambiguous
My parents/carers are interested in my education	Deleted as similar to an item.
My parents/carers have a negative attitude towards HE	Difficult to answer as the young people did not know their parents opinions of HE
Sibling competition motivates me to achieve	What if a person does not have a sibling, also the item was considered ambiguous due to how to define competition and identifying how this motivates to achieve. Further research on the role of siblings isrequired.
My friends influence the decisions I make about whether to go to HE	Wordiness
Teachers influence my decisions to continue to HE	Similar to other items
I am encouraged by my parents/carers to work hard at school	Similar to other items
I want to do well at school	Item deleted as considered to have been covered by other items.

8.5.2.2.3 Amended Items

A number of items were rewritten to ensure clarity, see Table 8:2..

Table 8:2: *Scale Items Amended as a Result of a Consultation with Target Audience*

Amended Item	**Reason**
I am determined to go to HE	Item was replaced with ‘I see university as part of my future’.
I have confidence in my ability to achieve the grades to go to HE	Item was changed to ‘I think I will achieve the grades needed to go to university'.
One or both my parents have attended HE	Response to this item did not match the response rating scale selected so re-located to background information.
My parents/carers tell me to work hard at school	Item was changed to ‘My parents/carers encourage me to get good grades'.
An older sibling is at/going to HE and Other family members have or are going to HE.	Items were re-located to background information about familial experience of HE.
Most of my friends are thinking about going to HE	Item was changed to ‘My friends are thinking about going to university’ and an additional item of ‘My friends encourage me to aim for university’ was included'.
‘I find school boring’.	Item changed to ‘Overall, I find school boring’.
I will not be able to afford to go to HE’	Item changed to ‘The cost of university will stop me from going’.
‘I would like to get a full-time job after compulsory education	Item was changed to ‘Once I have finished school, I would rather get a full time job than go to university’.
My parents/carers look out for opportunities to support my education	Item was rephrased to ‘I often discuss schoolwork with my parents/carers’.
I want to go to university, as it will improve my chances of getting my dream/ a good job.	Item was considered ambiguous, so changed to ‘I want to go to university, as it will improve my chances of getting a good job’.
My teachers encourage me to get good grades and go to HE.	Double-barrelled item, changed to: ‘My teachers encourage me to achieve good grades’ and ‘My teachers encourage me to aim for university’.
My school promotes progression to HE	Item was divided into ‘My school promotes progression to university’ and ‘The career advice at my school focuses on university.’

Following consultations with the target audience the measure comprised of 18 items. Items were omitted if considered ambiguous, confusing or repetitive, as this may have resulted in non-responses. The amended version was then assessed with experts in the field of widening participation to ensure the items covered the area of intention to progress to HE.

8.5.2.2.4 Expert consultation

Experts were selected from a number of professions to reflect current understanding of widening participation policy and to ensure an array of views were included to limit the chance of potential bias. The 12 experts commented on the items as well as on the overall content of the scale.

University or HE. University was suggested as the more appropriate term to use within the measure, as university is a more widely known term than HE.

Family participation item. Consider breaking this item into parent/carer, siblings (brother/sister) and other family members, as this could be interesting for a multiple regression.

A number of the experts suggested adding in a sentence that stated there were no right or wrong answers, so respondents felt comfortable when answering the items.

Items were considered to cover the breadth of the topic area, with minimal rewording suggested to enhance quality. Considering comments, minor changes were made to the measure.

8.5.3 Cognitive Interviewing

Cognitive interviewing was an important stage of the scale construction as this ensured the scale could be used outside of the research context. This assessed the response process to items and identified any difficulties that required modifying. Furthermore to develop effective measures for adolescents the use of cognitive interviewing is recommended (Drennan, 2002). Cognitive interviewing was used to detect any errors in the question-answering process to then reword, delete, replace, or change the item order, so that the respondents could complete the scale with ease.

A number of approaches to cognitive interviewing can be used, for this project to improve the richness and quality of the data collected, the two approaches of

thinking aloud and verbal prompting were conducted simultaneously. Thinking aloud, involved the respondent speaking their thoughts about the question aloud, while the researcher either writes down or audio records the process. The personality of the respondent can impact on the richness of the data collected through the thinking aloud technique, with less extraverted people feeling uncomfortable with the situation and thinking aloud (Willis, 2005). Although, the method would allow the researcher to understand the cognitive process a respondent goes through when answering questions, this act of thinking aloud may not be appropriate for all respondents.

Therefore, this method was used alongside verbal probing to eliminate any bias from the thinking aloud process. This technique is becoming more favourable with cognitive researchers as the researcher plays a more proactive role in the interview (Willis, 1999). In verbal probing, the researcher reads out the question and the respondent then answers, the researcher then follows with probes to obtain additional information about the question/response. The types of probes used will depend on the research aims, the probes can be standardised and preset before the interview and the probes can be asked after each question or at the end of the questionnaire (Dietrich and Ehrlenspiel, 2010). Concurrent probing technique was used, as the information to reply is fresh in respondents mind reducing the possibility of the respondents fabricating an explanation, which is the risk of retrospective probing (Willis, 1999). Verbal probing allows the researcher to have control over the interview process and does not but extra strain on the respondent, as answering questions is what occurs in an interview situation.To ensure that the construction of the questionnaire eliminated any potential interpretation bias the two cognitive techniques were used simultaneously (Willis, 2005).

8.5.3.1 METHOD

8.5.3.1.1 Sample

Nine young people (six girls and three boys) aged 13-18 (Years 9-11) from a school in Herefordshire were recruited.

8.5.3.1.2 Procedure

In each interview, the respondents were asked to complete an item, the researcher then asked the probe question and the respondent then answered the probe question. For each interview, this continued for each subsequent probe. Following Willis (1999) guidelines, the following scripted probes were used in the interviews:

1. Comprehension/interpretation probe- What does the term ‘research project’ mean to you?
2. Paraphrasing- Respondents were asked to repeat the item in their own words.
3. Recall probe- Can you remember how many of your family members have attended university?
4. General probes
    a. Why did you choose to answer the item that way?
    b. Was that an easy item to answer?
    c. I noticed you seemed unsure there, could you tell me what you were thinking.

Informed parental consent was sought before the cognitive interview was conducted. Each respondent was interviewed in a quiet room on the school premise. Along with audio recording the interviews, a score sheet was used to document immediately any difficulties. Interviews were scheduled for half an hour, to reduce excessive demands on participants. Respondents were informed that the interview was not to collect survey data from them, but rather to test the measure and explore whether there were any items that were difficult to understand, hard to answer or made little sense, reassuring the young people to provide confidently their opinions.

8.5.3.1.3 Analysis

Content analysis was used to compute the frequencies of any difficulties, due to the flexible nature of the approach to understanding text data.

8.5.3.2 Results

Completion: All respondents reported that the instructions were clear and they understood how to complete the measure.

Items: Specific difficulties were noted for the following items.

‘Has a family member (for example parents/carers or siblings) attended or is going to attend HE?’ When answering the item respondents misunderstood the item and discussed younger and older siblings who intend to progress to HE and not family members who have been or were currently at university. The intention of the

item was to explore familial experience of HE, so was changed to -'*Has any of the following family members either gone to or is currently at university? Please tick as many options as applicable*.'

'**I do not know enough about university to decide whether I want to go**.' Respondents acknowledged that they knew some information about university, but defined enough as knowing a wide range of information from courses to locations. The variations in the definition of 'enough' meant the understanding of the item was problematic, so the item was omitted.

'**Once I finish school, I would like to get a full time job rather than go to university**.' Respondents questioned whether school included sixth form. The item therefore needed to distinguish between compulsory and post-compulsory education. It was checked the respondents knew the difference between the two educational stages. The item was rephrased to '*Once I have finished compulsory schooling, I would rather get a full time job than go to university*'.

'**I know what grades are needed to get into university**.' The item was considered difficult to answer as respondents stated that they would only know the answer to this item once they were researching university options in sixth form, so the item was omitted.

'**I know I will achieve the grades needed to get into university**.' The phrasing of the item was considered emotionally loaded so respondents felt they could not agree, as they did not know whether they would achieve the grades, it was hoped they would. The suggestion was then to reword the item to '*I think I will achieve the grades needed to go to university'*.

'**My parents/carers encourage me to get good grades, so I can go to university**.' Respondents acknowledged that their parents encourage them to achieve at school, but not for the specific reason of attending university, as it was not an appropriate choice for all. The '*so I can go to university'* part of the item was therefore omitted.

'**My school promotes progression to university'**. Respondents questioned how this was evidenced in a school environment and were unsure whether their school

did. The suggested change was made to reflect this to '*My school promotes achievement and progression to further education'*.

'**The career advice at school focuses on university'**. Careers advice discussed by the respondents was to plan future goals, which may/may not include university, so advice was not centered on university. The item was changed to reflect this '*The careers advice at my school promotes progression to university*'.

Measure overall: Generally, respondents felt the measure to be of relevance and easy to complete, initiating at times discussions with the respondents about university and university life.

Cognitive interviewing was used to assess the interpretation of each item and to explore the response process to assess the measures applicability, few difficulties were detected in the respondent's ability to complete the items. Those difficulties highlighted through item probing required minimal modifications, including rewording or redefining of what information the item was requesting from respondents. The Flesch-Kincaid reliability score for the final scale was 7.8 indicating that the items could be easily understood by a child aged 12 years old.

Mistakes in the early stages of scaledevelopment can lead to difficulties later on in the process. Therefore a considerable amount of time was dedicated to the development of the scale items. The three phases discussed ensured at the first stage of the measure development a concise valid measure was constructed. The next stage explored the psychometric properties of the measure.

8.6 Establishing Psychometric Properties

8.6.1 Study 1

This stage assessed the psychometric properties of the measure constructed using factor analysis. The most prevalent use of factor analysis is to support the validity of newly developed scales (Hayton, Allen and Scarpello, 2004). There are two main approaches: exploratory factor analysis (EFA) which is used to uncover underlying factors in a data set and confirmatory factor analysis (CFA) which is used to test specific hypothesised structures. EFA was used as this was the initial stage of measure development (Worthington and Whittaker, 2006).

For EFA, there are two main factoring methods; principal axis factoring (PAF) and principal component analysis (PCA). The primary goal of the measure developed for this research project was to identify latent constructs underlying the measured variables, to which PAF is recommended (Picho, Katrichis and McCoach, 2010). PAF is more closely aligned to the use in the development of the new measure. Furthermore, PAF is the most commonly reported approach in social and behavioural research as it is considered a more superior approach to PCA (Nunnally and Beinstein, 1994). PAF was reported for the measure constructed in this research project.

Before using factor analysis, the suitability of the data needed to be established. Sample size is an important issue, as the reliability of factor analysis is dependent on sample size (Field, 2009). Research has suggested that larger samples are more acceptable than smaller samples, as this minimises the probability of errors and increases the generalisation of the results (Osborne and Costello, 2004).The sample size for factor analysis has been extensively written about resulting in different 'rules of thumb'. However, it is agreed that a sample size of approximately 300 is considered a good sample size (Field, 2009).

When deciding if the data is suitable for factor analysis, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy needs to also be considered (Field, 2009). KMO indicates the degree of common variance among the variables (Field, 2009). Factor analysis is considered to generate reliable factors if value reported is greater than .7 (Kaiser, 1974). In addition to this, Bartlett's test of sphericity is used to assess the suitability of the data for factor analysis. This has to be significant for the factor analysis to be suitable. Both of these methods were considered in determining the suitability of data collected for the factor analysis.

A common approach for factor selection is Kaiser's (1960) approach to retain all factors with an eigenvalue value greater than one. This however can lead to an overestimation of the number of factors to retain for further analysis, especially with large matrices. Therefore, in addition to Kaiser's (1960) approach, Cattell's examination method of the scree test is commonly reported. This method provides a reliable criterion for factor selection when samples are over 200 (Stevens, 2002). Factor selection should not be based on one method (Field, 2009) therefore, to

inform the researcher's judgment of factor selection both of these widely known approaches were reported in this study in addition to human intuition. Factor loading of .3 is considered to suggest an item contributes to the factor structure of the measure, so items below this value that did not contribute to any of the important factors were considered for removal (Streiner and Norman, 2008).

8.6.1.1 METHOD

8.6.1.1.1 Sample

For this study 266 young people were recruited from five schools in Herefordshire and Worcestershire: 137 males (51.5%) and 129 females (48.5%). The majority of respondents were in Year 9 (100, 37.6%), followed by Year 10 (84 respondents, 31.6%) and Year 11 (81 respondents, 30.5%). The sample was predominately of white ethnicity (245, 92.1%). 4.5% stated they were entitled to free school meals.

8.6.1.1.2 Procedure

Permission was granted from each school after the researcher had visited to discuss the research and answer any questions before data collection was arranged. Sample selection was through the contact teacher randomly selecting form groups to complete the measure, which adhered with the research aims to include a mix of ability so both higher and lower ability students. Each respondent completed the measure individually.

8.6.1.1.3 Analysis

A principal axis factoring with an oblique rotation (direct oblimin) was used to determine the structure of the measure developed. Oblique factor rotation was considered more appropriate for the early stages of measure development, as it imposes fewer constraints on the factors allowing them to take up any positive relation to each other (Ferris et al., 2005). It is also the most suitable approach to reach the ideal simple structure. Furthermore, it is the most frequently reported method in factor analysis studies (Kline, 2000).

8.6.1.2 RESULTS

8.6.1.2.1 Descriptive Statistics

To assess that each item had an adequate range of responses, the item descriptive reported in table 8:3 was used toexplore endorsement frequency, which is the proportion of responses reported for each item.

If items are highly endorsed or low endorsed these items should be eliminated. Exploration of the mean scores showed that for most of the items the mean scores were close to the centre of the response scale with variability of the standard deviation scores. All the items were able to perform well as the mean scores were close to the centre of the response scale. Thus none of the items were deleted at this stage

Table 8:3*Mean and Standard Deviation of Scale Items*

Item	Mean	Standard Deviation
1: I see university as part of my future	3.88	1.057
2: I do not know enough about university to decide whether I want to go	3.22	1.159
3: Once I have finished compulsory schooling, I would rather get a full time job than go to university	3.57	1.128
4: I want to go to university, as it will improve my chances of getting a good job.	4.00	1.057
5; I know what grades are needed to go to university	3.07	1.127
6: I think I will achieve the grades needed to go to university	3.35	1.003
7: The cost of university will stop me going	2.97	1.155
8: I am motivated to learn	3.91	0.912
9: My parents/carers encourage me to aim for university	3.80	1.241
10: My parents/carers would support my decision to go to university	4.29	0.981
11My parents/careers encourage me to get good grades	4.53	0.829
12: I regularly discuss school and schoolwork with my parents and careers	3.64	1.203
13 My friends are thinking about going to university	3.61	0.986
14My friends encourage me to aim for university	3.00	1.141
15My teachers encourage me to achieve good grades	4.07	1.117
16 my teachers encourage me to aim for university	3.19	1.215
17 the careers advice at my school promotes progression to university	3.27	1.066
18 my school promotes achievement and further education	3.90	1.064

8.6.1.2.2 Measure structure

Principal axis factoring was conducted on the 18-item measure with oblimin rotation (direct oblimin). Kaiser-Meyer-Olkin measure verified the sample size was adequate for the analysis, KMO reported 0.88 (Field, 2009).Bartlett's test of sphericity was reported significant (p<.001) indicting that factor analysis was appropriate.

Principal axis factoring was conducted to obtain eigenvalues for each component in the data. Table 8:4 indicated the variance explained by each factor; two components reported eigenvalues over Kaiser's criterion of one, accounting for 37.2% of the variance.

Table 8:4*Total Variance Explained by Factors*

	Extraction Sums of Squared Loadings		
Factor	**Total**	**% of Variance**	**Cumulative %**
1	5.361	29.783	29.783
2	1.340	7.443	37.226

8.6.1.2.3 Extraction Method: Principal Axis Factoring

An examination of the scree plot reported a drop then a stable plateau after factor two. EFA is a dynamic process of examination and revision of scale development (Worthington and Whittaker, 2006). In examining the scree plot and Kaiser's criterion, the two factors were retained for further analysis.

The factors were extracted using a direct oblimin rotation and those factor solutions were examined. The pattern matrix presented information about the unique contribution of an item to a factor and this was used as the basis for the interpretation. The structure matrix takes into account the relationship between the factors and this was crosschecked to observe whether the same factors had emerged. Direct oblimin rotation reported two factors, see table 8:5.

Table 8:5 *Structure Matrix Principle Axis Factoring*

Items	**Factor**	
	1	2
Item 4: I want to go to university, as it will improve my chances of getting a good job.	.730	
Item 10: My parents/carers would support my decision to go to university.	.702	
Item 9: My parents/carers encourage me to aim for university.	.698	
Item 1 : I see university as part of my future	.678	
Item 11: My parents/carers encourage me to get good grades.	.592	
Item 6: I think I will achieve the grades needed to go to university.	.544	
Item 8: I am motivated to learn.	.501	
Item 18: My school promotes achievement and further education.		.737
Item 15: My teachers encourage me to achieve good grades.		.649
Item 17: The careers advice at my school promotes progression to university.		.568
Item 12: I regularly discuss school and schoolwork with my parents/ carers.		.412
Item 14: My friends encourage me to aim for university.	.350	
Item 13: My friends are thinking about going to university.	.345	
Item 16: My teachers encourage me to aim for university.		.549
Item 3: Once I have finished compulsory schooling, I would rather get a full time job than go to university	.475	
Item 7: The cost of university will stop me from going.		
Item 2: I do not know enough about university to decide whether I want to go.		
Item 5: I know what grades are needed to go to university.		

Factor one comprised of items that related to the individual, parents and peers and factor two comprised of items that related to the school environment. Interestingly item 12 that questioned whether talking about school work with parents loaded onto factor two. Three items did not load onto either factor thus were eliminated from the

scale at this stage. The correlation matrix reported that the factors were interrelated, justifying the oblique rotation approach as this demonstrated the factors were theoretically correlated.

8.6.1.2.4 Internal Reliability

Good internal reliability was reported for the measure .87.

Correlated Item-Total Correlation was explored to provide an indication of the degree to which each item correlated with the total score. If there are values less than .3 these items are measuring something different from the scale, thus question two (.202) and item seven (.221) were eliminated. As a result of the factor analytical study and internal consistency three items were identified for removal 2, 5 and 7.

Following the removal of these items, the factor analysis was conducted to explore whether the deletion of the items had affected the factor structure (Field, 2009). Good internal reliability for the new scale was reported .87. Presented in table 8:6 is a two factor solution comprising of 15 items. Factor one comprised of items that related to items about individual characteristics/choices and parental influence. Interestingly at this stage factor two comprised of items regarding school environment and influence of peers. Internal reliability for factor one, comprising of seven items was .84 and factor two comprising of eight items was .81, indicting both factors were reliable.

8.6.2 STUDY 2

Typically, in measure development to confirm factorial structure EFA is followed by CFA. However if the sample is larger enough to be split into two sub-samples formal confirmatory methods are not required according to DeVellis (1991) to confirm the factor structure on the second sub-sample. For this study, a second sample was sought due to measure amendments; however, samples were assessed to ensure there were no significant differences between them. It was considered appropriate to conduct a second EFA to validate the underlying dimension of the measure identified above. Conventional factoring method was then used, as the confirmation of an item

Table 8.6 *Principle Axis Factoring Structure Matrix 2*

Item	**Factor**	
	1	2
Item 1 : I see university as part of my future	.819	
Item 4: I want to go to university, as it will improve my chances of getting a good job	.815	
Item 9: My parents/carers encourage me to aim for university.	.697	
Item 3: Once I have finished compulsory schooling, I would rather get a full time job than go to university	.624	
Item 10: My parents/carers would support my decision to go to university.	.612	
Item 6: I think I will achieve the grades needed to go to university.	.562	
Item 8: I am motivated to learn.	.485	
Item 18: My school promotes achievement and further education.		.711
Item 16: My teachers encourage me to aim for university.		.697
Item 17: The careers advice at my school promotes progression to university.		.641
Item 15: My teachers encourage me to achieve good grades.		.626
Item 14: My friends encourage me to aim for university.		.600
Item 13: My friends are thinking about going to university.		.516
Item 11: My parents/carers encourage me to get good grades.	.472	
Item 12: I regularly discuss school and schoolwork with my parents/ carers.		.445

structure using this approach was considered preferable, as the analysis had not been instructed to assess for a specific pattern (DeVellis, 1991). In this study, the second sample was used to cross-validate the findings from the first analysis. If a similar factor structure was reported within two or more samples from principal axis factoring results can be generalised (Field, 2009).

8.6.2.1 METHOD

8.6.2.1.1 Sample

In total 279 students completed the measure at a 11-18 school in Herefordshire and Worcestershire. 139 (49.8%) of respondents were boys and 138 girls (49.5%). The majority of the respondents were in Year 11 (22.9%), then Year 9 (22.2%), Year 10 (21.9%), Year 7 (19.7%) and Year 8 (13.3%). The sample was predominately of white ethnicity (89.6%). 9.3% stated they were entitled to free school meals.

8.6.2.1.2 Procedure

Permission was granted from the school before data collection was arranged. Sample selection was through the contact teacher randomly selecting form groups from Years 7- 11 to complete the measure, which adhered to the research aim of to include both higher and lower ability students. The students completed the measure individually

8.6.2.1.3 Analysis

A principal axis factoring with an oblique rotation (direct oblimin) was used to determine the structure of the measure developed. Internal Consistency was assessed by Cronbach's alpha (Cronbach, 1951).

8.6.2.2 RESULTS

8.6.2.2.1 Descriptive Statistics

Item descriptives reported in table 8:7 shows that for most of the items the mean score was close to the centre of the response scale establishing the items to be acceptable to measure intention to engage with HE.

Table 8:7 *Mean and Standard Deviation of 15-Itemed Scale*

Item	Mean	Standard Deviation
1: I see university as part of my future	3.75	0.989
2: Once I have finished compulsory schooling, I would rather get a full time job than go to university	3.29	1.231
3: I want to go to university as it will improve my chances of getting a good job	3.92	1.089
4: I think I will achieve the grades needed to go to university	3.59	0.932
5: I am motivated to learn	3.79	1.008
6: My parents and carers encourage me to aim for university	3.81	1.162
7: My parents/carers would support my decision to go to university	4.35	0.791
8: My parents and carers encourage me to get good grades	4.49	0.640
9: i regularly discuss school and schoolwork with my parents and carer	3.60	1.127
10: My friends are thinking about going to university	3.66	0.903
11: My friends encourage me to aim for university	3.10	1.119
12: My teachers encourage me to achieve good grades	4.19	0.846
13: My teachers encourage me to aim for university	3.44	1.071
14: The careers advice at my school promotes progression to university	3.38	1.031
15: My school promotes achievement and further education	3.91	0.985

8.6.2.2.2 Replication of Factor Structure

To verify the sampling adequacy for the analysis, Kaiser-Meyer-Olkin was measured, KMO reported 0.81, which was considered acceptable so the sample size was adequate for factor analysis (Field, 2009).Bartlett's test of sphericity was reported significant ($p<.001$) indicting that factor analysis was appropriate.

Principal axis factoring was conducted to obtain eigenvalues for each component in the data. Two components had eigenvalues over Kasier's criterion of one, accounting for 35.9% of the variance, see table 8:8.

Table 8:8 *Total Variance Explained by Factors*

	Extraction Sums of Squared Loadings		
Factor	***Total***	***% of Variance***	***Cumulative %***
1	4.244	28.296	28.296
2	1.134	7.560	35.857

Extraction Method: Principal Axis Factoring.

The examination of the scree plot and Kaiser's criterion of retaining factors with eigenvalues greater than one, two factors were retained for further analysis. Factor one represented the influence of parents and peers on personal intentions held towards HE and factor two represented the influence school experience has on the intentions young people hold towards HE. This is interesting as previously peers loaded onto factor two, the role peers play can therefore potentially fluctuate see table 8.9. The correlation matrix reported that factors one and two, were interrelated to some degree, so the construct being measured was interrelated.

8.6.2.2.3 Internal reliability

Cronbach's alpha for the measure comprised of 15 items was .84 exceeding the accepted criteria of .70 (Streiner and Norman, 2008). The internal reliability for the eleven items of factor one was .82 and for the four items of factor two .72. The measure established good internal reliability.

8.6.3 Test-retest Reliability Study

Test-retest reliability demonstrates whether a measure is consistent over time. This was assessed to account for any response variations (Streiner and Norman, 2008). For test re-test reliability the measure was administered twice, with a time lapse of two weeks (Streiner and Norman, 2008); as a shorter period, recall effects may bias findings and any longer systematic changes in respondents may have occurred

(Nunnally, 1978). These two sets of scores were then correlated, a reported correlation greater than .5 establishes the external reliability of the measure (Streiner and Norman, 2008).

Table 8:9 *Structure Matrix Principle Axis Factoring*

Item	**Factor**	
	1	2
Item 3: I want to go to university, as it will improve my chances of getting a good job.	.792	
Item 1 : I see university as part of my future	.760	
Item 2: Once I have finished compulsory schooling, I would rather get a full time job than go to university	.671	
Item 6: My parents/carers encourage me to aim for university.	.617	
Item 7: My parents/carers would support my decision to go to university	.601	
Item 4: I think I will achieve the grades needed to go to university.	.491	
Item 11: My friends encourage me to aim for university.	.453	
Item 10: My friends are thinking about going to university.	.380	
Item 5: I am motivated to learn.	.370	
Item 8: My parents/carers encourage me to get good grades.	.331	
Item 9: I regularly discuss school and schoolwork with my parents/ carers.	.307	
Item 15: My school promotes achievement and further education.		.756
Item 14: The careers advice at my school promotes progression to university.		.690
Item 13: My teachers encourage me to aim for university.		.532
Item 12: My teachers encourage me to achieve good grades.		.439

8.6.3.1 METHOD

8.6.3.1.1 Sample

A total of 95 students were recruited from a 11-18 school in Herefordshire and Worcestershire. 47 boys (49.5%) and 48 girls (50.5%) completed the scale at two

time points. The majority of the respondents were Year 9 students (30.5%), followed by Year 7 (27.4%), Year 8 (23.2%) and Year 10 (18.9%). The sample was predominately of white ethnicity (87.4%). Five percent stated they were entitled to free school meals.

8.6.3.1.2 Procedure

Permission was granted by the school before data collection was arranged. Form groups from year 7- 10 were selected by the contact teacher ensuring a range of abilities completed the measure. The measure was completed at two time points, with two weeks apart. All students were orally informed about the study to choose whether they wanted to complete the measure.

8.6.3.2 Results

To assess the measure, a correlation between time one total score of measure and time two total score of the measure was conducted. A significant relationship was reported between the point one total score and point two total score, $r = .748$, $p < .01$. This indicates the measure to be consistent over time, indicating that the underlying process is unlikely to fluctuate over a short period (Streiner and Norman, 2008). The results thus demonstrate the measure to be suitable for the evaluation of ThinkSmart.

