
'But no one in my family has been to University' Aiming Higher: School Students' Attitudes to Higher Education

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Abstract

In this paper, we present findings from the second stage of a three year longitudinal study involving 3,570 students aged 13-18 in a London Borough looking at the impact of Widening Participation (WP) on the attitudes of students. We outline findings from a previous stage and then focus specifically on two cohorts of Year 10 students (aged 14-15) in two consecutive years. The students completed the specially designed Attitudes to Higher Education Questionnaire (AHEQ) and provided information on WP activities in which they had participated. Data on the students' academic attainment and social backgrounds were also included. There were significant sex and cohort differences and interactions which were found to be related to WP activities specifically aimed at increasing the participation of socially disadvantaged students in higher education. The implications of findings are discussed in relation to theories of social identity and self concept and the implementation of strategies to increase participation in Higher Education.

Introduction¹

Context

Social and economic background still appears to be an important factor when it comes to performance and participation in education. Demie, Butler and Taplin (2002) found that schools with higher numbers of disadvantaged families performed poorer than those with smaller proportions. Sacker, Schoon and Bartley (2002) found social class inequalities increased from seven to 11 years of age, remaining at the same levels at

16 years. The Office for National Statistics (2004, p. 2) report that participation in post-16 (further) education is strongly influenced by social and economic background: 'In 2002, 87 per cent of 16 year olds with parents in higher professional occupations were in full-time education, compared to 60 per cent of those with parents in routine occupations, and 58 per cent with parents in lower supervisory occupations'. In order to address these social and economic discrepancies, the UK Government has a policy aimed at: 'creating a higher education system that includes all who can benefit from it – people who might not otherwise view learning as an option, or who may be discouraged by social, cultural, economic or institutional barriers' (Action on access 2005, p. 3). This is known as Widening Participation (WP).

English Local Authorities (LAs²) are striving to meet the national benchmarks to widen participation in higher education (HE) through the use of initiatives and interventions aimed at the disadvantaged.

'Aim Higher' is one such national initiative (DfES 2005) aimed at meeting these goals through targeting WP activities at students aged 14 - 19 years who have the ability to go to higher education, but whose backgrounds might mean that they or their families might not, in the past, have considered university to be an option for them.

Research on participation in higher education Factors found to influence school students' participation in higher education have included participation in college preparation programmes (Fogel 2003), the development of special curriculum strategies (Laplan et al. 2003), perceptions of teachers/counsellors, and the role of parents and academic identities (Howard 2002).

Family factors Douglas (1964, cited in DfES 2003) suggests that children were not educationally disadvantaged directly by social class but by lack of parent interest. Findings suggest that children whose parents showed a high level of interest, irrespective of social class, scored higher on tests (DfES 2003). Similarly, Hill et al. (2004) found that parental involvement was directly associated with young peoples' aspirations, although not achievement. Heiner (1981) found that attitudes towards education were the strongest influence on students' aspirations and progress, with parents' attitudes having an added social effect.

Howard (2002) reported that parents and teachers/counsellors impacted upon academic identities and aspirations of African American students. Osler and Hill (1999) and Leppel et al. (2001) suggested that 'academic and social match' were important factors in retaining students from ethnic minorities. In contrast, Kysel, West and Scott (1992) in a study in a London Borough found that individuals who planned to leave education were white, male and working class.

Social development Parental involvement in adolescents' schooling often declines and becomes less positive in adolescence to the age of 14/15 years before increasing again in late adolescence (Baldwin & Hoffman 2002, Hill et al. 2004). This developmental 'dip' around age 14 comes at a time of change in young people's physical, mental and social identities. During early adolescence, the biggest influence is pubescent change, replaced by peer relationships in late adolescence (Chen, Mechanic & Hansell 1998). O'Brian and Bierman (1988) identified significant changes in young people aged from 10.9 to 16.5 years of age. The authors found a marked move toward peer group influence in adolescence.

Social identity (identification with peers, family and school) Research highlights parent and peer influences and expectations, school climate, and own capability beliefs as important, especially in early to mid adolescence (Ary, Duncan, Biglan, Metzler, Noell, & Smolkowski 1996, Baldwin & Hoffman 2002, Loukas & Robinson 2004). Changes in adolescence do not occur in isolation; salient others clearly have an impact on young people's views about schools and are related to young people's social identity. Social Identity Theory (SIT) (Tajfel 1978, Tajfel & Turner 1979) is based on the assumption that part of an individual's self concept comes from the groups to which she or he belongs, that is, their social identities (Maras, Lewis & Simonds 1999). SIT posits that to sustain and develop a positive identity, people will tend to engage in group comparisons in which their own groups can be seen in a relatively favourable light, which in turn leads to widely demonstrated in-group bias (Brown, Hinkle, Ely, Fox-Cardamone, Maras, & Taylor 1992).