8.7 Pilot of 'Students Intentions Towards University' (SITU)

To ensure the scale developed was suitable for the evaluation of ThinkSmart, a pilot study was undertaken. Chapter seven discussed the importance of pilot studies hence the pilot of the measure constructed in this chapter. The measure was piloted with the key respondents to provide an insight into any changes that might have been necessary before the use in future evaluations of ThinkSmart.

8.7.1 Method

8.7.1.1 Sample

A total of 87 young people completed the measure, 40 had participated in ThinkSmart and 47 had been recruited to the control group- see table 8:10

8.7.1.2 Procedure

Permission was sought from the young people to participate in the study. Letters explaining the study, their child's right to withdraw and assurance of anonymity and confidentiality were sent to parents/carers. Those young people who returned their

parental consent forms were informed about the research and asked if they wished to participate. Those that wished to completed the measure at the end of a cycle of ThinkSmart.

Table 8:10 *Sample Characteristics for the Pilot of Intention Measure*

	Sample
ThinkSmart (Total)	40 (17 boys & 23 girls)
School A	13
School B	17
School C	10
Control (Total)	47 (14 boys & 33 girls)
School D	17
School E	14
School F	16
Total	88

8.7.2 Results

8.7.2.1 Descriptive Statistics

Table 8:11 *Mean and Standard Deviation Scores for the Pilot of the Intention Measure*

	Intervention Group	**Control Group**
Mean and Standard Deviation of the intention measure to HE	36.55 (28.2)	54.11 (19.6)

The mean scores for the pilot of SITU show a stark difference between the ThinkSmart group and the control group, with those in the control group possessing a more positive attitude towards HE, see table 8:11. The scores are however widely dispersed from the mean as indicated by the high standard deviation scores, demonstrating a range of scores.

8.7.2.2 Inferential Statistics

An independent samples t-test was conducted to compare the scores on SITU for theThinkSmart condition and control condition, a significant different in scores, t (68) = 3.314 p > .001 was reported. The magnitude of the differences was large, eta squared = .11. Reviewing the descriptive statistics the significant difference relates to the control group reporting a more positive attitude towards HE than the ThinkSmart group. This suggests the right learners had been recruited to ThinkSmart. Furthermore,this suggests the measure has the potential to be used to target the correct learners for outreach activities. For the context of this research project the pilot of the measure established it to be a suitable measure for the evaluation of ThinkSmart.

8.8. Discussion

This chapter has discussed the steps taken to ensure a reliable and valid self-report measure of intention to engage with HE was constructed to improve the evaluations of outreach activities. The construction of the measure has considerable significance to enhancing the evaluation of outreach activities, addressing the knowledge gap. The measure overcomes the criticisms of current approaches used to provide findings that are credible. The measure constructed in this chapter was of a two factor structure comprising 15 items and reporting good internal reliability.

Streiner and Norman's (2008) approach to scale development ensured a robust measure was constructed. This approach made certain a sound methodological approach was used to develop a reliable and valid measure. At the initial stage of development, item quality was carefully considered as no amount of statistical manipulation can account for poorly constructed items (Steiner and Norman, 2008). It was therefore paramount that the voices of the young people for whom the measure was tobe administered to were consulted, even though this is not typically included in scale development. This informed the phrasing of items ensuring the items were relevant and appropriate. Experts were consulted establishing content validity. The measure established content and face validity, both prerequisites for the acceptance of a new measure (Streiner and Norman, 2008). To further support the development and application of the measure cognitive interviewing was used to evaluate the response process respondents used to eliminate any sources of response error in the survey. Additionally at this stage discussions with the

respondents provided valuable feedback on the format of the questionnaire such as the instructions provided and format.

The final '*Students Intentions Towards University'* measure comprised of 15-items with a two-factor structure. Factor one comprised of items demonstrating the combination of parental and peer influence associated to intentions held towards HE. Factor two represented the influence school experience has on the intentions young people hold towards HE. The two factors were shown to be interrelated, proposing there is a theoretical association between the factors. Examination of the items retained in the final measure show that no single factor influences young peoples' educational choices, a combination of internal and external factors can explain an intention held towards engaging with HE (Moogan, 2011; Abbott-Chapman, 2011). Outreach activities need to consider the impact of a number of factors when devising strategies to influence decisions to progress to HE.

An examination of items loading on to factor one supports research that suggests parents are significant influencers on educational choices (Herlickson et al., 2009; See et al., 2011; Kirk et al., 2011; Thomas and Quinn, 2007). Items measuring parental encouragement and involvement were reported to be associated with personal decisions measured by career aspirations and motivation levels to learn.

Items measuring peer influence loaded onto factor one. This suggests that peers may have a stronger influence on educational choices than previously thought. Research at present is inconclusive on the impact peers have on educational progression. Findings proposed that peers are of a greater importance than previously thought this is however subjected to further research. Further research is required to explore the relative impact of social identification on young people's future plans while also considering how personal and social factors can impact oneducational progression (Maras et al., 2007).

Items measuring school experience loaded onto factor two, which supports the assumption that parents are a strong push factor in encouraging educational engagement, but schools and teachers may influence whether a young person stays on in education so are a pull factor (See et al., 2011). The factor loading also supports Foskett, Dyke and Maringe (2008) research that school experience is shaped by various factors, including teachers, ethos and career advice and

guidance. These factors together can contribute to a young person's school experience subsequently influence post-compulsory education progression.

Internal reliability of the final measure exceeded alpha levels of .70 (Streiner and Norman, 2008) indicting the measure to be suitable for group comparisons. This is of importance, as the measure was developed to be used to evaluate outreach initiatives. Each of the factors of the measure also reported good internal reliability.

Test-retest reliability was undertaken to assess the stability of the measure. Typically for scales measuring attitude, test-retest reliability is not conducted (Streiner and Norman, 2008). However for this study it was considered appropriate, as the intended application of the measure was to evaluate widening participation programmes, using a pre- and post-test design, therefore measuring stability were of importance. Results reported that the measure was stable over time, indicating that the underlying process was unlikely to fluctuate over a short period (Streiner and Norman, 2008). This finding supports the conclusion that the measure was suitable for the long-term evaluations of widening participation activities.

Limitations

The questionnaire had acceptable measurement properties but the limitations should be considered. With the use of a factor analytic approach considerations of interpreting the results of study should be discussed (Kline, 2000). This is because factor analysis does not report a clear finding so is subjected to researcher's interpretation (Field, 2009). As a result, the researcher's judgment regarding factor extraction and explanation of factors impacts directly on the outcome reported. Factor analysis is a useful tool that has to use human intuition, which is no different to understanding any statistical results. The factors reported in this chapter are evidenced by research, the factor structure supports the assumptions present in the literature, as it suggests a combination of factors that influence educational progression.

Despite the fact that the reliability and validity of the measure was established, it is recommended that further work should be carried out to establish both construct and discriminant validity. This was not established at this stage, as Worthington and Whittaker (2006) recommended avoiding influencing item response at the initial stage of development by limiting the use of additional measures. Therefore,

exploration should occur at a later stage in the process of scale development (Worthington and Whittaker, 2006). Establishing discriminant validity is important as a potential use for the measure is to discriminate between young people with an intention to attend HE and those who had no intention to assist in targeting outreach activities. To ascertain this, the scale would need to be completed by a large group of young people and a comparison of scores be conducted. A lower score on the measure would equate to no intention to attend HE compared to a higher score. Further development of the measure is an avenue for future research.

The rigorous approach used to develop the measure 'Students *Intentions Towards University (SITU)*' ensured a reliable and valid measure. The measure devised was user-friendly, quick and easy to complete. The approach taken was unique to the current practices and provides a new direction to scale development. To ensure findings are credible, reliable and valid measures are a must, this measure will enable this. It will advance the evaluation approaches of outreach activities providing the reliable research required by the Office of Fair Access. The construction of such a measure thus has made a significant contribution to the field of outreach activities. The next chapter establishes the use of the measure in the evaluation of ThinkSmart.

CHAPTER 9 THE EMPIRICAL EVALUATION OF THINKSMART

9.1 CHAPTER SUMMARY

To ensure a rich data was gathered to understand the impact and effectiveness of ThinkSmart, an empirical evaluation and a process evaluation were conducted concurrently. Outreach activities such as ThinkSmart need to be evaluated robustly to demonstrate the transformative impact required by the Office of Fair Access. This chapter discusses the empirical evaluation which was conducted in parallel to the process evaluation discussed in chapter ten.

9.2 EVIDENCE GAP

The dearth of credible research to determine the impact and effectiveness of outreach activities was highlighted in previous chapters. At present it is not clear whether outreach activities do have a positive impact on the young people who participate as well as increase their engagement with the idea of progressing to HE.

Several limitations have been discussed in previous chapters regarding the evaluation of outreach activities; these weaknesses included a lack of comparison groups, limited use of standardised measures and experimental designs. Experimental designs were rarely used to determine the impact of an activity, yet, unwarranted claims of causality were common in reports evaluating outreach activities (Chilosi, Noble, Broadhead and Wilkinson, 2009). Reports hardly ever documented the actual impact of an intervention; instead conclusions of impact were drawn from perceptions of teachers and young people from participating in an activity (Gorard et al., 2006). Experimental designs enable a robust claim of causality to be drawn thus was the research design to evaluate ThinkSmart.

An additional limitation of the evaluations of outreach activities was the poor understanding of the importance of a comparison group in an experimental design. Rarely was a comparison group included in the research design of outreach activities (Gorard et al., 2006). It was suggested the use of a comparison wass unethical in widening participation research (Doyle and Griffin, 2012). It is not however unethical to deny half of the sample the intervention if it is not known whether it does have an impact. It could be even more damaging to roll out an intervention that is not

effective, as it could result in harmful consequences. Therefore a comparison group was included in the research design.

The administration of questionnaires was also criticised, see chapter eight. Typically questionnaires were completed immediately after an event (EKOS Consulting, 2007), findings were therefore only potentially recording the euphoria moment. Additionally there was no baseline measure to infer any distance travelled by attendees. A long-term follow-up may have been difficult due to accessing data to track attendees, but an intermediate follow-up could have been included, to provide an indication of any sustained changes in attitudes held. A follow-up was implemented in the evaluation of ThinkSmart to explore intermediate effects. This was important as research suggests that short-term interventions produce short-lived results (Greenberg et al., 2003).

Practitioners delivered as well as evaluated outreach activities. However, Passey and Morris (2010) noted that practitioners lacked the necessary skills to conduct robust evaluations. This may account for why so many of the reports were of a descriptive nature rather than of an analytical stance (Gorard et al., 2006). On the contrary the style of report may have been due to practitioners being under pressure to report results that adhered to a predetermined plan to secure funding which was only awarded based on the success of an activity (Chilosi et al., 2009). These proposed reasons contribute to an explanation of why critics have noted that the reports written by practitioners focused on a select amount of information and made unwarranted claims of causality, as well as rarely presenting counterfactual evidence (Thomas, 2011). Moreover, this approach to evaluating outreach activities has the potential to be influenced by researcher biases as the evaluator was not independent from the project. This is why this research project was an independent evaluation of ThinkSmart to ensure reliable and valid results were reported.

The poor quality of the research undertaken made it difficult to determine the impact and effectiveness of outreach activities. The psychological approach taken in this research brought together qualitative and quantitative data collection approaches to address the methodological flaws outlined. This includes the use of a comparator group and standardised measures to determine the impact of ThinkSmart. Additionally as mentioned, evaluations were undertaken immediately after an event,

to address this, the completion of the standardised measures took place at three time points, prior to the intervention, post and a period after the intervention had ended. The use of these methods addressed the flaws documented in the eminent review conducted by Gorard and colleagues (2006). This chapter discusses the robust empirical evaluation of ThinkSmart.

Hypothesis

H^1 - Young people who participate in ThinkSmart will report significantly higher scores on Rosenberg's self-esteem scale, Motivation and Engagement Scale - High School and Students Intentions Towards University (SITU) measure at post-test and follow-up, compared to the comparison group.

9.3 METHOD

9.3.1 Design

A pre-, post-test and delayed post-testing design with the indepedent variable as the group (ThinkSmart or Control) and time of testing (three time points) as the within group factor. The research had three dependent variables; Rosenberg's Self-Esteem scale (Rosenberg, 1965), Motivation and Engagement High School Scale (Martin, 2008) and Students Intentions Towards University.

9.3.2 Sample

Three schools agreed to participate in the study, of which two schools completed the ten week programme. One school ceased the programme at session two due to the request of the learners. Control groups were sourced for the two schools through assessing GCSE results, location, school size and the number of students in receipt of free school meals.

Recruitment of participants was managed by Aimhigher Herefordshire and Worcestershire. Schools were informed to use the Aimhigher criteria to recruit young people to ThinkSmart; *pupils who were considered middle ability identified as GCSE C/D borderline and displayed low levels of confidence and esteem in their ability*.

A total of 75 young people participated in the study, 32 received the intervention and 43 young people were recruited to the control group, as illustrated in table 9:1. For the ThinkSmart group, 17 were boys and 15 were girls of which 93.8% were of white origin and 43.8% had no familial experience of HE. For the control group, 26 were

boys and 15 girls of which 88.4% were of white origin and 20.9% had no familial experience of HE.

Table 9:1*Sample characteristics by each School Site for ThinkSmart Evaluation*

	Sample
ThinkSmart (Total)	32 (17 boys & 15 girls)
School A	11 young people
School B	21 young people
Control (Total)	43 (26 boys & 15 girls)
School D	24
School E	18
Total	75

9.3.3 Measures

The young people completed a battery of tests at each time point.

Rosenberg's self-esteem scale (Rosenberg, 1965): is an established self-report measure to assess levels of self-esteem that comprises of ten items (five positively worded and five negatively worded), (see appendix 6)

Motivation and Engagement Scale- High School (MES-HS) (Martin, 2008): assesses motivation and engagement through four dimensions; three adaptive cognitive dimensions, three adaptive behavioural dimensions, three maladaptive cognitive dimensions and two maladaptive behavioural dimensions (see appendix 8). It is a 44 item instrument, to which respondent's score on a scale of 1 (strongly disagree) to 7 (strongly agree).

Students Intentions Towards University: was the measure constructed for the research project measuring engagement levels with the idea of intention to progress to HE as discussed in chapter eight (see appendix 9). The scale comprised of 15 statements to which respondent's score on a scale of 1 (strongly disagree) to 5 (strongly agree). The minimum score was 15 and the maximum score was 75, a higher score indicated a more positive attitude towards HE compared to a low score.

9.3.4 Procedure

ThinkSmart was publicised by the ThinkSmart Coordinator at Aimhigher Herefordshire and Worcestershire to all schools in the two counties via e-mail. An initial meeting with the coordinator and researcher was arranged with interested schools to discuss the intervention and research project.

Participating schools selected up to 15 Year 9 students that they considered met the criteria provided (see sample section). At one school ThinkSmart was implemented as part of the Personal, Social, Health and Education (PSHE) programme, so the class participated in the intervention in two groups. Permission was then sought from the young people to participate in the study.

Letters explaining the study, their child's right to withdraw and assurance of anonymity and confidentiality were sent to parents/guardians. Those young people who returned their parental consent forms were informed about the research and asked if they wished to participate. The young people completed the three measures before the start of ThinkSmart (time one), a week after the end of the intervention (time two) and approximately six months after ThinkSmart had ended (time three). The questionnaires were completed at the same time in a classroom setting. At each time point the researcher was present to answer any questions. At time point three participants were debriefed about the project and thanked for their participation.

9.4 Analysis Strategy

9.4.1 Mixed Design ANOVA

A mixed design ANOVA (Field, 2009) was conducted. The independent variables were one categorical independent between-subjects variable (group), one categorical independent within-subjects variable (time 1, 2 and 3) and there were three dependent variables (measures of self-esteem, motivation and engagement and intentions towards HE). This test explored whether there were main effects for each of the independent variables and whether there was an interaction between participation in Think Smart and scores on the measures at post-test and delayed testing. When a research design has one or more dependent variable, a multivariate analysis of variance (MANOVA) is suitable; however this is a complex procedure that a number of assumptions must be met (Pallant, 2006). Assumptions were assessed and the data was not sufficient to conduct a MANOVA, thus it was considered

appropriate to run a series of mixed design ANOVAs while being aware of type one errors.

Before running the analysis a number of assumption checks were conducted on the data. Homogeneity of variance assumes that the sample drawn from the population is of equal variance. Levenes test for equality of variances was conducted to assess the variability of scores. Indices of normality was examined separately for each measure. For a robust test of normality Shapiro- Wilk test was examined (Field, 2009). All tests reported non-significance bar one (pre-test score for your thoughts about university), supporting the use of a parametric test. Furthermore ANOVA is a robust test that can withstand if not all assumptions are met.

Three separate analyses were conducted as there were three dependent variables. Thus there was a need to control for a potential increase in type 1 error. Type 1 error is to reject the null hypothesis by view that there was a difference between the groups when in fact there was not. This can be controlled for by selecting a more stringent alpha level. A way to control for type 1 errors across a multitude of tests is to use Bronferroni adjustment, this is when the normal alpha level is divided by the number of tests that are to be performed, this was the new value used as the cut off for the differences between the groups before considering results to be statistically significant (Pallant, 2006). However, in controlling for type one error, there was an increased chance of making a type two error, a failure to reject the null hypothesis when in fact it is false, so there would be a group difference. This shall be considered when reporting data.

9.4.2 Effect Size

Research is more than just about reporting the statistical significant difference as this does not inform of whether the effect is meaningful or important which is useful in applied research. It was thought the reporting of just the *p* value to be a poor guide to the significance of a research finding. Therefore the reporting of effect sizes alongside statistical analysis can enhance findings (Olejnik and Algina, 2003). Tabachnick and Fidell (2001; 52) describe effect size as the '*amount of the total variance in the dependent variable that is predictable from knowledge of the levels of the independent variable'*. It is an objective standardised measure of the importance of an effect (Field, 2009). Effect sizes were reported to aid the interpretation of (if

any) non-significant results. They are used to determine the practical and theoretical importance of findings (Fritz, Morris and Richler, 2012).

SPSS generates partial-eta squared which represents the proportion of the variance of the dependent variable that is explained by the independent variable (Pallant, 2006). Partial eta-squared is more commonly reported for ANOVAs (Fritz, Morris and Richler, 2012). However, in the use of block design such as a repeated measure ANOVA there is caution with the use of partial-eta squared as provides an estimate of the effect size which is not comparable with effect sizes that do not include a blocking variable (Olejnik and Algina, 2003). In consideration of this, Cohen's d was calculated for each time point and reported.

To interpret the effect size reported typically the guidelines of Cohen's d are used in which .01 equates to a small effect, .03 equates to moderate effect and .14 relates to a large effect (REF). This is however an arbitrary way of understanding the effect size reported, as these are tentative benchmarks with little empirical justification (Olejnik and Algina 2000). The interpretation of effect sizes should be interpreted by considering other factors such as previous interventions, cost,timings and in relation to the context of the research setting. Furthermore even small effect sizes can be important despite what the guidelines infer (Brace, Kemp and Snelgar, 2006). Especially for naturalistic studies where effect sizes are typically smaller because they are measured in the context of many influences (NICHD, 2002). The caution with the effect sizes ensured careful reporting.

9.5 RESULTS

9.5.1 Descriptive Statistics

Table 9:2Means and Standard Deviations for study measures at time point one, two and three for each group

Measure		Time point 1		Time point 2		Time Point 3	
		Intervention Mean (SD)	Control Mean (SD)	Intervention Mean (SD)	Control Mean (SD)	Intervention Mean (SD)	Control Mean (SD)
Motivation and Engagement-HighSchool Scale	Global Booster Thoughts (Positive beliefs such as valuing school)	50.3 (6.7)	45.5 (12.8)	48.2 (14.6)	42.3(12.3)	45.9 (8.9)	44.7 (11.6)
	Global Booster Behaviours (Positive behaviours such as persistence)	48.6 (8.3)	46.9 (12.3)	50.3 (15.0)	45.8 (12.4)	49.1 (9.5)	45.8 (9.1)
	Muffler (negative behvaiours such as disengagement)	52.1 (15.4)	50.1(13.0)	50.05 (15.8)	48.7 (15.5)	55.1 (7.6)	50.05 (11.4)
	Guzzlers (negative thoughts such as anxiety)	51.5 (10.0)	47.5 (13.2)	45.8 (14.8)	47.4 (11.7)	50.05 (16.0)	49.1 (10.4)
Self-Esteem Scale		16.4 (6.0)	16.4 (6.6)	17.4 (6.4)	17.4 (6.2)	16.6 (6.0)	16.3 (6.7)
Students Intentions Towards University (SITU)		43.2 (24.6)	55.5 (13.5)	49.44 (18.3)	52.7 (17.5)	43.4 (24.3)	47.8 (21.1)

For all measures the control group remained relatively stable at each time. Whereas scores for the intervention group fluctuated at time two and time three suggesting that ThinkSmart had some impact on recipients.

For the MES-HS scale, the booster thoughts mean scores decreased slightly at time two then rapidly decreased at time point three. These descriptive statistics suggest that ThinkSmart negatively impacted on booster thoughts. Whereas for booster behaviours, a slight increase is shown at time point two, demonstrating a short-term impact of ThinkSmart but this was not sustained at time point three, where the mean score slightly decreases but remains higher than the baseline. For both the Muffler

and Guzzler part of the scale, a short-term impact is demonstrated. This is especially true for the Guzzler component as there is a rapid drop at time point two. Both of these decreases in mean scores is however not sustained at time point three, with the muffler mean score at time point exceeding the baseline mean.

The mean scores for the self-esteem measure show an increase at time twowith a decline at time point three, indicating a short-term impact on self-esteem levels but this positive impact was not sustained.

The mean scores for the Students Intentions Towards University were at each time higher for the control group compared to the ThinkSmart. The scores at time point twoincreases for the ThinkSmartgroup but however there is a sharp decline in the mean score at time point three.

The mean scores show that something was happening. The improvements at time point two illustrate a short-impact as a result of participating in ThinkSmart, this positive impact was however not sustained in mean scores at time point three.

9.5.2 Analyses

A mixed design ANOVA was conducted to compare the scores on the three measures at time one (prior to intervention) and time two (post intervention) and time point three (six months after the intervention) by the different groups.

Motivation and Engagement Scale- High School (Martin, 2008)

MES-HS Booster Thoughts

Mauchly's test of sphericity indicated the condition of sphericity had been met. Analysis of booster thoughts indicated no significant main effect of study, $F (2, 104) = 1.116$, $p > .05$. Between group comparison reported no interaction effect of the group on time for the booster thoughts was reported, $F (1, 52) = 3.399$, $p > .05$.

However, Cohen's effect size suggested a large negative effect size between time one and time three ($d = -1.26$), and between two and three a moderate negative effect ($d = -0.44$). The mean scores depict a decrease in the mean scores at both of these time points. This reports that ThinkSmart had a negative impact on booster thoughts, which include positive thinking, the opposite to the aim of the intervention.

MES-HS Booster Behaviours

Mauchly's test indicated that the assumption of sphericity had been violated for the main effect of time. Therefore the degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity as this is a more conservative correction, .88. Analysis of booster behaviour scores reported no significant main effect of the study, F (1.763, 91.694) = .023, p >. Between group comparison also reported no interaction effect, F (1, 52) = 1.740, p > .05.

However, Cohen's effect size suggested a small effect of the intervention on booster behaviours in the intervention group; with a small effect between time one and time two (d= 0.33), time two and three (0.22) and time two and three (d= 0.13). The mean scores show that at time point two the average improves, which thendrops slightly at time point three, it does not however return to same point as time one. ThinkSmart thus had a small practical significance on recipient's booster behaviours; this improvement was just not sustained at time point three.

MES Mufflers

Mauchly's test indicated that the assumption of sphericity had been violated for the main effect of time; therefore the degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity as it is a conservative correction .79. Analysis of the mufflers scores reported nomain effect, F (1.574, 80.295) = .915, p > .05 nor between group comparisons, F (1, 51) = 1.027, p > .05.

Cohen's effect size reported a small to large effect size for the ThinkSmart recipients; with a small negative effect at time one to time two (d= -0.29),a moderate effect at time one to time three (d= 0.58) and a large effect at time two and time three (d= 0.88). The mean scores between time one and time two decrease, which shows a positive impact of ThinkSmart on these negative types of behaviours. This is however not sustained at time point three as advocated by the large effect between time point two and time point three, this shows that ThinkSmart had no long-term effect on these negative behaviours.

MES-HS Guzzlers

Mauchly's test of sphericity indicated the condition of sphericity had been met. Analysis of the guzzlers scores reported no main effect, F (2, 104) = 1.316, p > .05 nor for the between group comparisonsF (1, 52) = .192, p > .05.

Cohen's effect size reported a small negative to a large negative effect for the intervention group; at time one to time two a large negative effect (d = -1.03), time one and time three small negative effect (d= -0.25) and a moderate effect at time two and time three (d = 0.62). To understand the mean scores decreased for this component, which is what ThinkSmart aimed to do, between time one and time two there was a large negative effect but this was just not statistically significant. This positive impact was however not sustained, but the mean scores still remained below that of time one, hence a small negative effect. The effect sizes show a positive impact of ThinkSmart but it was not sustained at the delayed testing.

Rosenberg's Self-Esteem Scale

Mauchly's test of sphericity indicated the condition of sphericity had been met. Analysis of the scores reported no main effect, F (2, 96) = .1.070, p > .05 nor for between group comparisons, F (1, 48) = .004, p > .05.

Cohen's d reported very small effect sizes for the intervention group; time one to time two (d= 0.36), time one and time three (d= 0.07) and time two and three (d = -0.29). The mean scores show they remained somewhat consistent, there was a small increase at time point two explaining the small effect sizes. The effect sizes suggest ThinkSmart had a small short-term impact on levels of self-esteem, as this was not sustained at time point three although the mean score exceeded time point one.

Students Intentions Towards University

Mauchly's test indicated that the assumption of sphericity had been violated for the main effect of time. Therefore the degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity .92. Analysis of the measure scores reported no main effect for time was reported, F (1.835, 133.937) = .2.024, p> .05, nor between group comparisons F (1, 73) = 3.911, p > .05.

Cohen's d reported a range of effect sizes on this measure for the ThinkSmart group; time one to time two a moderate effect size (d= 0.65), time one to time three a small

effect size (d= 0.02), and time two to three (-0.63). The mean scores show an increase in scores at time point two, explaining the moderate effect size, thus ThinkSmart impacted on young people's intentions towards university. However the mean score decreased at time point three explaining the small effect. The control groups mean scores also decreased steadily across the three time points, suggesting other factors may explain the fluctuation in scores across the three time points.

9.6 Discussion

ThinkSmart had a positive impact on recipients compared to the untreated control group, this was however not sustained. Conclusions of the impact are based on the effect sizes reported. As mentioned previously, these offer more of an understanding on the practical significance of ThinkSmart than the tests of significance. Effect sizes were reported to provide meaning to the results and indicate practical implications. In applying the categorisation of Cohen (1988) effect sizes reported ranged from small to moderate, indicating the intervention did have an impact on participation whether albeit be a small one.

The guzzler component of the MES-HS showed a large practical significance with the young people reporting a reduction in self-sabotage and disengagement. This was however not sustained. Small practical significance was shown also with improvements in self-esteem, booster behaviours including persistence, planning and study management and mufflers which included uncertain control, failureavoidance and anxiety. A moderate effect was shown for intentions towards university. A small negative effect was only reported for global booster thoughts, indicating that ThinkSmart did not improve recipient’s self-belief, value of school or learning focus.

These results demonstrate that ThinkSmart achieved its aim of positively impacting on recipients, improving levels of self-esteem, motivation and engagement levels and intentions towards university. These positive effects were not statistically significant, however in an evaluation such as this effect sizes hold more weight to understanding the practical significance of ThinkSmart. To summarise the findings, ThinkSmart had a positive practical significance on recipients immediately after participation, this impact was however not sustained at the intermediate data

collection point. It proposes that something was happening during the intervention, but just reporting the statistical significance of the outcome measures could not explain what had occurred.

Greenberg et al., (2003) proposed a short-term prevention equates to short-term results; and this is the case for ThinkSmart. School-based interventions are bound by the broader dynamic systems of the school environment which can affect long-term sustainability. To contend with also are teachers and parents who can potentially impact on sustaining a positive attitude, thus an intervention should link with both teachers and parents to have sustained impact (Greenberg et al., 2003).

ThinkSmart was not integrated into the school environment which may explain the results (Greenberg et al., 2003). The intervention was however for one school and schools in the pilot studies implemented during PSHE lessons. The aim of this curriculum subject adheres to that of ThinkSmart, as both are focused on developing the young people to prepare for the wider society as well as develop their confidence and self-esteem. A way therefore to integrate ThinkSmart into the school environment is through teachers implementing ThinkSmart as part of their PSHE lessons. Furthermore, evidence suggests that CBT interventions delivered by school staff are more effective than those delivered by outsiders, in this case Ambassadors (Kavanagh et al., 2009). These are potential avenues for future research.

The length of time was important. ThinkSmart was designed with ten modules which were run consecutively over a ten week period. However, as will be discussed in chapter ten the actual intervention ran for nine weeks. Interventions of nine weeks or less are less effective in sustaining positive behavioural change (Kavanagh et al., (2009). The duration of ThinkSmart was therefore perhaps not long enough for the children to learn and use the cognitive skills needed (Kavanagh et al., 2009).This will be discussed further in chapter ten.

Although the effect sizes demonstrate that ThinkSmart was having some sort of impact the statistical analysis reported non-significant results which could be explained by a number of factors, such as small sample size, insufficient power or the insensitivity in the measures used. Sample size is likely to explain the results, the small sample evaluation limits sufficient power for statistical analysis. Thus in future

a large scale evaluation of ThinkSmart is required. This is important because at a small scale the results suggest that ThinkSmart can have a positive impact.

Incorrect targeting for instance may have also contributed to explaining the results reported. Teachers were asked to select pupils with low levels of self-esteem. However, Miller and Moran (2005) established that it is taken for granted that teachers can select the right pupils. In their study teachers selected one in three pupils correctly with low self-esteem. This may be because pupils have strategies to hide their true feelings from their teacher. For this research at baseline the mean score of sixteen demonstrates that potentially the wrong learners had been recruited, as a score of fifteen or below is thought to equate to a low self-esteem. To understand how participants were recruited to ThinkSmart the process evaluation discussed in the next chapter was crucial.

From a methodological perspective the measures used may have been insensitive to detect changes, which could have resulted in an underestimation of intervention impact. Each measure was piloted in chapter seven, however, for each cycle of ThinkSmart a different group of learners are recruited thus have different responses to the measures. Students Intentions Towards University was in the early stages of development and requires further refinement to be a sensitive measure of intention to use in the evaluation of activities; as scores remained somewhat consistent. This was in contrast to the Motivation and Engagement Scale this was a suitable measure for the evaluation of ThinkSmart.

The effect sizes reportedpropose a short-term change but this was not sustained. This is where the use of the process evaluation was paramount. Conducted at the same time as the empirical evaluation of ThinkSmartthe process evaluation explored the process of implementation providing insights into the delivery of ThinkSmart which helped to establish how the impact of ThinkSmart could have been greater and sustained. ThinkSmart was implemented across two different sites with different young people and Ambassadors, a process evaluation was therefore necessary to understand the impact of the implementation process on the outcomes reported in this chapter. The next chapter discusses the process evaluation of ThinkSmart.

CHAPTER 10 INSIGHT INTO THE IMPLEMENTATION PROCESS OF THINKSMART

10.1 CHAPTER SUMMARY

The process evaluation used to evaluate ThinkSmart provided a number of ways to observe the implementation of the intervention and conducted alongside the empirical evaluation it provided an understanding of the implementation process. This was of importance as there was a lack of research exploring the effectiveness of outreach activities (Gorard et al., 2006). Rarely were outreach activities evaluated to understand the process of delivery and to determine the key features of the intervention. This chapter outlines the findings of the process evaluation a unique approach to the evaluation of outreach activities, to elucidate the findings of chapter nine andprovide an understanding of the effectiveness of ThinkSmart.

10.2 EFFECTIVENESS OF OUTREACH ACTIVITIES

A plethora of widening participation outreach activities exist, yet little was known about the effectiveness and impact of these on young people's educational decisions (Gorard et al., 2006; Thomas, 2011; Doyle and Griffin, 2012). A catalogue of flaws hindered the ability to draw firm conclusions that hinged on poor research design and reporting, as highlighted in previous chapters (Gorard et al., 2006). Evaluations focused on perceptions of effectiveness instead of exploring the actual effectiveness of an activity (Gorard et al., 2006). Thus little was known about the effectiveness of different outreach activities and what worked and did not work (Thomas, 2011). Research rarely unraveled the components of an activity to understand why an activity had been a success or not, a process evaluation can however make these discoveries (Linnan and Steckler, 2002).

The evaluation of ThinkSmart included a process evaluation and an empirical evaluation. In mixing both qualitative and quantitative data collection approaches increased the richness of data collected and also validated conclusions drawn. Employing a process evaluation alongside the outcome evaluation improved the study design and maximised the credibility of the findings (Spillane et al., 2007). It is suggested that conclusions cannot be drawn if no data has been collected on the processes of delivery, as there is no data to monitor intervention delivery (Spillane et

al., 2007). This chapter describes the implementation processes of ThinkSmart to contextualise the empirical findings and also help to devise an evaluation model to advance research practices in the area of widening participation.

10.3 Inclusion of a Process Evaluation

Process evaluation is not a new evaluation approach, it has however been growing in importance due to the emphasis on comprehensive evaluations (Linnan and Steckler, 2002). Although not typically employed to evaluate school-based programmes, a process evaluation was integral to the evaluation of ThinkSmart despite receiving little attention in the published literature (Linnen and Steckler, 2002); as it would advance the understanding of how and why outreach activities work or do not work, whilst also addressing the shortage of such evidence.

ThinkSmart was a complex intervention delivered at several schools with different young people and facilitated by different Ambassadors. A process evaluation was therefore a useful evaluation approach for a multi-site, complex intervention such as ThinkSmart to uncover the active ingredients (Oakley et al., 2006); this was by monitoring and documenting the interventions implementation and comparing this to the intended way of delivery (Saunders, Evans and Joshi, 2005).The process evaluation examined the fidelity of the implementation, reach, dose received, dose delivered and other factors that contributed to understanding the implementation of ThinkSmart (Davies et al., 2000). It was an approach used to explore the 'black box', assessing what was happening in the intervention and how this could affect the outcomes reported (Saunders, Evans and Joshi, 2005). Furthermore the process evaluation provided a link to understanding the theoretical constructs that made a difference (Linnan and Steckler, 2002). It enabled the understanding of how and why the constructs did not produce successful change which were key to refining theory and improving the effectiveness of ThinkSmart (Linnen and Steckler, 2002).

A rigorous process evaluation assessed how well ThinkSmart had been implemented (Davies et al., 2000). ThinkSmart, as a behavioural change intervention was reliant on salient features of the intervention to be delivered to induce behavioural change. Therefore cognitive behavioural interventions should include checks to ensure intervention adherence (King et al., 2008). Implementation fidelity explored whether the same intervention was implemented and received at each

school site or whether there were important differences to document. This was because if the prescribed components of the intervention were not delivered according to the set protocol in the manuals provided, the impact of this needed to be documented. Differences in teaching styles and insignificant adaptations to the materialprovided in the manual was expected, it was however critical to document how the intervention differed from the original plan, if it did; as participants may not have received what had been planned to be delivered. Behavioural interventions are complex; it was therefore a priority to understand the implementation of ThinkSmart (Linnan and Steckler, 2002).

The inclusion of a process evaluation disentangled which factors were important in an outreach activity. It also shed light on the role Ambassadors play in outreach activities,an under-researched area (Ylonen, 2010). Most importantly a comprehensive process evaluation limited the chance of making a type three error, an error made when an evaluation has been undertaken on an intervention that has not been adequately implemented (Basch et al., 1985).

10.4 Process Evaluation Plan

There are seven elements to a process evaluation plan (Saunders, Evans and Joshi, 2005);

Fidelity: explores the extent to which the intervention implemented coincided with the underlying theory and planned delivery.

Dose delivered: is the extent to which the units of the intervention were delivered to establish an understanding of whether the intended content was covered.

Dose received (exposure): is the extent to which all intended activities in the manual were completed, understood and the learners' engaged with the activities.

Dose received (satisfaction): explored the satisfaction of the recipients of the intervention.

Reach: the proportion of the intended target audience who received the intervention.

Recruitment: assessed the strategies used to recruit the learners and Ambassadors, whether these were the right people and were there any barriers to recruitment.

Context: explored the environmental factors such as the school that may have affected the intervention implementation or outcome.

The process evaluation plan adapted from Saunders, Evans and Joshi (2005) selected the methods to investigate the components of the process evaluation. The process evaluation plan considered all the potential questions that could be answered without overburdening participants with a number of data collection methods. To answer the questions set a mixed method approach was used as the different data sources could yield different conclusions (Saunders, Evans and Joshi, 2005). Qualitative approaches included were open-ended questionnaires, interviews/focus groups and document review; quantitative approaches included direct observation and attendance log.

10.5 Pilot of Process Evaluation

The lack of a systematic approach to planning and developing a process evaluation meant there was little known about what methods were most appropriate (Linnan and Steckler, 2002). It is imperative to pre-test any measures to be used for a process evaluation to test for real world application (Linnan and Steckler, 2002). When devising a process evaluation plan time should be allocated to pre-testing, hence a pilot study (Linnan and Steckler, 2002). For measuring fidelity, the development of appropriate measures can be most difficult due to the subjective notion of quality (Dusenbury, Brannigan, Falco and Hansen, 2001). To overcome this, a multiple of indictors such as observation checklist and self-report measures were piloted to measure fidelity (Linnan and Steckler, 2002). The pilot tested and revised any of the measures before use in subsequent evaluations of ThinkSmart.

10.4.2 Sample

Data collection for each approach of the process evaluation was opportunistic so not to burden participants, thus sampling differs. Table 10.1 summarises the sample size for each approach.

Table 10:1 *Sampling for the Pilot Process Evaluation of ThinkSmart*

Process Evaluation Method	School A	School B	School C	Total
Ambassador Training	18 participants; 5 male and 13 female.			18
Ambassador's self-report questionnaire	4	1	1	6
Timesheets	Variation weekly			
Interviews with Ambassadors	6 females	1 male and female	1 male	9
Interviews with teachers	2 females		1 male and female	4
Focus group with learners	6	5	11	22
Interview with ThinkSmart Coordinator	1			1

10.4.3 Measures

The process evaluation included; classroom observations, an observation checklist which was adapted from Cognitive Theory Scale (Young and Beck, 1980), Ambassador self-report questionnaire and timesheets.

Ambassador Training Evaluation Form (appendix 10): Ambassadors attended a one-day training event before the start of the intervention. Training was to cover the material presented in the workbook, the cognitive behavioural techniques and style of delivery. Ambassadors were asked to evaluate the training on a number of variables including preparedness for role, informative value and clarity of information delivered.

Session Observation Checklist (appendix 11): Ambassadors were observed once during the ten week period. During the training Ambassadors were informed about

these visits. Sessions were observed by the researcher and field notes were made. The researcher completed the checklist adapted from the Cognitive Theory Scale (Young and Beck, 1980).

Ambassador Self-Report Questionnaire: At the end of the ten week cycle, Ambassadors completed a self-report questionnaire about their experiences. All questions were open-ended providing qualitative statements. The questionnaire was developed by the ThinkSmart Coordinator and access was granted from informed consents the Ambassadors completed.

Timesheets: All Ambassadors were instructed to complete a timesheet for payment; a section of which was also used for monitoring requirements. This section of the sheet asked what had occurred in the session and how the Ambassadors felt the session had gone. This provided a weekly picture of events at the different schools. It also enabled to assess whether the sessions were being delivered as stipulated in the manual.

10.4.4 Procedure

Permission was sought from the young people to participate in the study. Letters explaining the study, their child's right to withdraw and assurance of anonymity and confidentiality were sent to parents/guardians. Those young people who returned their parental consent forms were informed about the research and asked if they wished to participate. For the process evaluation a number of data collection approaches were included involving the young people, Teachers, Ambassadors and the ThinkSmart Coordinator.

Data collection occurred throughout the implementation of ThinkSmart, from the training to monitoring the sessions to the end when conducting the interviews or focus groups to provide a narrative of implementation. This enabled a comprehensive process evaluation to be conducted. Training evaluation forms were completed immediately after the event to assess thoughts on material covered. Self-report questionnaires were administered by the Coordinator at the end of the ThinkSmart feedback meeting. Access to these questionnaires was granted by the Ambassadors through the completion of an informed consent form at the start of the project. This also included access to the timesheets that provided weekly data on the implementation process. While ThinkSmart was running in schools, one session per

group was observed by the researcher and a session observation checklist was completed for each session. At the end interviews and focus groups were arranged. Participation in the focus group was based on the availability of students; therefore those recruited were a sub-sample of the recipients of ThinkSmart. The focus groups explored the young people's experiences of ThinkSmart and the potential benefit. Interviews with the Ambassadors and Teachers were conducted approximately one to two weeks after the completion of ThinkSmart. Teachers were interviewed at their school and the Ambassadors at the University of Worcester. Additionally an interview was conducted with the Coordinator to discuss their audit trial. At this stage individuals were thanked for their participation in the study.

10.4.5 Summary of the Pilot Process Evaluation

The pilot of the process evaluation approaches documented that each school who participated had a different experience of ThinkSmart. This was despite the design of a manual to ensure all the sessions were systematically delivered across a number of sites. The style of delivery and the rapport developed with the Ambassadors was thought to impact on the young people's thoughts of ThinkSmart.

Also noted from the process evaluation was the notion that ThinkSmart had not reached the intended learners. The teachers thought this was due to the confusion over the purpose of ThinkSmart and the relationship the young people had or had not in some cases developed with the Ambassadors. The teachers suggested a number of improvements to ThinkSmart such as session pace as this may have hindered the dose received, satisfaction of ThinkSmart experience and the quality of the intervention. The teachers thought ThinkSmart had not been delivered as intended.

Further evidence from the Ambassador's questionnaire responses support the notion that the implementation of ThinkSmart did not adhere to the manual provided. A number of factors hindered the implementation of ThinkSmart which included the understanding of material. The session observations employed as part of the process evaluation also demonstrated that ThinkSmart had not been implemented as planned. For the sessions observed it was noted that the crucial elements of a cognitive behavioural intervention were not implemented. The application of the

cognitive behavioural techniques was not to a sufficient level to incur any behavioural change.

The pilot of the process evaluation plan was to ascertain the usefulness of the data collection approaches included. A criticism of the process evaluation method is the lack of a systematic approach (Linnan and Steckler, 2002). The pilot of the process evaluation provided an insight into the limitations of the data collection methods selected and how this may be overcome. It was thus able to create and implement a robust process evaluation for the main evaluation of ThinkSmart.

From the pilot it was decided that the session observations should be increased from one to two during the ten week cycle to provide a more representative account on the process of implementation. Furthermore adaptations of the observation checklist were made. The checklist did not ask whether all the items stated on the session agenda were completed, so this was included. An additional comments box was also added for independent raters to justify scores given. An independent rater was employed in future studies to establish inter-rater reliability which in the context of this project measured the consistency to which the different observers produced similar scores and overall rating of the ThinkSmart sessions. This was required to demonstrate consistency in the observational ratings provided by multiple coders, in addition to improving the overall reliability of the session observation.

The session checklist provided the opportunity to systematically rate each session to calculate an overall score to understand the process of implementation quantitatively. This is in addition to the qualitatively approaches of interviews and focus groups which were suitable to gather data on the experiences of ThinkSmart. To reduce the burden on the Ambassadors, access was agreed via an informed consent to use the questionnaires and timesheets completed as part of the process evaluation. Timesheets were completed weekly with a comments box to reflect upon the sessions. These were however completed *ad hoc* so were not a reliable source to provide an insight into the process of implementation. For future studies their usefulness should be explored before use. Additionally a mid-way point questionnaire was subsequently included by the ThinkSmart Co-ordinator to further cycles of ThinkSmart which could be incorporated into the process evaluation to gather evidence on how the Ambassadors felt about the sessions.

To conclude, the pilot of the process evaluation deemed the methods selected as appropriate to evaluate ThinkSmart in subsequent chapters.

10.5 Main Process Evaluation

This section details the main process evaluation that was conducted concurrently with the empirical evaluation discussed in chapter nine, to explore the implementation process and from that provide a narrative to the impact and effectiveness of ThinkSmart.

10.5.1 Method

10.5.1.1 Design

A Process Evaluation Plan for ThinkSmart was devised using Saunders, Evans and Joshi (2005; 144) and the findings of the pilot process evaluation-table 10:2. There were a variety of ways to explore implementation fidelity to improve the reliability and validity of an intervention, for this project a number of methods were used; self-report evaluations, interviews, focus groups, session observation checklist and an audit trial. At this time point timesheets were not included due to limitations noted in the pilot.

Table 10:2 *Process Evaluation Plan for the Evaluation of ThinkSmart*

	Process Evaluation Question	Data Sources	Timing of Data Collection	Data Analysis
Fidelity	To what extent was ThinkSmart implemented as planned?	*Ambassador Training Evaluation * Ambassador Questionnaires * Observation Checklist *Interviews and Focus Groups	* Questionnaires, completed mid-way and the end of intervention *Observations twice per group over 10 weeks *Interviews and Focus Groups at the end of the intervention	Number of methods used.
Intervention Delivery	The extent to which all session content was covered	*Observation Checklist	*Observations twice per group over 10 weeks	Calculate a score based on the responses reported.
Intervention Received	Were all parties satisfied with ThinkSmart (overall, delivery, impact etc.)	* Interviews and Focus Groups with all participants *Ambassador Questionnaires	* Conducted at the end of intervention * Questionnaires, completed mid-way and the end of intervention	Data analysed using thematic analysis
Reach	Was the intervention delivered to intended audience?	Baseline measurements	Taken at the beginning of ThinkSmart	Assess the baseline scores and in addition explore the descriptions provided on recruitment methods.
Recruitment	What procedures were followed to recruit learners and Ambassadors to ThinkSmart?	*Interviews and Focus Groups *Audit trial	*Conducted at the end of the intervention *ThinkSmart coordinator completed this throughout the cycle of ThinkSmart	Explored the narrative description of procedure used
Context	What were barriers and facilitators to implementing ThinkSmart	* Focus Groups and Interviews * Ambassador Questionnaire *Audit Trial	* Conducted at the end of the intervention *Completed at the end of intervention *ThinkSmart coordinator completed this through the intervention cycle.	A number of methods were used.

10.5.1.2 Sample

So not to overburden the participants, the sampling for the data collection approaches was opportunistic, thus the sample sizes differed for each of the data collection method as illustrated in table 10.3. Three schools participated in this cycle of ThinkSmart so have been labeled A, B and C; school C ceased the intervention at week two.

Table 10:3 *Sample Sizes for the Data Collection Approaches used in the Process Evaluation*

Data collection method	Sample
Ambassador Training Evaluation form	9 Ambassadors (7 female and 3 male)
Mid-way Ambassador Questionnaire	7Ambassadors; 2 from School A and 5 from School B.
End of intervention Ambassador Questionnaire	8 Ambassadors ; 2 from school C, 5 from school B and 1 from school A
Ambassadors Interview	8 Ambassadors; 1 school A, 6 school B and 1 school C
School staff interview	3; 1 from school A and 2 from school A
Focus groups with young people	12
ThinkSmart Coordinator interview	1female

10.5.1.3 Measures

Ambassador Training Evaluation Form: Ambassadors attended a one-day training event before the start of the intervention, that covered the materials presented in the manual, the CBT and attribution re-training features of ThinkSmart and the intended style of delivery. Ambassadors were asked to evaluate the training on a number of points including preparation for role, informative value and clarity of information delivered (see appendix 10).

Session Observation Checklist: The pilot of the process evaluation highlighted that one session observation was not sufficient to gather a representative understanding of the process of implementation, thus the ThinkSmart sessions were observed twice during the ten week period of ThinkSmart. During the training Ambassadors were informed of these visits. Sessions were observed and audio-recorded with permission from the Ambassadors and young people. The researcher and an independent rater listened to each recording and completed the checklist adapted from the Cognitive Theory Scale (Young and Beck, 1980) to assess the material

coverage in the session (see appendix 11). There were eleven areas covered in the scale; agenda for sessions, feedback, understanding, interpersonal effectiveness, collaboration, pacing and efficient use of time, guided discovery, focusing on key cognitions and behaviours, strategy for change, applications of cognitive behavioural techniques and homework. Each feature was given a score between 0 to 6 based on the descriptions supplied. All these areas were included in the observation checklist as they were considered salient to the successful facilitation of a cognitive behavioural informed intervention.

Ambassador self-report questionnaire: Additional training meetings were requested by the Ambassadors for extra support. At two of these meetings self-report questionnaires were administered: one mid-way through the intervention and another questionnaire at the end of ThinkSmart. The open-ended questionnaires were developed by the ThinkSmart Coordinator and access was granted through the informed consent form completed by the Ambassadors.

10.5.1.4 Procedure

Informed consent was sought, letters explaining the study, their child's right to withdraw and assurance of anonymity and confidentiality were sent to parents/guardians. Those young people who returned their parent consent forms were informed about the research and asked if they wished to participate. Informed consent was also sought from the school staff, ThinkSmart Coordinator and the Ambassadors who also granted permission to access data held by the Aimhigher partnership for the process evaluation.

The comprehensive and systematic approach by Saunders, Evans and Joshi's (2005) was employed to inform the process evaluation (see table 10:1). The process evaluation explored the fidelity of implementation (i.e. training of Ambassadors and delivery of material which included the use of the workbook, for the example), reach (recruitment of the intended learners) and any other factors that may have mediated intervention impact (e.g. the Ambassadors or school environment). The data gathered via the various data collection methods in this process evaluation provided an understanding of the active ingredients of ThinkSmart. The systematic assessment of ThinkSmart also helped to inform the design, delivery and usefulness of the intervention.

The process evaluation plan considered all the potential questions that required answering with data collection methods that did not overburden the participants. To provide a comprehensive understanding of the processes involved in ThinkSmart both qualitative and quantitative data collection methods were selected. Moreover, a mixed method approach was employed as the different data sourced may yield different conclusions (Saunders, Evans and Joshi, 2005). Qualitative approaches included; open-ended questionnaires, interviews or focus groups and document review. The quantitative approaches included direct observation. All of these methods were piloted with minimal amendments, this was crucial to ensure the robustness of the process evaluation (Linnan and Steckler, 2002).

10.5.1.5 Analysis

A number of approaches were used to analyse the data collected. Much of the data collected was of a qualitative nature (interviews, focus groups, open-ended questions and timesheets) thus the main analysis approach was thematic analysis. Thematic analysis was selected as the most appropriate method as it provides a rich account of the data, which is a useful approach to investigating under-researched areas, such as the effectiveness of outreach activities (Braun and Clarke, 2006). Thematic analysis organises the data whilst also describing the data set to result in an detailed understanding (Braun and Clarke, 2006). To add rigour Braun and Clarke's (2006) framework for thematic analysis was applied to interpret data collected.

The session observations provided numerical calculations, with an overall score for the session as well as indicated which features of ThinkSmart were being implemented. These scores were converted into percentages and scores were compared across each school site.

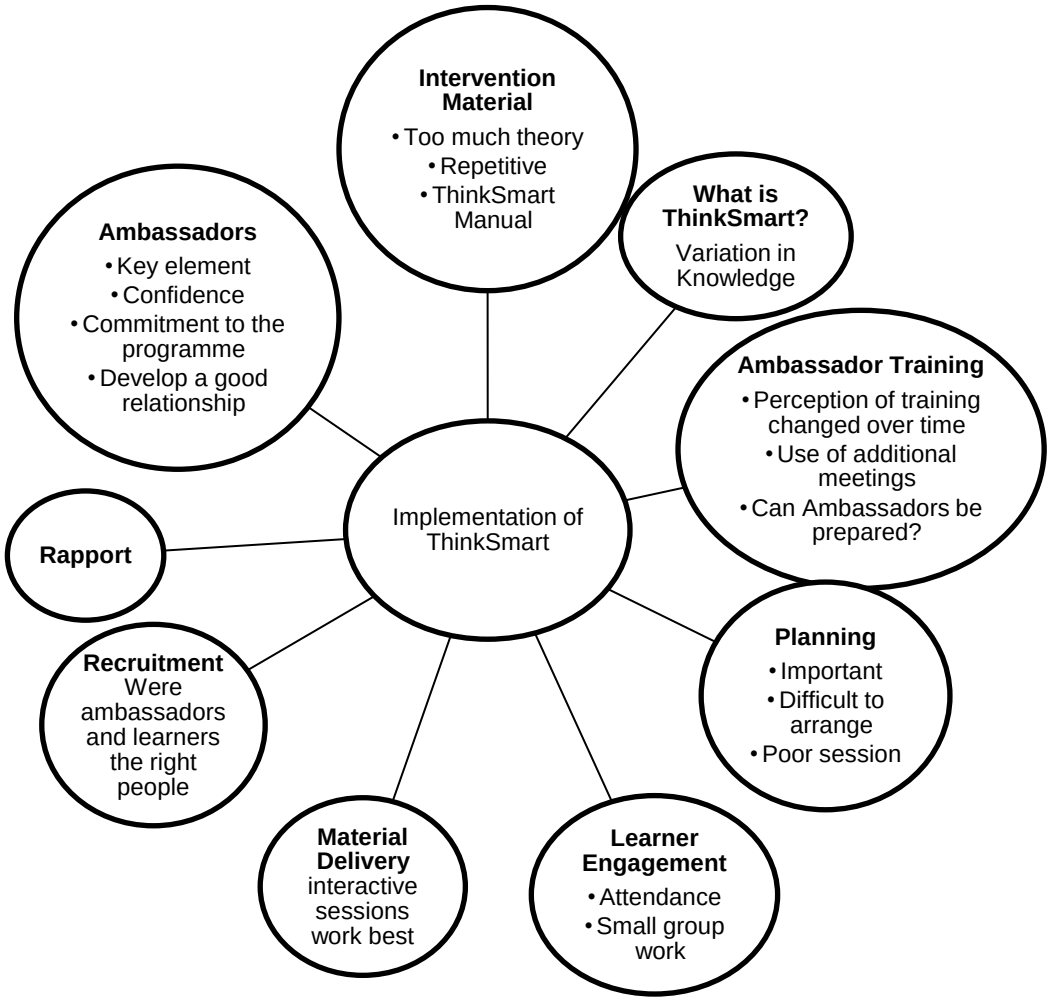
10.5.2 Results

10.5.2.1 Intervention Fidelity: To What Extent was ThinkSmart Implemented as Planned

To explore the delivery of ThinkSmart and compare this to the planned method of delivery, a number of data collection methods were employed, this provided an insight into the extent to which ThinkSmart was implemented as planned to strengthen the results (Linnan and Steckler, 2002). This section highlights the key

themes from the various data sources to provide an insight into the delivery of ThinkSmart. The themes are not weighted by the number of participants per theme, so what is presented was highlighted as being significant to the process evaluation regardless of whether one or all participants proposed the idea. Figure 1 summaries the themes in a circular diagram to note there is no hierarchy stance, all themes to be discussed are of each importance to understand the implementation of ThinkSmart and identify the optimum conditions for future research.