Kenny and Bledsoe (2005) found that family support and peer beliefs contributed to students' perceptions of educational barriers, with teacher support and peer beliefs independently affecting school identification. Yazejian (1999) linked teacher supportiveness to school identification. Bornholt, Gientzotis and Cooney (2004) highlighted salient personal and social factors in the context of changing educational aspirations and opportunities. They propose a general model of the personal and social factors to explain pathways to higher education. Koller (2000) suggests that developmental and environmental changes result in increased social comparisons and, therefore, self-concepts based on academic competence may be based on social identity more than personal identity.

Within this work, Voelkl (1996) found that female students identified with school more than their male counterparts, African-American students identified with school more than their white peers and young white males expressed the lowest levels of identification with school.

Links to related work

Previous evaluations of the effectiveness of interventions have not focused on the impact or outcome but rather on numbers of individuals. Similarly, much of the research conducted has tended to focus on either social factors such as family and economic background or individual factors such as individuals' attitudes and self-esteem, and not group factors in terms of students' social identification and individual factors such as students' self perceptions (Maras et al. 2007). In order to address these anomalies and attempt to provide a broader, more thorough, explanation of attitudes to participating in Higher Education, a longitudinal three stage study was conducted. The study investigated changes in students' attitudes toward higher education from early to late adolescence in relation to the UK Government initiative: 'Aim Higher'.

Findings from stage one

This paper reports the findings from stage two of a longitudinal study. Stage one was conducted a year before the current study and required students aged 13-16 to complete the specially designed questionnaire (described in detail in 'Measures' below).

Summary of findings of stage one

Analysis of stage one data revealed that English, Maths and Science Standard Assessment Tests (SATs) scores were significantly positively correlated with increased take up of 'Aim Higher' activities. SATs are the standard examinations that students sit in Year 9 (age 13). Further, social and individual factors were found to affect students' attitudes and academic choices; in particular their identification with peers, school and family and student's perceptions of peer, school and family attitudes towards HE. An interesting finding arising from stage one data was that there were significant age related differences in students' attitudes toward school and learning. Students in year 10 were significantly more negative on nearly every measure than students in Year 9 or 12. These findings are reported in detail in a paper by Maras et al. (2007).

The present study

Findings reported in this paper are from stage two of the study and build on the findings from stage one. In this paper, we compare a group of students who were in Year 10 in 2003 (cohort 1) with a different group of students who were in Year 10 in 2004 (cohort 2) to assess the impact of 'Aim Higher' activities.

Students in cohort 2 had access to a wider choice of 'Aim Higher' activities specifically targeted at increasing their participation in higher education than the students in cohort 1.

We also looked at sex differences in the students' identification with school and attitudes towards higher education (HE).

Based on previous findings, we predicted that:

1. There would be significant differences between cohort 1 and cohort 2 on some measures of Attitudes to HE and identity as well as in take up of Widening Participation activities.
2. There will be significant differences between young men and young women on some measures of attitudes to HE and take up of widening participation activities.
3. There may also be some significant interactions between sex and cohort on some of the measures.

Method

Design

A ‘between subjects’ design with two main factors was employed: Sex (female vs. male), cohort (1 vs. 2). The main dependent variables were (1) a student’s own perceptions, and their perceptions of peers’ and families’ attitudes towards higher education; (2) identification with school, peers and family; and (3) each student’s participation in WP activities. Scores were generated by the Attitudes to Higher Education Questionnaire (AHEQ) (see ‘Measures’ below).

Participants

Over the course of the longitudinal study, 3,570 students completed the AHEQ measure. Of these, this paper looks at the data of 2,526 (1,074 in cohort 1 and 1,452 on cohort 2). Participants came from 13 out of 14 schools in a London Borough.

Measures

1. **‘Attitudes to HE Questionnaire’ (AHEQ)** The AHEQ is a self report measure containing 62 statements (see Appendix A). Participants’ respond to each statement on a five point ‘likert’ scale indicating whether they strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with each statement. The AHEQ was developed