Figure 10.1 Thematic Network of the Process Evaluation of ThinkSmart



Session Observation

To determine whether ThinkSmart informed by CBT was implemented as planned, sessions were randomly observed as part of the evaluation process. A checklist

adapted from Cognitive Theory Scale (Young and Beck, 1980) was completed by the researcher and an independent-rater to assess whether the core components of the intervention were adhered to. Each observer had to rate the session on several criterionsand provide a total score out of a maximum score of sixty.An inter-rater agreement analysis was undertaken, the two observes scores were highly correlated with each other demonstrating agreement (r =. 665, p= 0.75)- see table 10.4. This indicates that the sessions were scored similarly, thus enabling it to be possible to drawreliable conclusions of how the sessions were run.

Table 10:4 *Average percentage and score of the two observers and additional comment*

School Site	Rater 1	Rater 2
School A	32% (Score of 19)	27%(Score of 16)
School A	38% (Score of 23)	27% (Score of 16)
School B (Group 1)	45% (Score of 27)	43% (Score of 26)
School B (Group 1)	38% (Score of 23)	48% (Score of 29)
School B (Group 2)	45% (Score of 27)	48% (Score of 60)
School B (Group 2)	42% (Score of 25)	35% (Score of 21)

An agenda for each session ensured the issues pertinent were covered in an efficient manner (Young and Beck, 1980). Therefore one item on the observation checklist referred to whether an agenda had been set for the session. Within the ThinkSmart manual for each session a session plan was evident, however, in the sessions observed the items on the session plan were rarely completed, despite the plan being included in the manual. Furthermore, an agenda for the session was rarely set, the sessions just started and this may have impacted on an understanding of the aim for each of the sessions.

What is more, homework was rarely discussed either at the start or at the end to promote completion. The completion of homework was crucial as this provided the chance for self-reflection (Squires, 2001). It was therefore a key component of ThinkSmart to enable learners to reflect on each session (Upton and Upton, 2009).

Homework was however rarely completed and this was highlighted by the Ambassadors, Teachers and the ThinkSmart Coordinator. Moreover, the homework had not been included from the start of the intervention, a decision based on previous experiences of running ThinkSmart by the Coordinator.

'Students were not doing the homework, they were taking their books home and not bringing them back so we felt that it worked better in the session really.'

Instead the homework activities were at times included in the session if it was felt appropriate, this was not however systematic so depended on each team of Ambassadors. The homework activities weredesigned to bridge the gap between the session and reality, therefore potentially during ThinkSmart there was no opportunity to transfer the skills learnt. The students missed the opportunity to cement the techniques taught in the session by implementing them into every day activities. More importantly homework compliance has a significant relationship with intervention outcomes, thus the short-term impact of ThinkSmart may have related to the non-completion of the homework activities (Mausbach et al., 2010); therefore to sustain the impact of the intervention participants need to complete homework activities.

The session observations also noted that Ambassadors sporadically checked whether the young people understood the material being covered or asked the young people to communicate their understanding of the intervention materials, or their thoughts and feelings about the material being discussed. If a person feels they are not understood this makes it difficult to develop rapport (Young and Beck, 1980). Interestingly however scores for interpersonal effectiveness and collaboration were high for each of the sessions observed. Interpersonal skills are essential for establishing a therapeutic alliance. The Ambassadors had built a relationship with the young people and this helped the Ambassadors with guided discovery, questioning the young people to explore a new perspective, however this was rarely observed. It was also rarely observed the young people being asked to evaluate the sessions.

Most important was that the crucial components for an intervention aimed at behavioural change did not score highly. For sessions to be effective, minimising unproductive discussion, maintaining sufficient control, pacing and efficient use of

time are important. The sessions were structured to be fast paced to motivate learners, however a lot of time was observed to be passing by in the sessions with discussions on peripheral issues, subsequently not all the session material was covered. Focusing on key cognitions and behaviours rated poorly for all the sessions observed. Thus hindering the chance for behavioural change to occur as the young people were not taught the skills in a satisfactory manner. The Ambassadors were observed reading directly from the manual suggesting unfamiliarity with the topic area. Sessions therefore scored poorly on the application of cognitive behavioural techniques. Instead of the presentation of ideas being skilful, fluent and appear knowledgeable so presenting the information in different ways, the sessions were executed poorly and in a fumbling manner given the appearanceof unfamiliarity with the material. The activities and techniques theoretically pertinent to behaviour change had the lowest proportion rate of completion. Table 10.4 presents the overall score for each session.

The observation checklist completed for the two sessions per group suggested thecrucial elements of ThinkSmart were selectivelyunder implemented. CBT techniques were not implemented to a satisfactory level, questioning whether the intervention could have had a transformative impact on the learners. None of the sessions observed scored highly on pace of the sessions. Homework a key part of a cognitive behavioural intervention was not evident. Ambassadors did establish a collaborative and effective personal relationship with the learners, but the components pertinent to behavioural change were observed to have not been delivered. An exploration of other data sources collected provide a narrative to explain these finding.

Ambassador Training

Training was crucial to ensure the Ambassadors understood the intended delivery of ThinkSmart and the role they played as part of it. Lewis and Ritchie (2010) reported from their evaluation of the Aimhigher Associates Scheme that the training received at times was not adequate thus hindering the Ambassadors ability to undertake the role given. To ensure ThinkSmart was implemented as intended, the training had to provide the Ambassadors with the necessary skills to deliver ThinkSmart. Training was delivered over a one day session and at the end the nine Ambassadors completed an evaluation form. Overall, Ambassadors were positive about the

training received, 88.9% (66.7% agree and 22.2% strongly agree) thought the training was useful for their role and 44.5 % (27.8% agree and 16.7% strongly agree) reported the training had increased their understanding of ThinkSmart. Responses reported that the Ambassadors were satisfied with the training and felt it had equipped them to undertake the role of a ThinkSmart Ambassador.

‘*Clearly outlines how and what the sessions will be. [Gave a] chance to discuss teaching and session methods*’.

However, during the implementation process the Ambassadors documented that the training had not equipped them with the necessary skills to execute the intervention. This was documented in the questionnaires completed by the Ambassadors and in the interviews conducted. The Ambassadors noted the need for further training to effectively deliver ThinkSmart, the key areas included guidance on the workbook, classroom application of techniques and a better understanding of the concepts ThinkSmart aimed to teach.

'May be in the training having a more detailed look at the workbooklet and session.'

'A more detailed look at the book and each session at training so we can completely understand what we are teaching'.

'More training in terms of the application of the activities to the classroom.'

Additional meetings were included upon the request of the Ambassadors by the ThinkSmart Coordinator; however, *'attendance to these meetings had been quite low so that limits the usefulness*' (ThinkSmart Coordinator) These meetings were according to the Ambassadors 't*o fill in questionnaires*' but what was actually required was *'more group discussions....need to make them more interactive/dynamic*.' The ThinkSmart Coordinator also commented in their audit trial these sessions were not as useful as planned due to not many of the Ambassadors attending.

'Chance to gather ideas as suggested by the Ambassadors but not many turned up hindering the effectiveness. Need to think of different ways to discuss more, to be creative but only can do this with a larger group.'

From these data it can be suggested that neither the training nor the extra support meetings had prepared the Ambassadors for their role as they were unsure of the concepts underpinning ThinkSmart and the delivery of the material. This contributes to explaining the poor rating for the observed sessions highlighted in table 10.4. The training was considered to be too brief, so the Ambassadors conveyed the need for more training on how to apply the material to the classroom setting and presentation skills.

'I don't know really because some people might know what they want to do but I had no idea of what to do.'

'We could have been a lot more productive if we had been given pointers as to what activities we could do because obviously we had never done it before. It was like classroom applications we all went through the activities and things but it was like applying it to the actual classroom and may be different ways of teaching the kids this particular theory.'

'I have said the training session was pretty boring. I think the training could focus on developing our soft skills as well, as people can pick up about ThinkSmart in their own time.'

On the contrary perhaps the training could have never prepared the Ambassadors for the delivery of ThinkSmart. Some of the Ambassadors thought this, the more experienced Ambassadors who had participated in more than one cycle of ThinkSmart thought the knowledge of what works best was learnt on the job. Ylonen (2010) research echoes this in which the reality of the student ambassador role wassomething that is learnt on the job. However, the key information about CBT which appears not to have been grasped would require training to ensure systematic delivery of the intervention.

'I think this is something learnt on the job.'

'I think their lack of experience did hinder some of the sessions, especially at first but they got more comfortable as it went on. I think it is about past experiences and picking it up the skills as you go along.'

'It can never equipped you for teaching Year. 9 pupils, until you actually walk into the classroom and see what they are like.'

The Ambassadors and ThinkSmart Coordinator suggested the training was limited and did not teach the Ambassadors the core underpinning of ThinkSmart, as it did not emphasise the cognitive behavioural component. Furthermore the Ambassadors felt despite rating the training as overall satisfactory the training had not equipped them for the role. However, the more experienced Ambassadors questioned whether this was possible. The training should have included skills to deliver the intervention and methods of classroom application. It can be suggested that if the Ambassadors were not trained adequately the intended delivery of ThinkSmart is dubious.

What is ThinkSmart?

Evident in the data collected was this questioning of what ThinkSmart actually was, especially from the young people and the Ambassadors. A comprehensive understanding of ThinkSmart was crucial for intended delivery. It was however apparent not all were clear of the aims of ThinkSmart or the interventions underpinning.

The school staff expressed that the concept of ThinkSmart was brilliant. They did however think parts of the intervention were difficult for the young people, hence some of the sessions being described as 'tumbleweed city'. Evident in the quotes was the school staff acknowledgment of an understanding of ThinkSmart; but ultimately it was not delivered as intended affecting the aims of the intervention they were aware of.

'I am loving the concept, which is a shame, delivery is the bottom line.'

'I think it is extremely hard for teenagers to talk about their emotions and some of them have got very difficult backgrounds.....going away thinking that was like pulling teeth they [Ambassadors] must of done.'

At the two school sites, from discussions with the young people it was clear that school B had a better understanding of the intervention aims than school A. Understanding the aims of the intervention was crucial for the young people to understand the techniques delivered to induce behavioural change. Therefore a lack of understanding can help to explain the impact of the intervention.

'They could have done more activities to actually help us understand what it is about.' (School A)

' I don't know what it was supposed to be for and that I don't really get why we were chosen.' (School A)

'They told us how it was going to help us...raising our self-confidence and things like that.' (School B)

The lack of understanding was potentially due to the Ambassadors assigned to School A not understanding the aims of ThinkSmart or that they did not clearly explain the aims of ThinkSmart. Moreover, data collected suggested that some of the Ambassadors were unsure of what the aims of ThinkSmart were, explaining why there was a disparity in the understanding by the young people at the two school sites.

'I think an overview of what the purpose of the sessions, now I know it is to build on their self-esteem and confidence, but I wasn't sure how each of these individual sessions would do that kind of thing.'

Due to a lack of understanding, some of the Ambassadors discussed using a surface approach to delivering the sessions. Thus the sessions may have not delved into the theory and explanations of the reasons why techniques/activities were included. The crucial elements for behavioural change have the potential to have not been implemented; supported by the observation checklist. The delivery required the Ambassadors to be committed to the intervention to understand the material and deliver in the manner intended.

'Sometimes I found it a bit hard myself to understand and where it was going, but if you sat down and read enough you would understand.'

'You are not going deeper than that to the substance of what you are meant to do. You have to know what you are talking about. If you do not understand then how are you meant to run the sessions. .....She was criticising the book and I thought it is kind of rebelling against something you do not understand.'

The theme of not understanding the aims of ThinkSmart was further supported by one Ambassador in their interview, noting they were pleasantly surprised to find out

ThinkSmart was underpinned by CBT but had not seen evidence of this in the training and subsequently in the delivery of ThinkSmart. This quote demonstrated that ThinkSmart was not clearly explained at the start of the intervention impacting on the implementation of the intervention.

'The theory is like that so if you teach them the principles of cognitive behavioural therapy they will improve their self-esteem. That's the thing that wasn't always clear what that goal here is, we are teaching this stuff but what is the main end of this. Perhaps this is something that could be emphasized I think because you got this feeling that they were doing the exercises but they weren't getting the idea.'

Evident from a number of data sources was a lack of understanding in relation to what ThinkSmart was and what it was trying to achieve. The features of the intervention for behavioural change were not delivered as intended and this may have been due to a lack of understanding at the level of the Ambassadors which fed down to the young people. The school staff however did demonstrate an understanding of the aims of ThinkSmart, but the reality did not match their thoughts due to the delivery. It can be suggested that the sessions delivered were not in the manner intended explaining the results in chapter eight.

Intervention Material

To ensure the systematic delivery of ThinkSmart, a manual was developed for the Ambassadors which also informed the basis of the young people's workbook. In the manual each session had a clear agenda to structure the sessions, which the Ambassadors noted was easy to follow and use. It was however apparent that the agenda provided was rarely followed or was the work set completed. Instead of being used as a manual to deliver ThinkSmart, the Ambassadors considered it to be a guidebook for planning the sessions. Again explaining why the sessions observed were not delivered as planned.

'It is good to get an overview of what the sessions are about, but with delivering the session you cannot go by the workbook because for some of them there is a lot of theory.'

'I mean the book definitely needs changing that is a complete disaster because you cannot thinking of having an hour session and just follow the book without the kids actually getting bored, this is just impossible.'

The Ambassadors thought the workbook and material was not at the right level of the young people. School staff also thought the workbook was too infantile and this may have impacted on the engagement of the learners. This suggests the material included in the manual requires reviewing if ThinkSmart is to be implemented in the future.

'Some of the problems in the workbook, there are little sort of infantile and little bit unrealistic in this day and age you know..they are far more streetwise than that book to be fair.'

The young people conveyed that they barely used their workbook. However, to progress the young people were required to master the skills presented in the previous session, the sessions were meant to *'kind of build up on each one and other*.'

'There were loads of activities that we didn't really do any of them.'

'We didn't use most of it though.'

This may be due to the young people preferring more practical activities as expressed by the young people and the Ambassadors. However, although practical activities were more fun if the content of the manual was not completed, it is not known how much the young people absorbed and understood to encourage behavioural change.

'I thought there was going to be a lot of writing, but it turned out in the end that we didn't we did talking.'

'I think practical stuff is definitely better than writing.'

ThinkSmart was to be delivered over ten weeks and in those ten weeks as outlined in chapter fivethe focus of the sessions was on cognitive behavioural techniques to inform the young people of the impact their feelings, behaviours or thoughtshave on school outcomes. At the start of each session, an introduction to the theory

underpinning the techniques was included in the manual so to provide context for the young people. Through discussions with the Ambassadors and ThinkSmart Coordinator it was thought there was too much theory in the sessions therefore they adapted the material to engage the learners. This adaptation of the material would have impacted on the intended method of delivery as crucial information may have been missed.

'Sessions with a large theory content, 3 & 5, had to adapt them in a way that held the student's attention which was not always easy.'

'Some sessions were harder than others due to the amount of theory and also how to keep the kids interested.'

The magic circle in ThinkSmart conceptualised cognitive behavioural theory, thus it was crucial that the young people understood this, as well as the Ambassadors. Ambassadors wrote in the questionnaires collated, ThinkSmart was too heavily theory based and therefore difficult for the young people to understand. If the foundation of the intervention was not delivered as intended this was problematic, as this impacts on the delivery of elements crucial for behavioural change.

'Magic circle with a lot of theory for kids to understand and not easy to get them to relate to themselves.'

'Magic circle session was quite difficult because the learners struggled to understand the links between what they do, think and feel.'

From the data collected, all participants mentioned thinking the material included in the ThinkSmart manual to be of a repetitive nature. The recap of the magic circle in the sessions was however to check the young people's understanding and also emphasis the crucial elements for behavioural change. Instead the Ambassadors articulated the young people became disengaged with the intervention material due to the repetitiveness nature thus the material in the manual required adapting.

'You did get bored because it was the same thing over and over again, just thought I don't have to pay attention because I have done this.'

Furthermore, the adaptation of material was not overseen by the Coordinator to monitor if the crucial elements of the sessions were being omitted.

'Few activities heavy on theory like ABC, found it hard to explain, they worked quite hard to get that across. It was too much of the same each week. As they become more confident to adapt the material. Session six was the easiest. I have left the adapting up to them. I do not give too much information as I want it to come from them.' (ThinkSmart Coordinator)

The material was to be delivered in a systematic manner, so that at the end of session two the young people understood the main concepts to grasp session three. Understanding was rarely checked with the young people, as noted. This may have been due to poor planning, organisation or the general pace of the sessions. The material was not delivered in the intended way, it was apparent that crucial elements for behavioural change were missed.

'They would read out of the book, then do an activity and then would not finish it. Then on the next session if we had not finished it, we did not go over it quickly. I did not really understand it, they just read it out and expected you to get it straight away, so we just had a laugh.'

'We did not spend enough time on one subject. It was like this is the subject sweep through it and then two mins later it is another one.'

These comments made on the use of the workbook impacts on implementation fidelity. In reducing the amount of the material covered in a session impacts on what features of the intervention were actually covered. If information on the theory was reduced as suggested, the young people would not have understood the techniques taught in the sessions. One group at school B did note they tried to emphasis the link between the theory and activities.

'On the first week we did try to cram in a lot of theory and we spent like 25 minutes on the theory which was not a good plan at all because they sort of switched off. Of course we explained the theory and had pointed out if they wanted to relate their activity to the theory. The theory is quite in-depth in the book I think for that age group.'

However, adaptation of the workbook was considered necessary as the amount of material to cover was too much in an hour session over ten weeks and it was felt some of the material was repetitive. Improvising was required to engage learners,

but also to ensure the young people understood the material, this was something the Ambassadors were not sure how to do.

'Some activities were repeated quite a lot so that was difficult to get the learners to respond to something they had already covered.'

The manual was devised to ensure the systematic delivery of ThinkSmart as it was a multi-site complex intervention with different Ambassadors, different learners and different settings. The proportion of the material delivered as intended was significantly lower than expected. The young people noted that they hardly used their manual, concluding that the sessions did not adhere to session plans laid out in the manuals. Additionally the observation checklist illustrated that the Ambassadors did not deliver the material presented in their manual. Moreover Ambassadors selectively under implemented the components of the intervention crucial for behavioural change. Time was dedicated to other activities, such as non-related games or extension of tasks through role-play. Fundamentality these activities were not related back to the underpinnings of the intervention. Thereby minimising time on elements required for behavioural change.

Evident was that the manuals were not used as intended. The implementation of ThinkSmart was not systematic. Adaptation took place beyond just different teaching styles, resulting in completely different experiences of the same intervention at the two school sites. Also adapting the material, impacted on the delivery of the core components to generate a change in behaviour. The process evaluation uncovered that elements crucial for behavioural change may have been omitted due to a lack of understanding with all parties involved in ThinkSmart. Furthermore the young people conveyed that material in each session was not completed which would have also impacted on the chance for behavioural change to occur.These conclusions highlight the importance of including a process evaluation to evaluate interventions.

Planning

Planning was evident as being of importance to the successful delivery of ThinkSmart from the data collected weekly planning meetings were arranged by the Ambassadors at each school site; as this was seen as crucial for the success of a session.

'Weekly planning sessions at least a day before the session.'

'We send regular e-mails to each other and go through each session on the way to the school.'

The school staff also commented on the positive difference when sessions were planned at school site B.

'The individual leaders were very good and they would all stand up at the end and wrap it all and go over it all for the whole group.'

In discussions with the Ambassadors planning was important, this was however reliant on the commitment of the team at each school site. Studying and other commitments of the Ambassadors made it difficult to plan, although it was observed sessions ran better when planned. Team work was a feature of the delivery ofThinkSmart that was important and required fostering to ensure successful planning and delivering of the intervention.

'Sometimes find it hard to get all of our group together but that's not something easily sorted.'

'I guess two hours of preparation. I guess the book is there to give you some pointers, so the next step after that is planning so I guess the improvement is that I did a bit more planning.'

'I mean the ones we did plan properly like with posters and role-play they really enjoyed.'

If sessions were planned it ensured more of the intended material was delivered in the format prescribed. Poor planning may explain why the sessions were suggested to be repetitive. The Ambassadors comments echoed those of the young people and the school staff.

'There wasn't that much coherence in what we saying you kind of lost them at some points.'

'Some of the sessions were a bit muddled than others due to lack of planning.'

'It does have the potential to go a lot better because there was some of the sessions which were not planned for enough. I think it is just a case of the planning I think, I think that is where it falls mostly.'

'If you just go there unplanned or just one of you knows the plan it is really kind of like awkward because you do not know what is happening next.'

School staff thought the sessions were disorganised and this may have contributed to the disengagement of the learners.

'Just be organised and make sure it flows.'

'Plan it, to some degree they are on stage they are being scrutinised and these kids are measuring them up. If they think they are a bit weak, they will just switch off.'

Poor planning and organisation was deciphered from the Ambassadors treading on each other's toes and in some cases it was observed the Ambassadors planning the session in front of the young people. This would have also disrupted the pace of the session, explaining why it was observed the young people had several opportunities to discuss trivial issues. This was problematic as to be a success sessions needed to be effectively time-managed as well as have a clear planned agenda (Squires, 2001).

'They were right they were treading on each other's toes.'

'They weren't delivering in the right way, there was no punchiness about it, it was all a bit drippy, a bit wet, and you know what I mean.'

'You have got to keep it pacey and keep it going.'

The school staff thought this might be due to the Ambassadors being unsure of what was expected of them in terms of how to deliver the material. This relates back to the training, in that the Ambassadors on reflection thought the training had not prepared them for the delivery of ThinkSmart. However, it may be something that is learnt on the job, because as the weeks progressed the delivery of the sessions did improve.

'Definitely seemed to be more organised as the weeks went on.'

'If the leaders look as if they know what they are doing, they will find it easier to respond to it.'

The Ambassadors were thought to be ill prepared due to their disorganisation of the sessions, documented more at School A. It was thought the Ambassadors did not know the material and that was subsequently why they were reliant on the manual. This also would have also impacted on the chance to develop rapport with the young people.

' I do not think they knew what they were doing because they were reading everything from the book.'

'They would be looking at the book and then they wouldn't really make eye contact or anything. They would just read everything from the book and not say anything else.

'They were not prepared.'

The lack of planning hindered the delivery of the intervention and this was made visible by the jumble manner in which the sessions were delivered instead of the intended fast pace style. Poor execution of ThinkSmart also impacted on the amount of information was delivered as a significant amount of time was observed being not being used efficiently in the sessions.

Material Delivery

Exploration of the questionnaire responses highlighted that a number of different methods of delivery had been included to engage the young people. School staff and the young people in the pilot of the process evaluation thought more interactive activities would be of benefit. Interactive activities such as role-plays were considered an important method to cement the techniques taught enhancing the chance for transferring information from ThinkSmart into the school environment and beyond.

'Every session is different, we try to follow the session plans....add extra more interactive teaching methods.'

'Hands on approach usually works best.'

'More practical activities as this gets them out of their normal classroom seats and working together and talking which is good as people get to know each other better and encourage friendship and communication skills.'

Due to this the Ambassadors thought there was a need for more examples and practical applications of the material in the manual. The interactive sessions were proposed by the Ambassadors to be more successful than those that followed a similar structure to school lessons.

'More examples and different ideas of how to run the practical side of each session.'

'More practical applications could be included in the ambassador book.'

School staff also echoed that the learners preferred the more practical activities.

'Enjoyed the more practical and active things rather than the writing about themselves.'

'Making them more fun and a little more practical and they will get the message over a bit better.'

For example PowerPoint was used as a way to engage the learners at school B site with the theory. It was thought this method focused the young people's attention and provided the opportunity to explain the theory in a child-friendly manner. This may explain why the young people at school B were in comparison to school site A more knowledgeable about the intervention.

'The content of the book guides each session and is supported by PowerPoint slides to engage the children.'

'PowerPoint attracts their attention better.'

Ensuring the young people understood the material being delivered was a salient feature. At school A, the young people conveyed they felt the material was not explained by the Ambassadors in an efficient manner to understand the aims in comparison to the young people at school B. The delivery of the material would have impacted on the amount absorbed by the young people affecting the amount of intervention material received. Before the delivery of ThinkSmart in further research

projects, a revision of the manual is necessary to include more activities of an interactive nature.

Learner Engagement

At the two school sites, some of the learners were either regularly late or did not turn up at all. Lateness or not attending the sessions frequently would have impacted on the potential for behavioural change to occur. It appeared that the role of the school staff present was therefore deemed to be to collect the missing young people.

'Teaching assistants needed to fetch some students to every session, so good that they were there.'

Some of the learners did not turn up due to them missing a school lesson that was a favourite of theirs, as noted by the school staff. Other reasons for the disengagement with the sessions may have been that the learners were not aware of the significance of the sessions to them so did not engage.

'Activities to keep the group engaged especially some of the more difficult kids who don't really want to be there and refuse to take part in sessions.'

'[Name] was useful because half of the kids did not turn up most of the weeks until [Name] went to fetch them but that meant the sessions got shorter and shorter. So we never plan for a full session because they were never on time.'

The school site where ThinkSmart ceased at week two, was suggested by the Ambassadors to be due to the engagement with the material. Learner engagement was thus crucial for the success of ThinkSmart.

'The children did not want to participate in the activities.'

'It is a skill to balance the atmosphere in the classroom, I think sometimes, I did well I remember the last session I had to keep my nerves because they were chatty and was not listening to what we were talking about.'

To keep the young people engaged at one school site, the school staff mentioned that positive reinforcement was brought in to combat the disengagement of the sessions, whether this impacted on their engagement with the session was unknown.

'The sweets and furry things didn't come in till 4/5 session because they knew they were struggling, they were dying on stage. To give them pencils and fluffy things was a bit patronising but everyone loves chocolate.'

At the other school site, school staff commented on the engagement of the learners in the sessions despite at times the young people appearing to disengage.

'They were very well behaved and I was surprised about that.'

'They are not the easiest group and that's why they were in that group and some of the times it was quite difficult to get them to interact.'

It was acknowledged that building a relationship with the young people was crucial for an intervention informed by cognitive behavioural techniques and for learner engagement. Working in small groups, getting to know the young people was considered helpful to build rapport and engage the learners with the material at school site B.

'Group work, splitting up and attaching an ambassador to each group for the session to work through the activity.'

'Small group work to get everyone active and contributing.'

Engagement with the sessions was noted by the young people and school staff to be for some for the wrong reasons, i.e. missing timetabled lessons. The young people at site A did not see the intervention as an opportunity to develop themselves but an opportunity to miss timetabled lessons. This may be due to thinking they were not doing much in the sessions, a potential outcome of a poorly executed intervention.

'Like we didn't do much really and got to miss lessons.'

'It was good to get out of lessons but they could have made it more interesting.'

Recruitment

Recruitment of both the Ambassadors and the young people was questioned in the data collected. The Ambassadors questioned whether the right learners had been selected for the intervention. It was assumed the school staff would select learners with a low self-esteem to participate in the intervention. This was however not

checked, poor selection would have impacted on the intervention and explain the difficulties in engaging the young people.

'At School C the main barrier was the lack of information the children had been given about ThinkSmart and they were unaware of why they were there.'

'The children that it is written for, I think it is too far and ask to open up like the book asks them to. The children who do end up in the classroom who are confident it just end up being a laugh for them.'

'There was some people from the higher groups who you could see did not get any benefit...you think some of them have been thrown in to boost numbers but do not know how it had benefited them.'

'I was meaning to ask someone about the selection process because I didn't see them as like anything out of the ordinary they seemed pretty normal kids to me.'

Associated to this, the young people at times noted they were not sure why they were there. Clear guidance and communication of why the young people had been selected for ThinkSmart was suggested to support the successful facilitate, as the young people could then see how the intervention related to them.

'I do not know how it is related to confidence, as I do not see myself as having confidence problems like at all, so I do not know why I was picked.'

Also, the school staff and young people questioned whether the right Ambassadors had been recruited due to the commitment levels to the intervention.

'Some of the Ambassadors just did not want to be there.'

Some of the Ambassadors also questioned the commitment of their colleagues. It was felt by some that their colleagues were not as committed to the intervention as they could have been. Instead they were focused on the amount of earning potential, therefore better recruitment methods were proposed.

'Making people realise that it is something that you are not doing just to get the money...Do the ice breaker and go home you have to engage with it. But you have to pay people accordingly if I am going to put six hours into in no one is going to believe me because everyone else puts down an hour.'

'Yes like [name] wanted to come and get their money where as I wanted to get them really into it.'

As part of the audit trail the ThinkSmart Coordinator completed it was logged how the Ambassadors were recruited. A task to observe team work or a presentation to assess whether a student was capable of delivering the material was not included, nor knowledge of the psychological theories underpinning ThinkSmart. Adaptation of material was included in the interview process, demonstrating early on this was expected of the Ambassadors. Perhaps for the successful delivery of ThinkSmart knowledge of psychological theories would enhance the application of the material, an avenue for further research.

'Shortlist via application form, at the interview asked about interpersonal skills, team working and the complete a work related task, adapt a story for the student group. It was useful to see how they felt about adaptation of the material and their ideas.'

Rapport

Building rapport with the young people was seen by the Ambassadors to be crucial to deliver ThinkSmart, as otherwise it would have not been possible to deliver the foundations of the intervention. Some Ambassadors thought however the current method of delivery for ThinkSmart did not support the opportunity to develop rapport with the young people.

'I think session two jumps straight into feelings and sessions two and three are quite negative. It takes a while to build, encourage trust for the learners to explore and communicate their true problem emotions.'

'I do not know we should of spent the first week solely in getting to know them, then I think the rest of the sessions would have had a lot more benefit and got more from them. I think the first session is crucial.'

Due to this it was difficult to discuss sensitive issues with the young people, thus more sessions were suggested to establish a better rapport with the young people.

'If they knew us a little better but for them we were complete strangers and I got the impression it was like why should I talk to you about how we feel.'

Ambassadors

Ambassadors are considered in the literature to be the active ingredient in an outreach activity. However, there was a lack of robust evidence to support this assumption due to the role of Ambassadors being an under-researched topic area (Ylonen, 2010). Comments from the young people supported the assumption, that Ambassadors are important. For instance the attitude of the Ambassadors influenced the engagement of the young people with ThinkSmart. At school site B positive comments about the Ambassadors were made and the impact this had on their engagement with ThinkSmart.

'They were positive all the time, makes you actually want to do it.'

'I think it was about the Ambassadors.'

Additionally the confidence level of some of the Ambassadors was a concern raised by the school staff. It was thought some of the Ambassadors lacked the confidence to deliverThinkSmart at the beginning. This did however improve as the sessions progressed for some, suggesting knowledge on how to deliver ThinkSmart is via experience.

'As time went on it all got better, but you could tell the ones who knew what they were talking about and who had done it before. They were the ones who lead and the other stood waiting back for the cue instead of digging in to start with.'

'I think a couple of them looked like they weren't sure and needed a confidence boost as much as the kids did.'

'There wasn't any continuity they looked uncomfortable in their own skin.'

The commitment of the Ambassadors to the intervention was also questioned. At one school site Ambassadors lateness was an issue for the school staff. The school staff at site A and the young people considered this unacceptable. The chaos made it difficult to refocus the learners after the disruption, impacting on the chance to build rapport with the young people to successfully deliver ThinkSmart.

'They were very disorganised, they were late more often than not and we only had an allocated slot, it was messy.'

'When walking in they should be here before the kids, get there and that would be brilliant as the kids are waiting around thinking well you know it is a bit rude and disrespectful.'

For the Ambassadors delivery of ThinkSmart differed from the typical mode used in the delivery of outreach activities and this may have contributed to the disparity in delivery. Typically for Aimhigher activities the Ambassadors are expected to just turn up and deliver the material devised. Whereas in ThinkSmart the Ambassadors had to plan and deliver the material. For this to occur, the Ambassadors conveyed that good team work was important.

'I think it makes it much easier if you have got that friendship there it does make it more fun and it does show and that also helps with the material that you are delivering to the kids.'

'If the Ambassadors have got a good relationship I think that would come across in the classroom and that because if there was tension that might short and the children would react to that and might not want to speak up and things.'

The data collected demonstrated that theAmbassadors did play an important role in the delivery ofThinkSmart. It can be suggested that the fate of an outreach intervention is in the hands of the facilitators.The findings echoed those reported by Ylonen (2010) in that the role of an Ambassador is underpinned by tensions and complexities. Some of the issues raised relate to Ambassadors being an in-between position of teacher and student (Ylonen, 2010). The Ambassadors did not have the authority or experience of theteaching staff to manage classroom behaviour but were required to adopt the role of a teacherwhen delivering in ThinkSmart. Further research is however required to explore this in greater depth.

Leadership

Throughout the analysis, a sense of poor leadership was evident which may explain why the intervention was not implemented as intended. The Ambassadors thought the intervention had great potential it however never reached that point due to the leadership. Two of the Ambassadors felt management played an important role in the effectively delivery of ThinkSmart.

'It has not given any fruitful experience for the cycle of ThinkSmart...It has huge potential. It is very important for the management particularly to engage with the students about this.'

'I believe things should be done properly. If they are done properly then you have what we had last time and the times before that.'

It appears the Ambassadors were not managed to ensure they executed their role effectively. The adaptation of the material was left to the Ambassadors with little guidance so was the delivery of the intervention. The ThinkSmart Coordinator also commented in their audit trail their hands off approach used to adapting the session material. However it was conveyed that support was provided for the new Ambassadors by attending their sessions; as they were not sure of what they were doing. Yet for the majority of the time, the Ambassadors had little direction.

'I gave them the opportunity to come and see me. It is not covered in the training, as I have not got the experience to do that. I have left it up to the Ambassadors if they would like to chat about it.'

'Some Ambassadors were late due to traffic. Some did not turn or were pulling their weight. I emailed to see what was going on. I sort of ask them what is going on, why are they missing things, tell them it is not acceptable and watch them. It is difficult when they do not communicate with you.'

It was felt a strong person to lead the Ambassadors was what was required. A small number of Ambassadors expressed their concern that there was no leadership and this subsequently impacted on the delivery of ThinkSmart.

'I keep going back to the leader. I do not know if the programme was meant to be run without the intervention of the person in charge but if that is the case then you need better recruiting. If that is not the case you need the person to get involved or have some kind of template in terms of training that can be given.'

'I think we need guidance from someone who knows what they are doing but not from someone who is asking all the questions but doesn't know the answers.'

The Ambassadors suggested the leader in place had limited knowledge of the intervention and the processes included in the material of ThinkSmart. This would

explain the lack of knowledge held by the Ambassadors impacting on the implementation of the intervention.

'I think we need guidance from someone who knows what they are doing..not from someone who is asking all the questions but doesn't know the answers.'

Poor management as being suggested from the data collected may have contributed to the poor execution of the intervention. It appears at each level there was a lack of understanding of what ThinkSmart was and the aims of the intervention.

Impressions of Implementation

The Ambassadors thought the sessions had overall been successful. From this it was identified by the Ambassadors the young people had benefited from the intervention, such as giving the young people a confidence boost.

'See them get a boost in confidence.'

However, interestingly the five Ambassadors who had completed all three cycles of ThinkSmart considered the intervention to have potential, but due to a number of factors it had never reached its full potential.

'It does have the potential to be a lot better.'

Furthermore the implementation of ThinkSmart received less positive reviews from the school staff. The delivery was crucial to impact on the young people, it was thought the intervention had had little impact on their learners.

'It didn't work, you would need, you need continuity, you need it to flow, they were so disorganised and they would come in and they wouldn't have it.'

'I didn't think it has had a noticeable impact, not that I have noticed on any of them.'

The last session of ThinkSmart instead of following the session plan provided in the manual, in adherence to the model of outreach activities the participants were taken on a day trip to the University of Worcester for a guided tour with their Ambassadors.

This university trip was suggested by the school staff to be the key feature of the intervention that may have had the biggest impact. The empirical data would confer that the university trip had a short-term impact on the young people's thoughts about university, this was however not sustained at the six month follow up.

'University trip was brilliant, thought if it makes one them think about going to university and works towards that then you know something good as come out of it and it was a really interesting morning.'

Only at School B did the young people report ThinkSmart had improved their confidence and made them feel better about themselves.

'I think it makes you feel better about yourself knowing that other people kind of feel the same, sometimes, it makes you feel more confident.'

For the young people at School A the sessions were disorganised, the young people were not able to develop rapport with the Ambassadors to discuss the sensitive topics of ThinkSmart. A lack of understanding from the young people and perhaps of the Ambassadors on what the aims of ThinkSmart were observed.

10.6 Discussion

The process evaluation collated a wealth of data to comprehensively understand the implementation process of ThinkSmart and the subsequent effect this had on determining the impact and effectiveness of the intervention. The process evaluation was therefore crucial to explore the implementation of ThinkSmart as it was delivered and received across different sites in different ways (Oakley et al., 2005).

The empirical evaluation suggested that the intervention had a relative small short-term impact on recipients. This proposed that the theoretical construct underpinning the intervention required refinement as the intervention was inefficient. However this assumption would have been an incorrect conclusion. This is because the process evaluation established that the delivery of ThinkSmart was not as intended decreasing the likelihood of impact. This is also known as making a type three error which is a potential issue with an intervention such as ThinkSmart that is '*evaluating a program that has not been adequately implemented*' (Basch et al., 1985; 316). The

process evaluation however addressed this, reducing the chance of making a type three error.

A comprehensive process evaluation as stated by Linnan and Steckler (2002) can inform the intervention design and improvements to the theory and methods in the future. It can distinguish between interventions that are inherently faulty or poor due to an inadequately delivered intervention (Oakley et al., 2006). The process evaluation shed light on why ThinkSmart was ineffective at incurring a sustained change in behaviour. In summary the inadequate delivery of ThinkSmartwas due to a lack of understanding regarding cognitive behavioural techniques that meant there application in the session was limited and when used were inadequate for behavioural change to occur.

There are several components to a process evaluation, the implementation fidelity explored the extent to which the intervention was implemented as planned. The method of triangulation that is the use of more than two methods of data collection to confirm results, demonstrated that the implementation of ThinkSmart did not adhere to the planned delivery of the intervention. Sessions were adapted from that provided in the manuals, they were slow in pace allowing for irrelevant chat to occur misdirecting the focus of the young people and did not include key elements such as the homework to encourage behavioural change. The observation checklist supported by the qualitative data collected evidence that the application of the cognitive behavioural techniques was not sufficient for behaviour change to occur.

The second element of the process evaluation plan, intervention delivered, assessed the extent to which all units of the intervention were covered. Material in relation to the theory underpinning ThinkSmart was not delivered in great depth. Adaptation of the material may have contributed to this, as the intervention delivered was not the one intended to be delivered. The manuals provided were used as guides rather than the intended use. The adaptation of material was not monitored thus experiences of ThinkSmart differed. Most important is that the adaption of material meant that information crucial for behavioural change was at times missed, such as an explanation of the theory underpinning a technique.

The dose received component explored whether the learners enjoyed the intervention as well as the school staff and Ambassadors. Enjoyment of the intervention can be explained in two ways. Some young people enjoyed the sessions as they could see the benefit whereas other young people enjoyed the sessions as they had a laugh and got to miss timetabled lessons. Some of the young people did not see the intervention as a continuing process, thus did not actively engage such as complete homework (Boyle et al., 2011). The intervention would therefore have had less of an impact on these young people. The Ambassadors thought the intervention had potential, but the delivery was crucial, overall the majority of the Ambassadors were happy with what they had delivered. The school staff were less so, the intervention on paper was not the intervention delivered so it was perceived to have little impact on their young people. School staff expressed that effective delivery was crucial for ThinkSmart to have an impact on the young people.

Reach determined whether the intervention was delivered to those it was intended for. It seemed some of the young people recruited to ThinkSmart were not suitable for the intervention. ThinkSmart assumed the young people would possess a low self-esteem but this was not the case. This can explain why some of the young people did not take the intervention seriously, as the manual was designed for an audience that needed support to develop their self-esteem, motivation and confidence. In the future better selection methods are required.

Associated to this was discussions in the recruitment componentwhich examined what procedures were followed to recruit the learners and Ambassadors to ThinkSmart. Recruitment of the right learners was highlighted as a concern, as the intended target audience of young people with low levels of self-esteem were not recruited. Therefore the refinement of recruitment strategies was thought necessary. For the Ambassadors ensuring those recruited are committed and willing to work hard to deliver a seamless intervention was required.

The context component identified the barriers that hindered the facilitation of ThinkSmart. One was poor training, immediately after the training the Ambassadors were positive about the training. However, once the intervention had started the Ambassadors noted that actually the training had not prepared them for the role,

echoing previous evaluations of outreach activities such as Lewis and Ritchie (2010). If the training had been better the Ambassadors would have been informed on the cognitive behavioural principles of ThinkSmart, as this was viewed as a nice surprise by one ambassador at the end of the intervention. Another barrier was the leader of ThinkSmart, a small number of the Ambassadors noted the need for an effective leader, one with knowledge of the ThinkSmartto offer guidance.

ThinkSmart was thought to have potential however its main barrier was the delivery. The delivery of ThinkSmart was dependent on all the factors mentioned above. Problems top-down may have resulted in the intervention not being delivered as intended. Furthermore the intervention may have been unsuccessful to generate sustained behavioural change, due to the duration of the intervention. Chapter nine discussed that instead of being a ten week intervention, the ThinkSmart material was delivered for nine weeks. The tenth session was a trip to the University of Worcester. Nine weeks was not longer enough to develop the skills to induce behavioural change. A longer amount of time is required to induce a change in behaviour. Interventions informed by CBT are thought to be more effective if they are longer than ten weeks (Kavanagh et al., 2008).

The recruitment of the right young people was also important. The manual assumed that the young people recruited needed help to booster their thoughts and address a maladaptive thinking style. However, some of the young people did not think this was the case. At each of the school sites, the poor selection of the right young people hindered the outcome of the intervention. Research has shown that teachers are poor at identifying young people with low moods, a reliance on teacher selection was therefore not possible (Miller and Moran, 2005). A more stringent recruitment mechanism is required to ensure the right young people are benefiting from the intervention. Recruitment is therefore extremely important, as interventions informed by CBT the willingness of the participants to change their behaviour is crucial to the reported success (King et al., 1998).

As discussed in chapter four, it was assumed in the literature that Ambassadors played a central role in widening participation activities. Pennell et al., (2005) suggested 81% of HE institutions use a student ambassador scheme, yet little

research has explored the actual impact Ambassadors have on widening participation activities (Ylonen, 2010, 2012). The process evaluation provided a unique opportunity to shed light on this under-researched area.

The training had not prepared the Ambassadors for the reality of the role, similar to Ylonen's (2010) findings when evaluating the Ambassador role in outreach activities. The reality was learnt on the job (Ylonen, 2010). Furthermore the training had not prepared them for the complexities and tensions associated with the Ambassador role (Ylonen, 2012). The Ambassadors occupied an in-between position of teacher and a student (Ylonen, 2010), which resulted in responsibilities placed on the Ambassadors they were not prepared for, such as managing classroom behaviour. Moreover the commitment of the Ambassadors to plan and deliver ThinkSmart was described as having a major affect on the impact of ThinkSmart. For the delivery of ThinkSmart, one Ambassador noted that trained individuals with knowledge of psychological principles should deliver ThinkSmart for it to have any impact, rather than using undergraduate students. Further research can explore the potential use of trained individuals with a psychological background to facilitate ThinkSmart.

From the data collected, it can be suggested that outreach activities are to a degree dependent on the Ambassadors (Kerrigan and Carpenter, 2008; Lewis and Ritchie, 2010). The delivery of ThinkSmart by the Ambassadors affected the overall impact of the intervention. The session pace, adaptation of the workbook and missing key features were all factors hindering the ability to deliver ThinkSmart. ThinkSmart as a cognitive behavioural informed intervention, rapport and trust was important (Kingery et al., 2006). At school site A this did not occur, as discussed by the young people due to the commitment of the Ambassadors. At school site B strategies such as small group work were included to build rapport and trust with the young people. An intervention will only be a success if rapport and trust is built, which may explain the less positive outlook of ThinkSmart at school site A (Lewis and Ritchie, 2010).

Significant behavioural change was thus overall unlikely. Interpreting the outcome evaluation in light of these results proposed that the relative small short-term impact reported by measures completed was due to the delivery of ThinkSmart. Similar to Davies et al., (2000) findings, the components necessary for behavioural change had been significantly under implemented. If delivered as intended results may have

been different. More research is needed to determine what levelof participation and delivery is required to achieve a sustained behavioural change. This study has demonstrated a process evaluation to be a crucial method to explore the effectiveness of interventions. For widening participation activities which are often complex in design, a process evaluation would enable practitioners/researcher to explore what works.

Strengths and Limitations

The main strength concerns the inclusion of a process evaluation. This study has demonstrated the importance of integrating qualitative and quantitative data collection methods. Without a mixed method approach firm conclusions of impact and effectiveness would have not been possible. The empirical evaluation established that ThinkSmartdid not sustain a change in levels of motivation engagement, self-esteem and attitudes towards HE and the process evaluation provided a narrative to explain these findings. The main reason for these findings was that ThinkSmart had not been implemented as intended. The number of different data collection methods yields a host of rich detailed information on ThinkSmart that would have not been possible any other way. However, it is important to note limitations.

In planning a process evaluation it was important to consider the feasibility of data collection methods within the context of the intervention, so not to burden participants. This study did adhere to this by accessing resources that were completed as part of the Ambassador's role. The use of a secondary data to which the questionnaires were not piloted does question the robustness of this method. However a trade-off between rigour and the resources available is to be expected in a process evaluation (WHO, 2000). Every effort was made to ensure the data collected assessed the research aims reliably.

Of the ten ThinkSmart sessions two were observed. Davies et al., (2000) suggested this may not be enough to reliably capture the Ambassador's true performance, further research is therefore required to determine the optimal number of session observations. Furthermore one checklist was completed for each group. At each session up to four Ambassadors were delivering the session, to enhance the quality of the process evaluation a checklist per ambassador may be of use. This, however,

would have to be agreed by both the Ambassador and the coordinator so not to interfere with the natural delivery of the intervention.

Interpretation of data concluded that if the exposure of the components to incur behavioural change had been higher, the outcome results would have potentially been different. Reporting of just the outcome evaluation data would have suggested ThinkSmart to be of no use. In light of the process evaluation, it is crucial to adhere to the manual and deliver the material as intended to be effective. The evaluation of outreach activities thus requires a framework that is a mixed method approach to draw firm conclusions of impact and effectiveness.

The evaluation of ThinkSmart establishes that embedding qualitative and quantitative data collection approaches provided a comprehensive evaluation of ThinkSmart. This is a unique approach to the evaluation of outreach activities and one that should be sustained. Failure of interventions can be a result of study design, measures employed or implementation of the intervention. Chapter nine merely conveyed whether ThinkSmart had had an impact, it did not explain why. The process evaluation however established that the implementation of intervention probably had a negative impact overall as ThinkSmart was not delivered in the manner intended. To conclude ThinkSmart was not implemented as intended, despite these small practical gains were shown in chapter nine. Therefore this suggests that if implemented as intended ThinkSmart can have a positive impact on addressing the aims of the widening participation agenda. Moreover, the evaluation of ThinkSmart demonstrates the importance of psychology in designing and evaluating outreach activities. This has provided a number of avenues for further research. Chapter eleven draws together these findings and discusses the findings of this thesis, generally.

CHAPTER 11 A THEORETICAL MODEL FOR UNDERSTANDING EDUCATIONAL PROGRESSION FOR THE DESIGN OF OUTREACH ACTIVITIES

'Achievement is a we thing, not a me thing, always the product of many heads and hands no matter how it may appear to one involved in the effort and enjoyment of it or to a casual observer.'

(Atkinson, 1974; 11)

11.1 CHAPTER SUMMARY

In this chapter findings of the studies presented in previous chapters are to be discussed to provide a summary of the main conclusions of this thesis. Approaches to the design and evaluation of outreach activities in light of a psychological perspective are to be considered. The strengths and weaknesses of the thesis are to be discussed, highlighting recommendations for future research. Finally, a theoretical model of educational progression is presented, as an approach to inform the design of outreach activities. As a unique model to this thesis, it remains untested but it does however provide a framework to which educational progression can be understood, contributing to a structured approach to the design of outreach activities and offering an agenda for future research looking at how to improve participation rates in HE.

11.2 INTRODUCTION

The main aim of this thesis was to evaluate ThinkSmart (an outreach activity informed by psychological theories) to determine whether it improves self-esteem levels, motivation and engagement levels in school as well as an intention to progress to HE for young people aged 13 to 14. This aim has been achieved and whilst there are avenues for future investigations and limitations to the studies conducted, this thesis has added a significant contribution to knowledge on how outreach activities can achieve the widening participation agenda goal of increasing the number of young people progressing to HE from a psychological perspective. The aim of the thesis has been attained through the following:

- A review of patterns of participation and the widening participation agenda (Chapter 2).
- A comprehensive review of factors that can either facilitate or hinder participation in HE, with more of a focus on psychological constructs whilst acknowledging the importance of contextual factors (Chapter 3).
- A review of the previous ways the design and evaluation of outreach activities was conducted (Chapter 4).
- Discussed unique way to design outreach activities, with a description of ThinkSmart an outreach activity informed by psychological theory devised by Aimhigher Herefordshire and Worcestershire with Upton and Upton (2009) (Chapter 5).
- Described an evaluation framework for ThinkSmart, informed by the use of qualitative and quantitative data methods used in psychology (Chapter 6).
- Piloted the intended standardised measures; as this was a novel approach to the evaluation of outreach activities (Chapter 7).
- Developed and validated a measure of intention to engage with HE; as such a measure was not evident in the literature despite this being a main objective of outreach activities (Chapter 8).
- An empirical evaluation of ThinkSmart using a pre-, post- and delayed test design with a comparison group to determine impact. An evaluation approach rarely used in the evaluation of outreach activities (Chapter 9).
- Unique to this project a process evaluation was conducted to contextualise the empirical evaluation by understanding the processes of the interventions implementation (Chapter 10).

The novelty of these studies undertaken makes a significant contribution to the literature; as such an approach has not yet been documented. Key contributions include the design of a standardised measure of intention to engage with HE, the use of a process evaluation and experimental framework in an ecological valid design to determine the impact and effectiveness of ThinkSmart.

The main findings of this project are to be presented here. This is in addition to the strengths and limitations of the research conducted and thus recommendations for future work.

11.3 Psychology and Widening Participation

The widening participation agenda as discussed is a central policy theme in the UK to address the number of non-traditional students defined as young people from disadvantaged backgrounds, disabled learners and mature learners progressing to HE (Dearing, 1997). Despite over a decade spent on widening participation, disparities in progression rates persist. In this thesis the unique role a psychological perspective can play in the design and evaluation of outreach activities was presented.

Taylor and Trapp (2010) proposed that psychology did have a role to play, however further research was required to support this. Interpreting the goals of the widening participation agenda from a psychological perspective was novel to this thesis. This thesis demonstrated that psychology does have a role to play in understanding how best to tackle the disparities in progression rates to HE. The use of theoretical knowledge and knowledge of qualitative and quantitative data collection methods evident in this thesis established areas of improvement in the design and evaluation of outreach activities. Firstly the design of outreach activities should consider psychological constructs that focus on the individual such as motivation, self-esteem and attitudes. In the future the design of outreach activities should consider psychological theories to understand how to have a transformative impact on individuals, for example by changing attitudes to affect educational outcomes. Secondly, the evaluation of outreach activities should use an empirical approach with an experimental design and standardised measures alongside a process evaluation to determine the impact and effectiveness. This can ensure a robust evaluation of an outreach activity is undertaken providing the evidence required by the Office Of Fair Access in universities outreach department's access agreements.

A particular branch of psychology advocated by this research project should become more involved in the design of outreach activities and that is psychology of education. This branch of psychology is focused on raising the attainment levels of young people and this too is an aim of outreach activities. This thesis has

demonstrated the significance of psychology in addressing the objectives of the widening participation agenda.

It has presented the approach that to achieve the aims of the widening participation agenda there is a need to focus on the individual learner whist acknowledging the contextual factors at play to provide a comprehensive understanding of educational progression (chapter 3). As discussed in chapter three socio-economic status is an important factor when understanding educational progression and is associated with attainment levels as well as explain the impact of other factors on educational decisions; however not all young people from disadvantaged backgrounds fail academically. What was missing in the current literature was an understanding of why this was, how were these individuals different. This thesis has demonstrated how these young people are different in ways such as motivation levels, self-esteem, positive attitude, high levels of locus of control (Jackson and Martin, 1998) and provided ways for the widening participation to use this knowledge to address the goal of social mobility.

In summary the psychological approach to this project was advantageous. It assisted in addressing the knowledge gap regarding the impact and effectiveness of outreach activities and ways to design effective outreach activities. Unique to approaches used in the area of outreach activities, this project used an array of theoretical models and data collection methods used in the discipline of psychology to evaluate and understand the impact and effectiveness of ThinkSmart. The use of psychological theory, knowledge of qualitative and quantitative methods and analyses has been demonstrated in this project to have a great potential in advancing the design and evaluation of outreach activities as proposed by Taylor and Trapp (2010). A key message of this research project is to promote the inclusion of psychology within the discourse of widening participation to improve the participation rates to HE.

11.4 Factors Associated with Educational Progression

A comprehensive understanding of what factors are associated with educational progression was presented to illustrate approaches that could be used to address the disparities in participation rates in HE (chapter 3). Much of the literature on widening participation focuses on the contextual factors that include a person's

background and surrounding area. Key predictors are a person's socio-economic status, ethnicity, parental influence and individual characteristics. A main theme within the literature is that social class is a significant predictor of educational progression (Reay, 2006). A young persons background can impact on prior attainment which is a main barrier to educational progression as it was discussed that some young people do aspire to attend HE but do not achieve the grades necessary.Chapter three demonstrated the socio-economic factors are of importance and need to be acknowledged, however, this view does not account for why some young people from lower socio-economic backgrounds progress to HE and why some young people from higher socio-economic backgrounds do not, despite this being against the trend. Other contextual factors may be of significance including parents, other significant family members, peers and school experience.

Yet most importantly and what to date has been overlooked in the literature is the individual themselves. Characteristics specific to an individual can help to understand the differences in progression rates to HE. These characteristics include psychological constructs such as educational attitudes, self-esteem, motivation levels as well as aspiration levels. Aspiration levels are a key theme of the widening participation agenda, yet like the other factors it wasrarely mentioned how this impacted on educational progression. Chapter three sort to address this and presented a number of factors which provided the underpinning for the rest of the thesis.

The comprehensive review of factors both contextual and psychological concluded that education progression is influenced by a number of factors some of which that are amenable to change. Thus these factors such as attitudes, self-esteem and confidence should play a more direct role in how to address the goals of the widening participation agenda. Moreover to improve the number of non-traditional students progressing to HE there was a need to focus on psychological constructs in the field of widening participation. Furthermore, this thesis presented how little research there was that had explored how aspirations, attitudes, motivational levels and self-esteem can influence a decision to engage with post-compulsory education, identifying this as an area for further research (Gorard, See and Davies, 2012). It is recommended that further research explore how these psychological constructs impact on educational progression in a robust experimental design. Using the

knowledge presented in chapter three, the design of an outreach activity ThinkSmart focused on psychological theory to demonstrate how this approach performed better compared to traditional methods in designing outreach activities.

11.5 The Design and Evaluation of Outreach Activities

Chapter four reviewed the current evidence to conclude that the reports written mostly by Aimhigher partnerships suggested that outreach activities had an overwhelmingly positive impact on young people changing their attitudes held towards HE as well as impacting on aspiration and confidence levels. However, the shortage of robust evidence to determine the impact and effectiveness of outreach activities questioned these conclusions (Gorard et al., 2006; Thomas, 2011; Doyle and Griffin, 2012). Methodological flaws were prevalent in the research reviewed, rarely were standardised measures used, comparison groups included or an experimental design implemented. Furthermore, the design of outreach activities was highlighted in this chapter as requiring change due to the limitations of the learner model of progression. To understand how best to address the participation gap at HE, stringent evaluation methods of a well-designed interventions was required. To address this evidence gap, this thesis demonstrated a novel approach to both the design and evaluation of an outreach activity, ThinkSmart.

ThinkSmart was a novel outreach activity informed by sound psychological theories. The activity aimed to address factors identified in this thesis as being amenable to change to impact on educational decisions. The theoretical underpinning of ThinkSmart derived from the principles of cognitive behavioural therapy and attribution re-training. Cognitive behavioural therapy was depicted in the intervention as the magic circle, which illustrated how an individual's thoughts, feels and behaviour are associated. The sessions in ThinkSmart were focused on addressing maladaptive thinking styles identified in this process which may impact on actions towards educational outcomes, i.e. a negative thoughts about school may result in feelings of being no good reducing effort and engagement subsequently resulting in withdrawal from the school setting. This maladaptive thinking style therefore may hinder educational progression. ThinkSmart focused on changing attitudes and behaviours as this was thought to aid the goal of the widening participation agenda. Furthermore it was proposed that developing a positive attitude supported engagement in school and academic success (Hillman, 2010). Yet such a

sophisticated approach to the design of outreach activities had not been undertaken to test this assumption. An activity with a behavioural component was required to see whether this could impact positively on young people to address the goal of the widening participation agenda.

The approach taken to design ThinkSmart deviated from the typical approach in which little consideration was given to what the influences were on educational decisions to inform the design of outreach activities. As established in chapter three, an individual can overcome their socio-economic background and this needs to be recognised in the literature. Individual characteristics can spur a young person to achieve despite their background. Chapter three and four demonstrated the importance of for example self-esteem, confidence, motivation, attitude and positive thinking style when designing outreach activities. ThinkSmart was a unique outreach activity as it highlighted the importance of psychological theories to addressing the objective of the widening participation agenda.

The evaluation of ThinkSmart was discussed across two chapters, chapter nine described the empirical evaluation and chapter ten the process evaluation. The methodological flaws of the current evidence-base included unclear research questions, lack of rigour, questionable data collection methods, poor reporting and poor design these limitations hindered the ability draw firm conclusions of impact and effectiveness (Gorard et al., 2006; Doyle and Griffin, 2012). Papers reviewed typically made unsubstantiated conclusions that this thesis aimed to overcome.

To do so, firstly a pilot of the standardised measures intended to use in the main evaluation was conducted. The results of the two pilot studies conducted ensured the measures used in the evaluation of ThinkSmart were reliable and valid. In the process of this, it was established a reliable measure of intention to engage with HE was not evident in the literature. Items in the questionnaires devised by Aimhigher partnerships that were reviewed, which was not many, questioned the enjoyment of the day rather than intention to engage with HE. This information would be useful to refine an activity, however it does not provide valuable information to determine the impact of an activity. To robustly evaluate ThinkSmart in accordance with the objective of the widening participation agenda there was a need to devise a research tool that measured intention to engage with HE.

Chapter eight developed and validated such a measure by seeking guidance from Streiner and Norman (2008) as this provided a comprehensive reliable and valid approach to scale construction. Item generation was from a number of focus groups held with young people aged 13 to 19, these discussions highlighted how complex educational decision-making is and the number of interrelated factors that impact on decisions. Refinement of the items was through consultation with young people and experts in the field of widening participation, establishing both content and face validity. Cognitive interviewing not typical used in scale development was included to ensure the measure could be applied outside of the research context. A significant amount of time and resources were dedicated to the item generation of the scale to ensure the measure constructed could be applied outside of the research context to improve practices.

The final measure comprised of 15 items and two factors. Factor one comprised of items that related to individual characteristics and choices, parents and peers and factor two comprised of items that related to the school environment. The two factors demonstrated the push and pull factors that influence educational decisions, parents and peers with the individual are push factors to achieve an educational goal whereas the school is the pull factor directing the learner in a specific direction. The reliability and validity of the measure was established. Cronbach's alpha demonstrated the measure to be of an acceptable level. Furthermore the measure was piloted with a sample of the target audience and was established to be a suitable measure to evaluate ThinkSmart. The development and validation of the measure of intention to engage with HE has made a significant contribution to the discourse of widening participation. In practice, outside of the research context the research instrument devised will support the requirement for robust evaluations of outreach activities and enable comparisons across activities and departments to build a robust evidence-base of the impact of outreach activities.

The evaluation of ThinkSmart using the measure constructed in this thesis with other standardised measures reported a short lived practical impact of the intervention on recipients relative to the control; the positive impact was not sustained at the delayed post-testing. The reporting of effect sizes demonstrated the intervention to have practical significance, which is of importance in a small-scale project like this. These findings propose that ThinkSmart had a small but practical significance on recipients

in terms of improving positive thoughts, self-esteem, engagement with the idea of HEand reducing negative thoughts and behaviours. A number of factors as discussed in chapter nine may explain the results, such as the relative small sample reducing the statistical power. However, the reporting of effect size is of more importance than statistical significance as it determines the size of the effect, which ranged from small to large. To conclude the evaluation of ThinkSmart illustrated positive short-term gains which were not sustained, but demonstrate that a psychological informed outreach activity can have a positive impact.

Unique to this thesis was the inclusion of a process evaluation. Gorard et al., (2006) considered the lack of efficiency research as a major blind spot in the evaluation of outreach activities. Therefore to understand the active ingredients of ThinkSmart, a process evaluation was conducted. This was novel as this evaluation approach is typically used in health psychology to explore the implementation of complex multi-site interventions that focus on behavioural change; the design of ThinkSmart. This was then the first application of a process evaluation to evaluate outreach activities. The data collected as part of the process evaluation was invaluable and provided an insight into the processes of implementation. ThinkSmart aimed to change maladaptive thought patterns by employing techniques from cognitive behavioural therapy and attribution re-training. The conclusions of the process evaluation were that the sessions lacked a clear agenda and effective time management, components required for a successful intervention. To deliver a CBT intervention commitment to developing materials, organising and delivering the material was required (Toland and Boyle, 2008); however this was not evident from the process evaluation.

In the literature Ambassadors are thought to provide supportive environments to demystify HE for young people from disadvantaged backgrounds, as well as provide psycho-social support though developing a trusting relationship with young people (Doyle and Griffin, 2012; Hatt, Baxter and Tate, 2008). However, little was known about the actual impact Ambassadors had on outreach activities (Gorard et al., 2006). The results of the process evaluation suggest that Ambassadors are crucial in the success of an outreach intervention. An activity can either succeed or fail as a consequence of the actions of the facilitators. This can be seen in the evaluation of ThinkSmart. If Ambassadors are to remain an integral part of outreach activities,

further research is required to understand the impact they have on outreach activities to devise ways to manage this. A qualitative study across different institutions to explore the experiences of the Ambassadors and how Ambassadors are used at different higher educational institutions to offer a model that could be applied all higher education institutions is necessary.

More importantly, the process evaluation identified that ThinkSmart had not been delivered as intended. To ensure ThinkSmart was systematically delivered a manual to facilitate the sessions was devised. This manual outlined a clear agenda for the sessions. From the process evaluation it was reported that the manual was not used as intended. Moreover, the components necessary for behavioural change were not implemented and when they were it was not adequate enough to induce a change in behaviour. These findings ultimately impacted on the overall effectiveness of the intervention and provide an explanation for the short-term impact of ThinkSmart.

The process evaluation could determine whether ThinkSmart was inherently faulty so the failure of the intervention was due to the concept or theory underpinning the intervention or that the failure was due to implementation failure, that is the delivery of the intervention was poor (Oakley et al., 2006). The findings suggested that the failure of ThinkSmart was due to implementation failure. A number of active ingredients to ensure the successful delivery of ThinkSmart was highlighted, this included planning, adherence to the manual, effective leadership and trained facilitators. The process evaluation reported that these were not completed in this study. The school environment is also of importance; to have sustained impact interventions such as ThinkSmart need to be embedded into the school ethos, as proposed in chapter ten through integrating ThinkSmart in PSHE lessons. Further research could explore the impact of ThinkSmart if included as part of the school curriculum.

A strength of this project was the combination of an empirical evaluation alongside a process evaluation. This provided a greater understanding of the phenomena being researched. The results of the empirical evaluation of ThinkSmart would seem to suggest that the intervention may not be of worthwhile due to the small short-term practical significance. However the process evaluation was able to provide an explanation for the results shown in chapter nine, establishing that the short-term

gains may be a result of the intervention not being implemented as intended. Thus if implemented as intended, ThinkSmart might have had a bigger impact, hence the need for further research evaluating the intervention. The inclusion of a process evaluation was unique to the project and advocated the use of this method for future evaluation studies. The evaluation approach used in this project establishes how to improve the evaluation practices of outreach activities and report the robust evidence required by OFFA. To explore and understand how and why outreach activities work or do not work, a mixed method evaluation framework should be used, as it is a robust approach to gather a rich amount of data to comprehensively and reliably conclude the impact and effectiveness of ThinkSmart on recipients.

This thesis suggests there is a gap between the government policy on widening participation and what occurs in practice. Initiatives such as outreach activities are designed to address inequalities but have not been thoroughly thought out to have an impact. Additionally support was not provided to evaluate these activities. The premise of the widening participation agenda is that social class is the main predictor of educational progression (Reay, 2006) The literature suggested that children from working class backgrounds do not aspire to HE, as it is not a place for them (Archer and Yamashita, 2003). Other research contradicts this; individual transformation can overcome the limitations of an individual's background. The complexities and contradictions in the literature are not considered, as acknowledged by Thomas (2001) who illustrated that projects are dreamt up by the Government as they do not consider the complexities of educational decision-making. Established in this research project is the need to focus on the individual and the factors there are amenable to change to make a difference whilst acknowledging the influence of contextual factors on educational progression. Approaches discussed in this thesis provide direction to improve the practices of outreach activities.

11.6 Limitations and Recommendations

The research was designed to be as methodologically sound as possible. However with real-world research unavoidable limitations can impact on the research conducted. Consideration of these limitations is warranted as they identify interesting avenues for future research.

11.6.1 Research Setting

The research was conducted within one Aimhigher partnership so was geographically limited. ThinkSmart was devised to address what was known locally as seven valley sickness (Miller and Smith, 2010). The objective of ThinkSmart was to address low self-esteem and motivation which are characteristic of young people that reside in other areas. The intervention therefore has the scope to be applied elsewhere. This is because the broader aim of ThinkSmart was to develop the young people who participated and so was not just focused on progression to HE, which identifies why schools implemented the sessions during Personal Social Health and Emotional education (PSHE). PSHE relates to the aims of ThinkSmart providing an avenue for future research to explore ThinkSmart at different school settings. Also, an intervention that aligns with the school ethos has the potential for a sustained impact. Future research could therefore roll out ThinkSmart in a number of different areas and settings to explore the variation of experiences and impact.

This is in addition to investigating if delivered as intended whether ThinkSmart is an effective mechanism to engage young people with the idea of progressing to HE. A randomised controlled trial could be employed to explore which is the most effective way to deliver ThinkSmart either with teachers or trained practitioners. This is because the Ambassadors noted that they thought ThinkSmart would be more effective if it was implemented by a trained individual rather than university undergraduates. Furthermore Kavanagh et al., (2010) suggested that CBT interventions are more effective when facilitated by teachers. This is as well as research suggesting incorporating an intervention with the school ethos, such as in PSHE can improve impact. A randomised controlled trial would allocate a large sample of young people to the two different conditions to evaluate which method of delivery for ThinkSmart is most effective compared to a comparison group. A process evaluation would be implemented in conjunction with this to provide an insight into the implementation process and the impact this has on the reported outcomes.

Variations of ThinkSmart could also be trialed for different age groups, suggested in this project was young people in year seven. Early nurturing of positive attitudes is required as aspirations and attitudes prior to the age of 13 can impact on future educational decisions (Strand and Wilson, 2008). It was noted the material was too

infantile for the year nine students. Therefore proposing the material to be more suited to a younger audience, perhaps as a personal development programme included as part of the PSHE curriculum to cope with the transition from primary to secondary school as evidence suggests that the transition can negatively impact on educational outcomes effecting motivation levels, thus ThinkSmart could be suited to address this.

11.6.2 Sample

Targeting the right learners was crucial to the success of ThinkSmart. The right learners were young people who had low levels of self-esteem, confidence and motivation but have the ability to achieve. The sample in the evaluation of ThinkSmart from the baseline data and process evaluation did not meet this criterion. Some of the young people were unsure why they had been recruited to the intervention. Therefore the young people need to be informed of why they are participating in ThinkSmart which may also help to increase engagement with the project, as they can see the intervention as being of use to them. Furthermore, if the researcher had had control over the recruitment of the schools and young people a more stringent recruitment procedure would have been used to eliminate selection bias. Selection biases is when one group differs to another group in a fundamental way which may impact on the outcomes reported. Some of the young people who participated in the cycle of ThinkSmart were not the right sample. The selection of students was left to the judgment of the teacher, in future a selection process to ensure the right learners are recruited could be used due to the importance this has on the overall effectiveness and impact of the intervention.

More generally, to improve the impact and effectiveness of outreach activities better targeting methods are required. Too often the targeting for outreach activities is incorrect (Doyle and Griffin, 2012). Doyle and Griffin (2012) noted that activities typically recruited participants who already had high levels of aspirations towards HE and these decisions were made before attending an outreach activity. Resources are therefore ultimately going to the wrong young people, careful targeting is therefore needed (Hatt, Baxter and Tate, 2008). Targeting is not a simple process, but the current criterion is neither robust nor fit for purpose (Harrison, 2011).Outreach activities are not then supporting those undecided or those considered ‘hard to reach’ to change perceptions of post-compulsory education. It is difficult to determine

the best criteria (Hatt, Baxter and Tate, 2005) A rigorous selection procedure is required (Baxter, Tate and Hatt, 2009).

It is difficult to operationalise the definition of a widening participation learner stated in government policies (Hatt, Baxter and Tate, 2005). Teachers do not regularly collect data on students to assess whether they are suitable for outreach activities. The results of ThinkSmart identified that teachers are poor at selecting pupils with low levels of self-esteem (Miller and Moron, 2005). This supports other research that documents the difficulty in recruiting the hard to reach pupils; teachers are therefore essentially gatekeepers. It is also difficult with targeting as there is a lack of a robust tool to identify specific cohorts of young people to address inequalities (Blicharski, 2000). The measure constructed in this thesis may act as a tool to select the right learners, those who do not express an interest in HE are the young people to which the interventions should be aimed at. Research is required to explore the use of the measure for targeting purposes.

To be used for research purposes, validation of the measure with a larger more representative sample of young people is required. Due to the limited sample the use of more sophisticated methods of validity such as confirmatory factor analysis was not possible, further research is required to address this. A confirmatory factor analysis would assess also the convergent and discriminant validity of the measure. Furthermore, responsiveness a term used to describe an instruments ability to detect changes over time could be explored. This is an important validation test for measures that are used for evaluation purposes such as the impact of outreach activities on young peoples' educational decisions. Future research may wish to explore the responsiveness of the scale constructed in this research project. If applied outside of the research project, the scale will enable practitioners to evaluate activities and compare scores across a number of outreach activities to establish an evidence-base on how outreach activities impact on intention to engage with HE.

Additionally, the sample for the evaluation of ThinkSmart was small in nature. The recruitment of the participants was however independent of the evaluation, which was a strength of this project increasing ecological validity. That is the results of this thesis can be generalised to current practices, which was an important outcome of the studies. However the research design would have been improved if a larger

more representative sample of young people had participated in the empirical evaluation. This can however be addressed through future research. The process evaluation yielded a wealth of data that recruited a large sample to reach the point of data saturation which is a strength of the project.

11.6.3 Measures

Standardised self-report measures were a strength to this project, employed as part of the evaluation of ThinkSmart they collected standardised data on the impact of the intervention. At each school site the young people completed all three measures at the same time. This type of data collection method can however introduce the possibility of error, mistakes and inaccuracies. These could occur for a variety of reasons including understanding of the item and response scale, variances between truth and reality or error in participation recollection. This is why the piloting of the measures was crucial.

A number of participants struggled with the positive and negative wording of Rosenberg's self-esteem scale which may have impacted on responses to this scale. As the measures were completed in a group setting the young people may also have provided socially acceptable answers known as social desirability bias. The questionnaires employed were closed restricting the respondent's answers which was suggested to frustrate the young people, especially with the scale Students Intentions Towards University (SITU). This however reduced the chance of ambiguity, but more importantly this enabled the measure to be used to draw numerical comparisons. The development of the Students Intentions Towards University (SITU) can explore the use of both open and closed items to reduce the frustration of respondents.

The use of standardised measures provided a new direction for the evaluation of outreach activities. In this thesis the actual impact of ThinkSmart was reported instead of relying on accounts provided by young people and staff to conclude whether the activity was effective. An approach that should be advocated in the evaluation of outreach activities.

11.6.4 Design

The process evaluation was a strength to this project, yet improvements could have been made. In designing the research framework for the process evaluation there

was a trade-off between the amount of data that could be collected and overburdening the participants. Due to it being an independent evaluation the researcher had little say in the implementation of the intervention this did however enhance the ecological validity of the research study. The data collection methods selected aimed not to overburden participants, such as the inclusion of questionnaires completed by the Ambassadors for the Aimhigher partnership. However the independent evaluation nature of this project meant that when a young person or whole school dropped out it was not possible to follow-up to explore why this had occurred, in future it would aid understanding to find out why these drop outs occurred to refine the intervention.

Also, the completion of attendance registers would have improved the process evaluation. Registers were to be completed by the Ambassadors, this however did not occur, therefore there was no accurate attendance data to determine the number of sessions attended. To address this school registers could have been used, however, due to the number of young people not turning up to the sessions this would have not have provided an accurate reflection on the number of young people who attended the sessions each week. In future the facilitator should take a register as part of a tutor log. Diaries or tutor logs would provide a more systematic way to collect data on how the sessions went, the activities included and a space for personal reflection. Furthermore, one or two session observations is deemed to be unreliable as it does capture the facilitators true performance across the ten week intervention; however further research is required to determine what is a sufficient number of sessions to observation without inferring with the intervention (Davies et al., 2000).

A limitation of the Aimhigher research was that much of data reported on the immediate impact of an activity (EKOS Consulting, 2007; Doyle and Griffin, 2012, Chilosi et al., 2009). Due to the time constraints of the project a six month follow explored the intermediate impact of ThinkSmart. It was not possible to track the young people in a longitudinal design to assess whether participation in ThinkSmart improved GCSE grades or progression to HE due to the timing of the project as well as this being an independent evaluation of the intervention. Further research should however follow up the young people who participated in ThinkSmart to locate their destinations to compare with a comparison group at 16 and 18. This has the

potential to significantly contribute to the literature as little is known about the experiences, aspirations and final destinations of young people who participate in outreach activities.

11.7 A Theoretical Model of Educational Progression

Outreach activities aimed to raise aspirations and awareness of HE to improve the attainment rates of young people and their intention to progress to HE (Doyle and Griffin, 2012). Raising aspirations was a well-established feature of government policies to widen access to HE because it was thought raising aspirations would increase levels of self-esteem, confidence and motivation, yet this was not directly evidenced (Sellar, Gale and Parker, 2011). This may be due to the general lack of research exploring the impact and effectiveness of outreach activities (Gorard et al., 2006; Thomas, 2011; Doyle and Griffin, 2012). Despite this the aim of outreach activities was conceptualised in the learner model of progression, discussed in chapter four.

The learner model of progression was devised to address the issue that there was no model to inform the design of outreach activities. It was devised to support practitioners with designing activities that would influence progression as well as be useful for schools, colleges and local education authorities (Leonard, 2010; Stanley and Goodlad, 2010). Effective progression according to the model was the function of three interrelated components; aspirations, awareness and attainment (Leonard, 2010). This was an oversimplified of the interrelationship between aspiration, awareness and attainment (Leonard, 2010). The learner model of progression did not consider the association of socio-psychological variables discussed in this research project with academic achievement; self-esteem, perceived ability, attribution and motivation levels (Tella, Tella and Adeniyi, 2009). Nor the impact of the contextual factors discussed in chapter three. Thus the learner model was under-developed and under-theorised (Stanley and Goodlad, 2010).

A model that explored the psychological processes that influence academic achievement was required. A more detailed account of the processes that influence educational decisions would develop targeted outreach activities (Leonard, 2010; Stanley and Goodlad, 2010). To design outreach activities, a framework needs to take into account the impact of internal (individual) and external factors (social) that

influence learning and behaviour (Maras et al., 2007), factors that have been discussed throughout this research project. This will then help to understand what prevents young people from progressing to HE (Wiggins, 2010).

An activity that targets just one element of educational progression, without the consideration of other factors is unlikely to have a sustained effect (Feinstein and Duckworth, 2006). ThinkSmart aimed to change levels of self-esteem, confidence and self-awareness as well as educational attitudes to influence educational progression. A model that considers the importance of psychological constructs such as self-esteem, motivation and attitudes in understanding educational progression is required. The model needs to illustrate how factors may reinforce or compete with one and another to influence educational progression (Staetsky, 2008).

It is clear from this thesis that educational progression is influenced by a number of interrelated factors. The unique approach to this research project has been the focus on the individual while also understanding the importance of external factors. An ecological approachwas discussed in chapter two as the theoretical stance of this thesis. In summarising all that has been discussed in earlier chapters an ecological approach can explain the levels, layers and network of influences this thesis has highlighted in explaining educational progression. The model clearly shows at the centre of the decision-making process is the individual and their attitudes, aspirations, motivations and levels of self-esteem. The knowledge gained from this research project and the application of the ecological model can improve the design of outreach activities in the future.

11.7.1 Ecological Model of Educational Progression

To recap an ecological approach demonstrates how the environment has a direct influence on behaviours as well as indirectly though factors such as self belief. It addresses the multiple levels of factors or systems that influence behaviour. Models based on an ecological approach are described to be comprehensive, multifaceted and dynamic. The ecological approach has origins in several disciplines e.g. health psychology in health promotion, physical education and sex education. It has however not yet been applied to explain educational progression. Such an approach will depict the multiple levels of influence on the education system intrapersonal, socio-cultural and policy and how this impacts on the developing child. An ecological

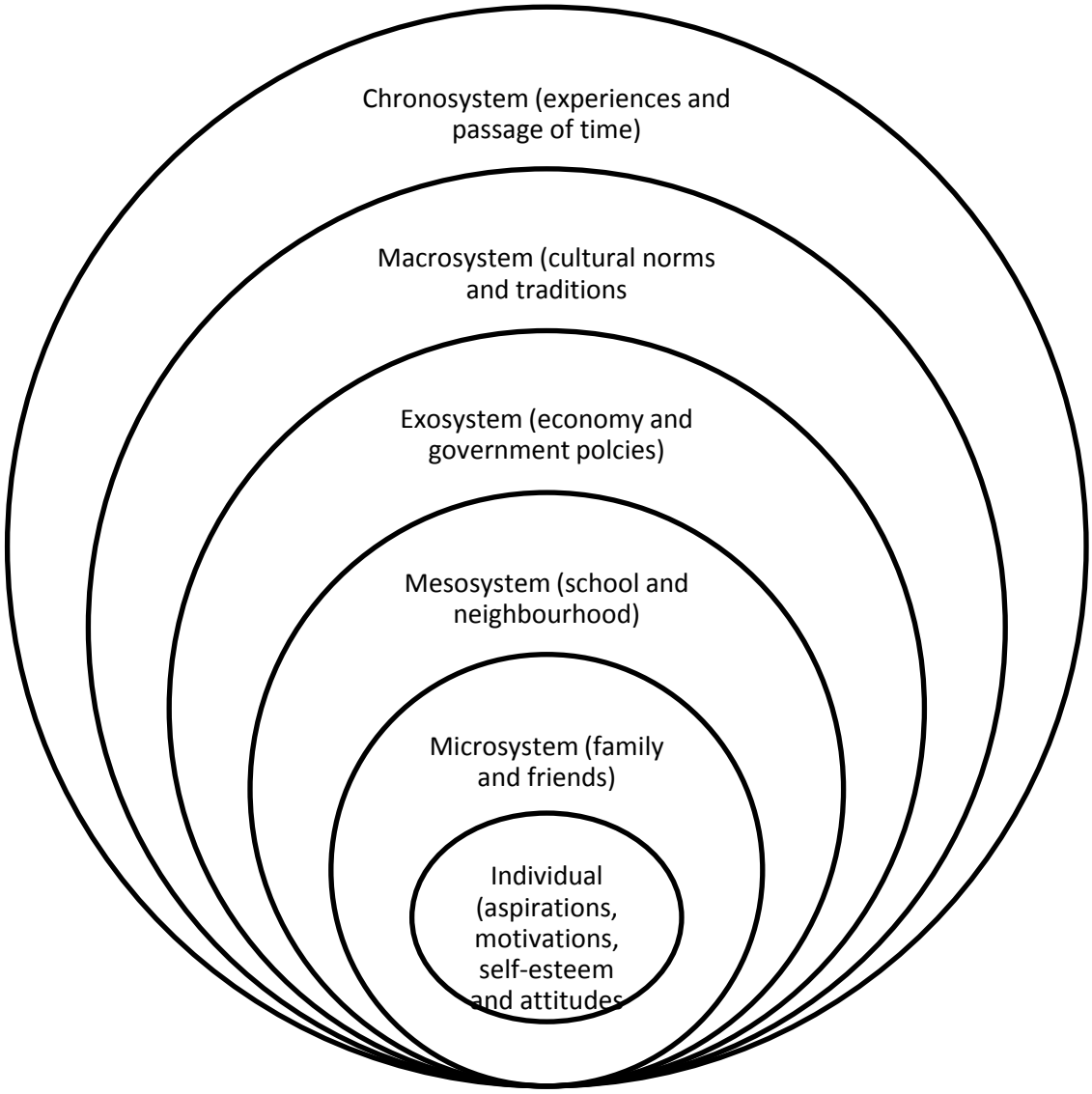
approach to educational progression offers a unique perspective to inform the development of outreach activities. Progression to HE is through a hierarchy of factors that work through multiple circuits that interact during various stages of an educational journey (Stanley and Goodlad, 2010; Leonard, 2010). The model can systematically target areas for change at the multiple levels of influence. It can provide practitioners with a framework for targeting individual behaviours whilst also considering the environmental influences, which may led to intervention effectiveness. An ecological approach demonstrates that substantial change can only occur if the individual level, policy and environmental factors are combined. The ecological approach supports an understanding of how each domain influences the development of a child and their educational journey.

Educational progression is influenced by a complex array of factors, stages and influencers (see chapters three and seven). There is no single factor at play (Paton, 2007). An ecological approach illustrates how the environment such as social barriers, parental attitude, school experience and peers can strongly influence educational decisions. As well as how internal barriers such as self-doubt, self-criticism and low expectations can hinder progression. Individual characteristics such as effort, persistence and intrinsic motivation are important to explain academic achievement (Marsh, 2005). Chapter three discussed that if a young person possesses a negative attitude towards learning and perceives they are not capable, holds a low self-esteem and confidence about their academic ability then they are less likely to engage in school and achieve.

Figure 9:1 illustrates the application of the ecological approach to explain the interplay between interpersonal relations, social structures and cultural factors that shape educational progression. At the innermost level is the individual, the proximal factors that influence progression such as motivation, self-esteem and confidence. Next level is the microsystem that represents the influence of important interactions with significant others such as parents or teachers on educational choices. This level is surrounded by the mesosystem, characterising the home, school and neighbourhood environments. Exosystem is the next layer, the systems or settings that the developing child does not actively participate in but these indirectly influence or affect educational choices, such as parental occupation or government policies. The outermost level, macrosystem illustrates the influence of dominant ideologies of

the individual's culture, norms and traditions. The chronosystem level depicts the transitions over a lifetime, this may be differences in aspirations across time or how experiences impact on decisions in the future. The application of the ecological approach enabled the multitude of factors that influence educational progression to be clearly depicted to design outreach activities.

Figure 11:1*Ecological Model of Educational Progression*



11.7.2.1 Individual

A premise of this thesis was to demonstrate the importance of the individual when exploring ways to address the differences in progression rates to HE, this has been achieved. Although prior attainment is acknowledged to be a main predictor of

educational progression, factors that are associated to this have been overlooked such as an individual's perception of their ability (Payne, 2003). This is because a negative self-perception can create a reinforcing downward spiral of disengagement negatively on educational progression (Payne, 2003). Young people with perceived low attainment are more likely to adopt a maladaptive attribution style, whereas high achievers are suggested to adopt an adaptive attribution style (Weiner, 2010). This may be because young people who are low level achievers frequently experience failure, so internalise and reinforce feelings of inadequacy resulting in low aspirations and disengagement from school, ultimately learned helplessness. Outreach activities should therefore aim to change maladaptive thoughts and retrain individuals to think more positively, though such methods as attribution re-training and CBT.

Goodman and Gregg (2010) reported between the age of 14 and 16 years old, young people especially from disadvantaged backgrounds decrease their expectations of progressing to HE and this may be due to attitudes held prior to their GCSE years. Therefore, decisions made early on about HE can impact upon motivation levels and subsequent engagement with school and exams (Jerrim, Vignoles and Finnie 2012). A low level of belief in ability, which along with the idea that their actions do not influence their future outcomes can negatively influence educational outcomes (Goodman and Gregg, 2010). If a young person progresses through the education system with a negative attitude the more strength it gains the more of a negative impact on educational outcomes (Payne, 2003). Outreach activities need to contribute to increasing the number of young people in receipt of good GCSE results, thus activities need to impact on attainment by addressing perceptions and beliefs of ability, confidence and self-esteem of young people.

The individual is central to the ecological model and therefore should not be overlooked when understanding why there are differences in participation rates to HE. Motivation levels, perception of ability, confidence levels, and levels of self-esteem are all important constructs that need to be considered when designing outreach activities.

It should also be acknowledged that these constructs do not develop independent of contextual factors. Martin et al., (2007) identified the importance of interpersonal relationships in young people’s academic and non-academic lives. Significant others

have an important role in shaping attitudes and beliefs of young people's expectancies and values, such as value placed on education. Development of confidence, self-esteem and self-efficacy was also shaped by supportive information from others. Interpersonal relationships teach young people about themselves, which is internalised to shape beliefs and values. This demonstrates the importance of supportive relationships in the development of internal factors that influence educational progression. Young people require a range of positive interpersonal relationships in their academic and non-academic lives to influence educational outcomes. This demonstrates the complexity of the task faced by outreach activities and the factors that are needed to be considered when designing activities to address specific barriers to educational progression.

An understanding of what prevents young people from progression to HE was required (Wiggins, 2010). The psychology perspective taken in this project has established there to be a multitude of factors that influence progression, which includes several psychological factors such as motivation levels and self-esteem (Roskam and Nils, 2007). Based on the new model, designing programmes that aim to address maladaptive thinking styles, low levels of confidence and motivation levels may contribute to addressing the differences in progression rates to HE.

11.7.2.2 Microsystem

The innermost layer of the model, the microsystem is defined as the immediate setting that the young person experiences (Chau-Ying Leu, 2008). It contains the developing individual and their interactions with significant others such as family members, peers and teachers. The microsystem at first can be quite small, focusing on the home but as the individual develops and interacts with more people in more places the microsystem expands. Expansion of the microsystem is the essence of development (Chau-Ying Leu, 2008). The interactions at this level enable psychological growth of the individual. These interactions are also known as the process of socialisation, the

'*process by which children acquire the beliefs, values and behaviours deemed significant and appropriate by older members of their society'* (Shaffer, 1999; 558).

Children acquire the knowledge, skills and aspirations to function effectively in their community through the transmission of knowledge at the mircosystem.

The transmission of knowledge can be influenced by socio-economic status as it is suggested that this can shape parental attitudes and beliefs, which can then also shape the attitudes and beliefs of their child about education. The cultural environment can influence parental attitudes and strongly predict educational achievement (Dodgson and Whitman, 2003; Fuligni, 1997). Parental attitudes can therefore discourage further educational progression, if it is something against the social and cultural norms. For instance, Spera, Wentzel and Matto (2005) suggested that white British with low level education disadvantaged parents, whom possess negative views of education, also hold low aspirations which are transmitted to their children, influencing their participation in the education system. This can explain why some young people hold low aspirations and are unlikely to progress in comparison to other young people (Archer, 2005).

The variation in socialisation between sub-cultures can contribute to different educational pathways. Families from lower socio-economic families are perceived to have lower aspirations regarding their future careers, so are considered to be less likely to progress to HE. The widening participation agenda aimed to address this by raising aspirations through outreach activities and enabling young people to see that HE is for them. However, as highlighted in this research project, a social group should not be homogenised and that individual experiences and the influence of parents can differ within in a predefined social group which impacts on educational journeys.

Therefore the parent-child dyad at the microsystem level is the most important unit of a child's development (Bronfenbrenner, 1979). A dyad is the formation of a reciprocal relationship of two people, so if one member of the pair undergoes development so does the other. Acknowledgement of this is important to understand developmental changes not only in children but also in adults. The parent-child dyad can have a powerful impact on steering young people's development and educational achievements (Bronfenbrenner, 1979). In the context of this research project parents have been established to be the most influential family members on the formation of aspirations and subsequent educational progression (Strand, 2007; Raphael-Reed et al., 2007). A wealth of research (see chapter three) demonstrated that parents have a huge impact on their child's development, school achievement and attitude towards learning and decisions about progressing to HE (Thomas,

2006).Parents therefore have a salient role in influencing educational progression that should be acknowledged when designing outreach activities.

Aspirations held by parents are important influences on academic development. Young people who perceive their parents to support their educational choices have higher aspirations and are more likely to engage with further education (Herlickson et al., 2009). Greater parental involvement has also been associated with more positive educational outcomes (Pomerantz and Moorman, 2007). Young people can be in receipt of better GCSEs if they have greater belief about their ability, have supportive parents who believe they will continue their education, spend quality family time and engage in educational activities as a family (Goodman and Gregg, 2010).There is a strong relationship between the aspirations of parents and their child (Gutman and Akerman, 2008). These actions and behaviours are attainable for all therefore focusing on socio-economic background (see chapter three) limits ways of addressing educational progression.

The low expectation of parents from disadvantaged backgrounds may be due to their social class constraining their capacity to aspire, as parents may not want to disappoint their child and for them to experience failure so expectations are kept low (Stand and Wilson, 2008). However, being optimistic may act as a buffer to being in a disadvantaged environment. Parents need to be made to feel that can make a difference, to be more optimistic (Strand and Wilson, 2008). The overarching ideologies and norms at the macrosystem can influence the parent-child dyad, but at the same time parental actions can override their social situation to support their child and the acknowledgement of the importance of this association can provide an important understanding of educational progression. Thus in designing outreach activities parents should be considered as they are key players in influencing educational progression.

Relationships with other people such as peers can also be of importance. Peers as reported in chapter seven can become more influential during teenage years (Asmussen et al., 2007). The strong influence of peer groups can create a sub-culture of it is not cool to learn (DCSF, 2010). Young people that do not progress beyond compulsory education reported that their friends intended to do the same (Social Exclusion Force, 2008). This is known as herd behaviour or social

conformism, as young people make decisions based on peer expectations (Staeskty, 2008). Research on the impact of peer relations should however be treated with caution; as research is inconclusive of the impact peers have on educational progression (Staeskty, 2008). In chapter three, the impact of peers on educational progression may be individualised and related to age, for sixth formers who participated in the research discussed in chapter seven their peers did not influence their educational decisions but for younger students they may influence decisions. The ethos of the school attended by the young people can also influence the impact of peers on educational decisions.

Relationships with teachers are also important to educational progression. The idea of HE is often first mentioned in school by a teacher. However this is more likely to be targeted at young people who teachers perceive as being 'academic' students rather than the less academic students. This is evidenced by teacher selection of students for outreach work, as the students selected by teachers were reported to be typically middle class who were already considering progression to HE (Gorard et al., 2006). Teachers are therefore gatekeepers and perceived ability by teachers hinders access to information about progression routes. Research investigating the impact of teachers, similar to peers is inconclusive (see chapter three). Chapter seven reported for sixth formers when important educational decisions were to be made, teachers played an important role but this was not the same for students lower down the school. The attitude of teachers can influence thoughts about a particular subject which may in the future affect educational decisions. This thesis proposes that teachers are therefore influencers of educational decisions, yet further research is required.

The microsystem establishes the power of human relationships to steer children on pathways to positive or problematic outcomes (Brendtro, 2006). Positive educational progression requires supportive parents, teachers and positive peers. For outreach activities the inclusion of parents at some level is of importance due to the impact they have on educational decisions. To increase participation there is also a need to consider how to enhance positive relationships between school, family and peers to develop a culture of aspiration, which can have an impact on individual characteristics by for instance improving motivation.

11.7.2.3 Mesosystem

The next layer, the mesosystem, depicts the connections between the structures of the child's microsystem, this layer comprises of interactions an individual has in two or more settings, including the home, school, neighbourhood or peers. An individual's mesosystem continually develops and extends though ecological transitions into new settings and different roles (Bronfenbrenner, 1979). Measurement of the mesosystem is by the number and quality of connections formed. Attending to the relations a child has within their mesosystem can provide an accurate understanding of a child's behaviour (Brendtro, 2006). This is because their behaviour reflects the interactions that take place at the mesosystem, as the different spheres of influence each impact on one and other and the developing child. This explains the discussion in chapter three where it was highlighted that aspirations do not exist in a vacuum, they are drawn from the lives of others around them (Gutman and Akerman, 2008). The aspiration window is to view all the possibilities that exist in a social sphere (Ray, 2006). This was not considered when designing outreach activities, the application of the ecological model addresses this.

The home environment is an important feature of the child's mesosystem. It is a pervading factor that shapes young people's engagement and attitudes towards school and education (Martin et al., 2011). Parents are a predominant feature of the home environment and their involvement can either positively or negatively influence educational outcomes. High parental value of education, strong support for progression can positively influence educational progression (Torgerson et al., 2008). The more involved parents are at home and with school, the more positive the educational outcome (Martin et al., 2011). The young people who participated in chapter seven, identified the importance of their parents, how they were role models and a great source of information regarding educational decisions. Siblings and other family members are also part of the home environment which according to chapter three are influencers on educational decisions, yet further research is required to explore their impact on educational decisions.

To explore how the ecological environment shapes parental beliefs and behaviours about educational choices at the mesosystem, there was a need to consider neighbourhood-parent-child association. Neighbourhood community factors (area deprivation, school characteristics and peer effects) can impact upon aspirations

(Social Exclusion Task Force, 2008). Deprived communities are suggested to have low aspirations and often have high concentrations of bonding social capital, 'social glue' between family members and friends. Therefore the '*young people's stories are enmeshed in the stories of their community*' (Wierenga, 2009; 27). Individuals in these communities lack the advantage of a diverse network of contacts known as social capital. Therefore expectations and aspirations formed by family members and peers are transmitted to the young people, so the attitudes and aspirations held by the young person reflect those of their close contacts.

Community level factors such as area deprivation, school characteristics and home environment can influence aspirations for studying at post-compulsory education (Social Exclusion Task Force, 2008). The mesosystem illustrates that interpersonal relationships are important in understanding the differences in young people's progression rates. Neighbourhood deprivation and rural residence can depress aspirations (Atherton et al., 2009). This therefore explains why outreach activities focus on areas of deprivation to address the associated factors, which should be continued but with a more sophisticated approach (as discussed in chapter three). From reviewing the model it is suggested that outreach activities look to foster a way that families and schoolscan work harmoniously to provide a positive supportive environment to enable educational progression.

11.7.2.4 Exosystem

The third layer, the exosystem, represents the larger social systems that an individual does not actively participate in but that have a profound effect on development. It depicts the institutions that influence an individual's daily settings but are not actually a part of the individual's immediate environment (Bronfenbrenner, 1977). This can include government policies, school board and local industry, it may also include the impact of social networks, the media and parental employment. The structures at this level impact on development by interacting with structures at the individual's microsystem. Positive development can only occur if society provides the resources that enable structures at the mesosystem to thrive.

An example of external influence is the media which can impact on educational decisions such as that seen with the increase in tuition fees. The media hype surrounding the increase in tuition fees was suggested to have a negative impact on

progression rates. This was because the cost of HE is a concern, especially for those from low income families, as university is seen as a debt (Callender, 2003). In light of the media hype Moore, McNeil and Halliday (2011) evaluated the impact of providing sound careers advice to young people on the cost and benefits of HE. At pre-test the views of the young people reflected that of the media, however at post-test a change in attitudes was noted which may have been due to the advice given. The robustness of these questionnaires was not discussed however these findings suggest that if young people are provided with sound advice this can inform appropriate educational decisions. Therefore careers advice is important for supporting young people to make suitable decisions about their future.

Other potential influences include the local and regional job market (Payne, 2003). The economic climate and prospects of employment can shape educational decisions (Payne, 2003). This is in addition to the employment position of a parent or parents which may influence young people's educational decisions. For instance shift patterned work may limit the time spent as a family and the time involved in their child's education (Chowdry et al., 2010). Unemployment has financial and well-being consequences which may also impact on educational outcomes. All these factors are not directly related to the individual but they may have an impact on their educational outcomes, thus should be considered when understanding how best to tackle the objectives of the widening participation agenda.

11.7.2.5 Macrosystem

The macrosystem depicts the societal principles which are patterns within the outermost setting of the ecological approach (Bronfenbrenner, 1977). It is the overarching institutional pattern, culture or subculture that includes economic, social, educational, legal and political systems manifested at the other layers. It is the most distant system, yet the belief system and ideologies of the given culture can have a permeating impact on the other layers of the model. It is the shared assumption of how things are done also known as the traditional cultural norms (Bronfenbrenner, 1979). Each culture in society has a way of life, a collection of ideas that are transmitted from generation to generation shaping the development of an individual. The model demonstrates that young people growing up in the same society are influenced in differed ways. Personal experiences are shaped by different contexts, people and relationships, a theme that has run throughout this research project.

Patterns of participation are suggested to be embedded and explained by the interwoven social, historical, biological and personal experiences of an individual (Fuller, Paton and Foskett, 2008). Individuals, who do not participate at sixteen, do so it is suggested because of pre-birth factors social, geographical and historical factors, the main deciders of progression to HE are proposed by Gorard and Smith (2007) to be rooted in the family, locality and history. It is suggested because of this young people who live in an economically deprived area are the least likely to go to university.

It is thought ingrained class ideologies such as that held by parents from disadvantaged backgrounds are transmitted to younger generations influencing their educational participation. There are many post-sixteen opportunities, yet socio-economic background continues to be a powerful influence on young people's educational progression (Howieson and Lannelli, 2008). Socio-economic status is an all-encompassing source of variance at the macrosystem level that influences every aspect of human activity (Bronfenbrenner, 1979). Participation may be due to factors associated with social-economic background such as weaker academic record, fear of debt, lack of information, peer pressure and a lack of aspiration (Jerrim, Vignoles and Finnie 2012). However, socio-economic background should not be viewed as the only explanation for group differences (Jackson, 2007). But, when devising outreach activities it is important practitioners are aware of the ingrained class ideologies that shape younger generations thoughts and may contribute to explaining the limited impact of outreach activities.

Social economic status is a predictor of educational success, but this is however complex (Abbott-Chapman, 2011). This thesis has demonstrated that perhaps it is time to also focus on individual factors. Young people from lower social economic backgrounds do aspire. However for some while progressing through the education system their aspirations may not be solely focused on progressing to HE. This may be due to a lack of financial resources and a lack of self-belief in their ability to achieve (Gutman and Akerman, 2008). For young people from non-traditional backgrounds these barriers can either be a spur to overcome them or an obstacle making them think they cannot reach their goals. These young people need to be resilient to spring back from these obstacles (Gutman and Akerman, 2008). Outreach activities to be of a similar construct to ThinkSmart should continue to work

on developing young people's resilience to failure as well as develop their confidence in their ability and motivation levels to enable them to an effective learner and achieve the grades required to progress to post-compulsory education.

11.7.2.6 Chronosystem

The chronosystem explains the changes throughout the lifespan that influence a person or their environment (Bronfenbrenner, 1986). Aspirations change throughout a young person's early educational journey (Gutman and Akerman, 2008). Aspirations across a lifespan are shaped by the characteristics of the young person, their families, peers, schools and neighbourhood (Gutman and Akerman, 2008). These changes in aspirations at any time point may subsequently impact on educational decisions.

New experiences may also change aspirations or educational pathway. This may be work experience during the later years of secondary school or in receipt of unexpected GCSE results this may change a person's educational pathway. The experience of a new school or a new school year is also important. Educational aspirations in Year 9 are themselves strongly influenced by earlier attitudes to school. A positive attitude early on can therefore influence educational decisions (Strand and Wilson 2008). Outreach activities therefore may have more of an impact if support was implemented earlier on in the school cycle. Some work has started with primary schools however much of the work for outreach activities is concentrated in secondary schools.

The application of an ecological approach depicts the circle of influence that surrounds each child. The child themselves as established here, their thoughts, actions and feelings are important in understanding education progression. The most important and influential circle on the developing child is the immediate life space which includes family, school and peer group (Brendtro, 2006). Further to this is the involvement in the neighbourhood. Surrounding these circles of influence is the impact of cultural, economic and political factors. The ecological approach identifies the importance of interrelatedness between social systems to comprehensively explain educational progression (Bronfenbrenner and Mahoney, 1979). The model devised provides a sophisticated model to help enhance policy developments to widen participation.

The ecological approach illustrates that educational progression does not take place in a vacuum. Experiences and interactions with the environment are governed by our behaviour. This should be considered when designing outreach activities that aim to address entrenched cultural and social issues. Interventions that target just one single factor without the consideration of the interaction with other elements is unlikely to lead to a sustained effect (Feinstein & Duckworth, 2006). Well-designed interventions informed by the ecological model can systematically target factors for change at multiple levels of influence.

To improve educational opportunities a number of ideas arise from the application of the ecological model. The model suggests that interventions are required to build levels of confidence so that young people can realise their full potential (Hatt, Baxter and Tate, 2007). There is a requirement to address student shyness and a lack of self-confidence as these psychological barriers have a sustained impact on attainment and progression to HE (HEFCE, 2010). Outreach activities therefore need to develop resilience and change attitudes held by young people about education. Better careers advice and support is also required to help students make informed decisions. Young people need to realise their aspirations and be given structured advice on how to get there (Gutman and Akerman, 2008). Parents are also important, interventions to develop their confidence to empower them to help their child and overcome social barriers are needed (Gutman and Akerman, 2008). Outreach activities should be in partnership with parents, schools and teachers to raise expectations (Abbott-Chapman, 2011). The ecological model shows that interventions need to be mindful of the cultural, social, structural and psychological factors that impact on a developing individual and their educational outcomes. It has broadened the options for interventions and proposed a wealth of recommendations for future studies in this new area of research.

This thesis has highlighted that some factors that influence educational progression are amendable to change and thus should be the focus of outreach activities, while understanding the influence of other factors after presenting the ecological model of educational progression. By its very nature the ecological model is wide-ranging and multifaceted. The ecological approach has been criticised for being too board. Practitioners and researchers could be overwhelmed by the complexity of the model. It can however provide a framework of reference for practitioners. Further research

is required to test the model, to understand how it can be used to design outreach activities, so that evidence-base policy initiatives can be devised (Gayle, Berridge and Davies, 2002). The model is thought to help to design outreach activities to improve educational progression with a focus on psychological construct, however Practitioners are needed to assess its suitability to design outreach activities.

For the evaluation of outreach activities the use of such a model may make it more demanding. This is because the design and collection of evidence will be from multiple levels. Yet the data collected will help to see how people interact with the environment. The evaluation of ThinkSmart highlighted how outreach interventions can be evaluated. There is a need to test the principles of the model. Research will change current understanding by showing which interactions are most effective in changing behaviour. To change beliefs however is only likely to work when policies and environment support targeted behavioural changes.

11.8 Conclusion

Taylor and Trapp (2010) proposed that psychology can support the design of outreach activities and offer ways to evaluate approaches to reduce inequalities in HE participation rates, this project has demonstrated this is achievable. Established psychological theories can inform the design of outreach activities, like ThinkSmart. Moreover, data collection methods both qualitative and quantitative used in psychology can robustly evaluate outreach activities. This research project has contributed to the literature by establishing a different approach to the widening participation agenda that can enhance the design and evaluation of outreach activities subsequently impacting on the overall aim of addressing the disparities in participation rates in HE.

This research project has raised some important questions for the current model of delivery and evaluation of outreach activities. The design of outreach activities should be systematic and consider high quality research and theory to impact on young people's educational decisions. This approach can also help evaluate activities robustly. This is because the use of theoretical knowledge and robust research to inform the design of outreach activities can help to determine the potential outcomes to shape a research design.

In addition to this the project raises the question over the role of practitioners in the evaluation of outreach activities. In the future should outreach activities be associated with an academic department or should outreach departments employ a trained researcher to ensure robust research is undertaken. For practices to improve evaluators of outreach activities need to be experts in research methods, both qualitative and quantitative methods, therefore outreach departments could employ a widening participation researcher, such as the University of Hertfordshire, a person with expertise in research methods to robustly evaluate outreach activities to provide the data required by OFFA.

More generally this project has highlighted the dearth of research in this area. Little research has explored the role of aspirations, attitudes and behaviours in an experimental design on decisions to engage with post-compulsory education (Gorard, See and Davies, 2012). This means there is a shortage of evidence to inform the strategies devised to address the objective of the widening participation agenda. By employing the techniques drawn from psychology in this research project it can start to develop robust research in this area to understand how aspirations and attitudes as well as other factors are important. Research to understand what influences educational decisions and how can outreach activities support young people to make the right choice is needed. The shortage of evidence means there is scope for new research in this area.

A number of interrelated factors influence educational decisions, as depicted by the ecological model of educational progression. This knowledge can contribute to designing outreach activities that have the potential to impact on young people's educational decisions. The design, implementation and evaluation of outreach activities is complex as demonstrated by this research project. This project however should be viewed as the start to improve the design and evaluation of such activities to make a significant impact on young people's educational journeys and in turn their lives.

In summary, this work makes an original contribution to the literature in terms of:

- the use of a process evaluation to examine the implementation of an outreach activity.
- evaluation of an outreach activity using standardised outcome measures.

- employing a comparison group and intermediate follow-up in the research design to draw valid inferences of impact.
- developed and validated a measure of intention to engage with HE to evaluate outreach activities
- depicted an ecological model of educational progression to inform the design of outreach activities.
- provided evidence that psychology can play a significant role in widening participation and more specifically outreach activities and this should be fostered.

This research project has demonstrated that psychology does have a role to play in widening participation and this association should be bolstered to improve the design and evaluation of outreach activities, this research project is the start in achieving this.

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Appendix 1Ethics Form

University of Worcester

Emma Jackson
University of Worcester

15 September 2010

Dear Emma,

Your proposed study entitled 'Scale construction: To develop a measure of young people's intention to progress to higher education.' has now been reviewed by the Institute of Health and Society Ethics Committee.

The ethics committee is happy for your study to go ahead on the proviso that written consent is obtained from each school involved. In addition consideration needs to be given to an explanatory letter both to Head Teachers and Principals as well as parents and participants which is approved by the your university supervisor.

We wish you well with your research.

Yours sincerely,

Dr Jon Catling
Chair of IHS Ethics Committee

University of Worcester Henwick Grove Worcester WR2 6AJ
Main Switchboard: 01905 855000 Fax: 01905 855132 www.worcester.ac.uk
The University of Worcester is an exempt charity.

University of Worcester

Emma Jackson
University of Worcester
BB060

19 January 2010

Dear Emma,

Your proposed study entitled "Evaluation of an Aimhigher programme 'Think Smart'" has now been reviewed by the Institute of Health and Society Ethics Committee.

I am pleased to confirm that the committee is happy for you to proceed, and we wish you well with your research.

Yours sincerely,

Dr Jon Catling
Chair of IHS Ethics Committee

University of Worcester Henwick Grove Worcester WR2 6AJ
Main Switchboard: 01905 855000 Fax: 01905 855132 www.worcester.ac.uk

APPENDIX 2 EXAMPLE PARENTAL CONSENT FORM

Dear Parent/Carer,

I am a research student with an Enhanced CRB Clearance working at the University of Worcester. I am carrying out a study evaluating the ThinkSmart programme, which X is taking part in. I would like to invite your child to take part in this study, which is described below. I would be very grateful if you could read this information and decide whether or not you would be happy for your child to help with the study.

Does my child have to take part?No, your child's participation is voluntary. You and your child have the right to withdraw at any point from the study, and any information collected will not be used. If you consent for your child to participate, they will then be asked if they are happy to help. If your child does take part, they will be helping to develop the programme further.

What will happen if my child takes part? Your child will be asked to complete three questionnaires about how they feel about themselves and school. They will also be asked to talk about what they thought about the ThinkSmart programme.

Will all information collected about my child be kept safe? Yes, the data collected will be stored in a safe and secure place (in a locked filing cabinet). Your child's identity will be kept safe and anonymous and any information they provide is confidential to the research team: all questionnaires and other documents will be identified by participant numbers, not names and only the researchers will have access to any information provided.

What will happen to the results of the study?The results from the research are part of my PhD thesis and may also be published in academic journals. In writing up any information from the research, no names will be used.

If you are happy for your child to take part in the study, please sign and return the response slip at the bottom of this letter to your child's class teacher. If you do not return this slip, your child will not be asked to take part.

Yours faithfully

Emma Jackson

Email: e.jackson@worc.ac.uk

Telephone: 01905 542293

Please tick the boxes and complete the rest of the slip as indicated. Your unique code is:

- ☐ I am happy for my child to take part in the study.
- ☐ I understand that my child will be audio recorded for the study.
- ☐ I understand that any information my child provides will be confidential and anonymous.
- ☐ I understand that my child and I have the right to leave the study without giving a reason at any time.

Signed: Date:

Child's Name:

Date of Birth:

APPENDIX 3 EXAMPLE OF YOUNG PERSON CONSENT FORM

Dear Participant,

I am a research student working at the University of Worcester. I am carrying out a study to evaluate the ThinkSmart programme, which you are taking part in. I would be very grateful if you could read the information below and decide whether or not you would be happy to help with the study.

Do I have to take part?No, taking part is voluntary. If you decide you do not want to take part then you simply have to tell your form tutor or me at any time. If you do withdraw from the study, any information you have provided will not be included in the research. If you do take part, you will be helping to develop the programme further.

What will happen if I take part?You will be asked to complete three questionnaires about how you feel about yourself and school. To evaluate the ThinkSmart programme, I will attend and audio record some of the sessions you will be participating in. At the end of the programme, you will also be asked to talk about what you thought about the ThinkSmart programme.

Will my information be kept safe?Yes, the data collected will be stored in a safe and secure place (in a locked filing cabinet). Your identity will be kept safe and anonymous and any information provided is confidential to the research team: all questionnaires and other documents will be identified by participant numbers, not names and only the researchers will have access to any information provided.

What will happen to the results of the study?
The results from the research are part of my PhD thesis and may also be published in academic journals.

If you are happy to take part in the study, please sign and return the response slip at the bottom of this letter to me.

Yours faithfully

Emma Jackson

Email: e.jackson@worc.ac.uk

Telephone: 01905 542293

Please tick the boxes and complete the rest of the slip as indicated. Your unique code is:

☐ I am happy to participate in the study.

☐ I understand that I will be audio recorded for the study.

☐ I understand that any information I provide will be confidential and anonymous.

☐ I understand that I have the right to leave the study without giving a reason at any time.

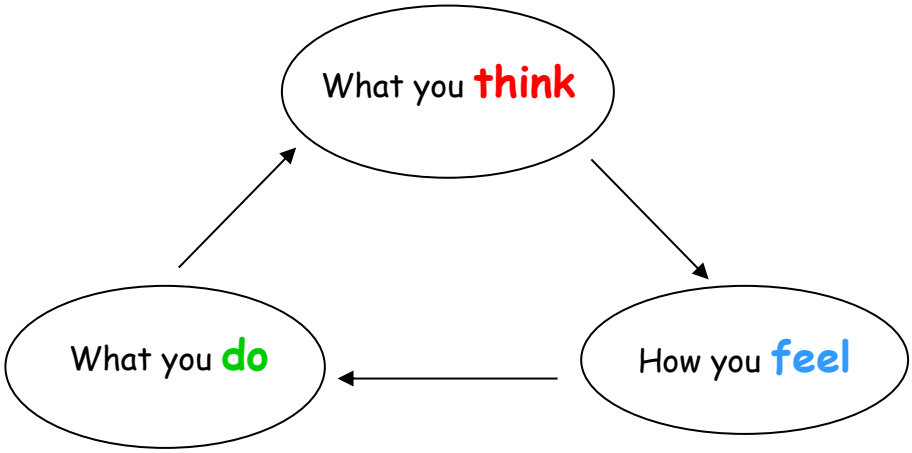
Sign: Date:

Name:

Date of Birth:

The Magic Circle

Thinksmart aims to help you discover helpful ways of dealing with your problems. It is based on something called cognitive behaviour theory (CBT). Cognitive refers to what you think; behaviour is about what you do. According to this theory what you think about things affects how you feel and what you do:



APPENDIX 5 MYSELF-AS-A-LEARNER SCALE

Burden: The Myself-As-Learner Scale (MALS)

Remember,

a = Yes, definitely
b = Yes, a bit
c = Yes and No, about half and half
d = No, not much
e = Definitely not.

Be as honest as you possibly can. There are no right or wrong answers. We just want to know what you really think about yourself.

1.	I'm good at doing tests.	a	b	c	d	e
2.	I like having problems to solve.	a	b	c	d	e
3.	When I'm given new work to do, I usually feel confident I can do it.	a	b	c	d	e
4.	Thinking carefully about our work helps you to do it better.	a	b	c	d	e
5.	I'm good at discussing things.	a	b	c	d	e
6.	I need lots of help with my work.	a	b	c	d	e
7.	I like having difficult work to do.	a	b	c	d	e
8.	I get anxious when I have to do new work.	a	b	c	d	e
9.	I think that problem-solving is fun.	a	b	c	d	e
10.	When I get stuck with my work I can usually work out what to do next.	a	b	c	d	e
11.	Learning is easy.	a	b	c	d	e
12.	I'm not very good at solving problems.	a	b	c	d	e
13.	I know the meaning of lots of words.	a	b	c	d	e
14.	I usually think carefully about what I've got to do.	a	b	c	d	e
15.	I know how to solve the problems that I meet.	a	b	c	d	e
16.	I find a lot of schoolwork difficult.	a	b	c	d	e
17.	I'm clever.	a	b	c	d	e
18.	I know how to be a good learner.	a	b	c	d	e
19.	I like using my brain.	a	b	c	d	e
20.	Learning is difficult.	a	b	c	d	e

APPENDIX 6 ROSENBERG'S SELF-ESTEEM SCALE

Rosenberg Self Esteem Scale (SES)

Please read the following statements and shade the box that best describes how much you agree or disagree with each one

	Strongly Agree	Agree	Disagree	Strongly Disagree
On the whole, I am satisfied with myself				
At times, I think I am no good at all				
I feel that I have a number of good qualities				
I am able to do things as well as most other people				
I feel I do not have much to be proud of				
I feel useless at times				
I feel that I should be valued and I am equal to others				
I wish I could have more respect for myself				
I often think I am a failure				
I take a positive attitude toward myself				

Add up the total number of points in the shaded boxes to get your final score:

APPENDIX 7 SCHOOL ENGAGEMENT SCALE

School Engagement Scale

Instructions

There are 19 statements, which I would like you to read. After each statement, you will choose whether this is definitely true about you, a bit true about you, sometimes true and sometimes not, and not very true or definitely not true.

1= definitely not true

2= not very true

3= sometimes true and sometimes not

4=a bit true

5=definitely true

You circle the number, which indicates the degree of truth for the statement.

1. **I pay attention in class.**

   1 2 3 4 5

2. **I feel happy in school.**

   1 2 3 4 5

3. **When I read a book, I ask myself questions to make sure I understand what it is about.**

   1 2 3 4 5

4. **I study at home even when I do not have a test.**

   1 2 3 4 5

5. **I get in to trouble at school.**

   1 2 3 4 5

6. **I like being at school.**

   1 2 3 4 5

7. **If I do not understand what I have read, I go back and read it over again.**

   1 2 3 4 5

8. **I am interested in the work at school.**

   1 2 3 4 5

9. **When I am in class, I just act as if I am working.**

   1 2 3 4 5

10. **I feel excited by the work in school.**

    1 2 3 4 5

11. **I try to watch TV shows about things we are doing in school.**

    1 2 3 4 5

12. **I check my schoolwork for mistakes.**

    1 2 3 4 5

13. **If I do not know what a word means when I am reading, I do something to figure it out, like looking it up in the dictionary or ask someone.**

    1 2 3 4 5

14. **I complete my homework on time.**

    1 2 3 4 5

15. **My classroom is a fun place to be.**

    1 2 3 4 5

16. **I feel bored in school.**

    1 2 3 4 5

17. **I follow the rules at school.**

    1 2 3 4 5

18. **I talk with people outside of school about what I am learning in class.**

    1 2 3 4 5

19. **I read extra books to learn more about things we do in school.**

    1 2 3 4 5

APPENDIX 8 MOTIVATION AND ENGAGEMENT-HIGH SCHOOL SCALE

Lifelong

Motivation and Engagement Scale – High School

Andrew J. Martin PhD

Disagree Strongly	Disagree	Disagree Somewhat	Neither Agree nor Disagree	Agree Somewhat	Agree	Agree Strongly
1	2	3	4	5	6	7

PLEASE CIRCLE ONE NUMBER FOR EACH STATEMENT	Disagree Strongly						Agree Strongly
1. If I can't understand my schoolwork at first, I keep going over it until I do	1	2	3	4	5	6	7
2. I feel very pleased with myself when I really understand what I'm taught at school	1	2	3	4	5	6	7
3. When I study, I usually study in places where I can concentrate	1	2	3	4	5	6	7
4. I'm able to use some of the things I learn at school in other parts of my life	1	2	3	4	5	6	7
5. Sometimes I don't try hard at assignments so I have an excuse if I don't do so well	1	2	3	4	5	6	7
6. When I don't do so well at school I'm often unsure how to avoid that happening again	1	2	3	4	5	6	7
7. I feel very pleased with myself when I do well at school by working hard	1	2	3	4	5	6	7
8. Each week I'm trying less and less	1	2	3	4	5	6	7
9. If my homework is difficult, I keep working at it trying to figure it out	1	2	3	4	5	6	7
10. When exams and assignments are coming up, I worry a lot	1	2	3	4	5	6	7
11. Often the main reason I work at school is because I don't want people to think that I'm dumb	1	2	3	4	5	6	7
12. When I get a good mark I'm often not sure how I'm going to get that mark again	1	2	3	4	5	6	7
13. If I try hard, I believe I can do my schoolwork well	1	2	3	4	5	6	7
14. Learning at school is important	1	2	3	4	5	6	7
15. I don't really care about school anymore	1	2	3	4	5	6	7
16. When I get a bad mark I'm often unsure how I'm going to avoid getting that mark again	1	2	3	4	5	6	7
17. When I study, I usually organize my study area to help me study best	1	2	3	4	5	6	7
18. I'm often unsure how I can avoid doing poorly at school	1	2	3	4	5	6	7

Andrew J. Martin PhD

Disagree Strongly	Disagree	Disagree Somewhat	Neither Agree nor Disagree	Agree Somewhat	Agree	Agree Strongly
1	2	3	4	5	6	7

PLEASE CIRCLE ONE NUMBER FOR EACH STATEMENT	Disagree Strongly						Agree Strongly
19. I worry about failing exams and assignments	1	2	3	4	5	6	7
20. Often the main reason I work at school is because I don't want people to think bad things about me	1	2	3	4	5	6	7
21. I get it clear in my head what I'm going to do when I sit down to study	1	2	3	4	5	6	7
22. I've pretty much given up being involved in things at school	1	2	3	4	5	6	7
23. If I don't give up, I believe I can do difficult schoolwork	1	2	3	4	5	6	7
24. I sometimes don't study very hard before exams so I have an excuse if I don't do so well	1	2	3	4	5	6	7
25. I feel very pleased with myself when what I learn at school gives me a better idea of how something works	1	2	3	4	5	6	7
26. I feel very pleased with myself when I learn new things at school	1	2	3	4	5	6	7
27. Before I start an assignment, I plan out how I am going to do it	1	2	3	4	5	6	7
28. When I'm taught something that doesn't make sense, I spend time to try to understand it	1	2	3	4	5	6	7
29. I've pretty much given up being interested in school	1	2	3	4	5	6	7
30. I try to plan things out before I start working on my homework or assignments	1	2	3	4	5	6	7
31. Often the main reason I work at school is because I don't want to disappoint my parents	1	2	3	4	5	6	7
32. When I study, I usually try to find a place where I can study well	1	2	3	4	5	6	7
33. If I have enough time, I believe I can do well in my schoolwork	1	2	3	4	5	6	7
34. What I learn at school will be useful one day	1	2	3	4	5	6	7
35. I sometimes do things other than study the night before an exam so I have an excuse if I don't do so well	1	2	3	4	5	6	7
36. I'll keep working at difficult schoolwork until I think I've worked it out	1	2	3	4	5	6	7

Lifelong

Motivation and Engagement Scale – High School

Andrew J. Martin PhD

Disagree Strongly	Disagree	Disagree Somewhat	Neither Agree nor Disagree	Agree Somewhat	Agree	Agree Strongly
1	2	3	4	5	6	7

PLEASE CIRCLE ONE NUMBER FOR EACH STATEMENT	Disagree Strongly						Agree Strongly
37. When I do tests or exams I don't feel very good	1	2	3	4	5	6	7
38. Often the main reason I work at school is because I don't want my teacher to think less of me	1	2	3	4	5	6	7
39. I usually stick to a study timetable or study plan	1	2	3	4	5	6	7
40. If I work hard enough, I believe I can get on top of my schoolwork	1	2	3	4	5	6	7
41. It's important to understand what I'm taught at school	1	2	3	4	5	6	7
42. I sometimes put assignments and study off until the last moment so I have an excuse if I don't do so well	1	2	3	4	5	6	7
43. In terms of my schoolwork, I'd call myself a worrier	1	2	3	4	5	6	7
44. When I study, I usually study at times when I can concentrate best	1	2	3	4	5	6	7

THAT IS THE END OF THE SURVEY

PLEASE CHECK YOU HAVE ANSWERED ALL THE QUESTIONS

THANKS

APPENDIX 9 STUDENTS INTENTIONS TOWARDS UNIVERSITY

Students Intentions Towards University (SITU)

This questionnaire is looking at what you think about university. Please read each of the statements below and answer each one honestly. The information you provide will be used for a research project. All data is anonymous and you should not write your name on this questionnaire.

Information about you.

Please tick the circles provided.

School:_____

Today's date:____/____/____

Are you: Male ◯ Female ◯

Are you in: Yr. 7 ◯ Yr. 8 ◯ Yr. 9 ◯ Yr. 10 ◯ Yr. 11 ◯

Date of Birth:____/____/____

Please tick which ethnic group you belong to.

White ◯ Black Caribbean ◯ White and Black Caribbean ◯

Chinese ◯ Black African ◯ Other Mixed background ◯

Bangladeshi ◯ Other Black background ◯ Other Ethnic background ◯

Indian ◯ White and Asian ◯ Prefer not to say ◯

Other Asian background ◯ White and Black African ◯ Other ◯

Are you entitled to Free School Meals at school? Yes ◯ No ◯ I do not know ◯

Have any of the following family members either been to or is at university? Please tick as many options as applicable.

Parents/Carers ◯ Brother/Sister ◯

Other (e.g., Aunties/Uncles or Cousins) ◯ Please state which other relative/s below:

_____

Read each statement carefully and answer each one honestly. Please remember that there is no right or wrong answer.

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Unsure
1. I see university as part of my future.	◯	◯	◯	◯	◯
2. Once I have finished compulsory schooling, I would rather get a full time job than go to university.	◯	◯	◯	◯	◯
3. I want to go to university, as it will improve my chances of getting a good job.	◯	◯	◯	◯	◯
4. I think I will achieve the grades needed to go to university.	◯	◯	◯	◯	◯
5. I am motivated to learn.	◯	◯	◯	◯	◯
6. My parents/carers encourage me to aim for university.	◯	◯	◯	◯	◯
7. My parents/carers would support my decision to go to university.	◯	◯	◯	◯	◯
8. My parents/carers encourage me to get good grades.	◯	◯	◯	◯	◯
9. I regularly discuss school and schoolwork with my parents/ carers.	◯	◯	◯	◯	◯

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Unsure
10. My friends are thinking about going to university.	◯	◯	◯	◯	◯
11. My friends encourage me to aim for university.	◯	◯	◯	◯	◯
12. My teachers encourage me to achieve good grades.	◯	◯	◯	◯	◯
13. My teachers encourage me to aim for university.	◯	◯	◯	◯	◯
14. The careers advice at my school promotes progression to university.	◯	◯	◯	◯	◯
15. My school promotes achievement and further education.	◯	◯	◯	◯	◯

Additional Comments

If you would like to make any comments about whether you would like to or not like to attend university, please use the box below.

Thank you for taking the time to complete this questionnaire.

APPENDIX 10 AMBASSADOR TRAINING EVALUATION FORM

I am interested in your thoughts about the training you have just received. For each statement, tick whether you strongly agree, agree, neutral, disagree and strongly disagree.

Categories	Strongly agree		Agree		Neutral
Content Delivery					
The goals of the training were clearly defined					
The topics covered were relevant					
The introduction to each session stated the objectives clearly					
There was sufficient opportunity for interactive participation					
The format allowed me to get to know the other participants					
The training was too technical and difficult to understand					
The training experience will be useful in my work					
I got most of my questions answered during the training					
The materials were pitched at the right level					
The materials for the training were helpful					
The schedule for the training provided sufficient time to cover all of the proposed activities					
The handouts provided were helpful					
Facilitator:					
The facilitators was knowledgeable about the topic					
The facilitator was well prepared for the session					
The facilitator encouraged active participation					
The facilitator answered questions in a complete and clear manner					
The facilitator used a variety of training methods					
General Satisfaction:					
The goals of the training have been met					
I am satisfied with my increased understanding of the topic					
I was satisfied with the variety of training methods used					

APPENDIX 11 SESSION OBSERVATION CHECKLIST

Rating Scale for the ThinkSmart sessions

Ambassadors _____ School_____ Date of Session_____

Research Rater_____ Date of Rating _____

Independent Rater_____ Date of Rating _____

Session____

Directions

For each of the sessions, assess the ambassadors on a scale from 0 to 6, and record the rating on the line next to the question. If you think the ambassadors fall between two of the descriptions, select the intervening odd number (1, 3, and 5). For example if the ambassadors set a very good agenda but did not establish the priorities, assign a rating of 5, than 4 or 6.

If the descriptions for a given question do not seem to apply to the session, you are rating, feel free to disregard them and use the more general scale below:

0 1 2 3 4 5 6

Poor Barely Adequate Adequate Satisfactory Good Very Good Excellent

Questions

1. Agenda

   0 Ambassadors did not set an agenda for the session.

   2 Ambassadors set an agenda, which was vague or incomplete.

   4 Ambassadors worked with the young people to set a mutually agenda that included specific targets (i.e. completing activity 1).

   6 Ambassadors worked with the young people to set an appropriate agenda with target problems, suitable for the available time. Established priorities and then followed agenda.

2. Topic introduction

   0 Ambassadors did not introduce the session's topic

   2 Ambassadors presented a vague not related to the workbook, unclear introduction to the session's topic

   4 Ambassadors clearly articulated most of the points of session topic introduction from the workbook

6 Ambassadors expressed all points from the session topic in the workbook clearly.

3. Feedback

0 Ambassadors did not ask for feedback to determine the young people's understanding of, or response to, the session.

2 Ambassadors elicited some feedback from the young people, but did not ask enough questions to be sure the young people understood their line of reasoning during the session or to ascertain whether the young people were satisfied with the session

4 Ambassadors asked enough questions to be sure that the young people understood their line of reasoning throughout the session and to determine the young peoples reactions to the session. The mentor adjusted his/her behaviour in response to the feedback, when appropriate.

6 Ambassadors were especially adept at eliciting and responding to verbal and non-verbal feedback throughout the session (regularly checking for understanding, helped summarise main points at the end of the session).

4. Understanding

0 Ambassadors repeatedly failed to understand what the young people explicitly said and thus consistency missed the point. Poor empathic skills.

2 Ambassadors was usually able to reflect or rephrase what the young people explicitly said, but repeatedly failed to respond to more subtle communication. Limited ability to listen and empathize.

4 Ambassadors generally seemed to grasp the young peoples 'internal reality' as reflected by both what they explicitly said and what the young people communicated in more subtle ways. Good ability to listen and empathise.

6 Ambassadors seemed to understand the young peoples 'internal reality' thoroughly and were adapt at communicating this understanding through appropriate verbal and non-verbal responses to the young people (e.g. the tone of the ambassadors response conveyed a sympathetic understanding of the young peoples 'message'). Excellent listening and empathic skills.

5. Interpersonal Effectiveness

0 Ambassadors had poor interpersonal skills. Seemed hostile, demeaning, or in some other way destructive to the young people.

2 Ambassadors did not seem destructive, but had significant interpersonal problems. At times, ambassadors appeared unnecessarily impatient, aloof, and insincere or had difficult conveying confidence and competence.

4 Ambassadors displayed a satisfactory degree of warmth, concern, confidence, genuiness, and professionalism. No significant interpersonal problems.

6 Ambassadors displayed optimal levels of warmth, concern, confidence, genuineness, and professionalism, appropriate for the young people in the session.

6. Collaboration

   0 Ambassadors did not attempt to set up a collaboration with the young people.

   2 Ambassadors attempted to collaborate with the young people, but had difficulty either defining a problem that the young people considered important or establishing rapport.

   4 Ambassadors were able to collaborate with the young people, focus on a problem that both the young people and the ambassadors considered important, and establish rapport.

   6 Collaboration seemed excellent; ambassadors encouraged the young people as much as possible to take an active role during the session (e.g. by offering choices) so they could function as a 'team'.

7. Pacing and efficient use of time

   0 Ambassadors made no attempt to structure the session time. Session seemed aimless.

   2 Session had some direction, but the ambassadors had significant problems with structuring or pacing (e.g. too little structure, inflexible about structure, too slowly paced, too rapidly paced).

   4 Ambassadors were reasonably successful at using time efficiently. Ambassadors maintained appropriate control over flow of discussion and pacing.

   6 Ambassadors used time efficiently by tactfully limiting peripheral and unproductive discussion and by pacing the session as rapidly as was appropriate for the young people.

8. Application of Cognitive-behavioural techniques (Note: For this item, focus on how skilfully the techniques were applied, not on how appropriate they were for the target problem or whether change actually occurred).

   0 Ambassadors did not apply any cognitive-behavioural techniques.

   2 Ambassadors used cognitive-behavioural techniques, but there were significant flaws in the way they were applied.

   4 Ambassadors applied cognitive-behavioural techniques with moderate skill

   6 Ambassadors very skilfully and resourcefully employed cognitive-behavioural techniques.

9. Homework

   0 Ambassadors did not attempt to incorporate homework into the session.

2 Ambassadors had significant difficulties incorporating homework (e.g. did not review previous homework and did not explain the homework in sufficient detail).

4 Ambassadors reviewed previous homework and provided sufficient detail to assign the next sessions homework.

6 Ambassadors reviewed previous homework and assigned 'custom tailored' homework to incorporate the young peoples discussions from the session.

Additional Considerations

10. (a) Did any particular problem arise during the session (e.g. non-adherence to homework, interpersonal issues between the ambassadors and young people).

    Yes No

    (b) If yes

    0 Ambassadors could not deal adequately with the problems that arose.

    2 Ambassadors dealt with the problems adequate, but used strategies inconsistent with cognitive therapy.

    4 Ambassadors attempted to deal with the problems using a cognitive framework and was moderately skilful in applying techniques.

    6 Ambassadors were very skilful at handling the problems using a cognitive therapy framework.

Overall rating and comments

11. How would you rate the ambassadors overall in this session?

    0 1 2 3 4 5 6

    Poor Barely Adequate Adequate Satisfactory Good Very Good Excellent

12. Comments and suggestions for the ambassadors improvement: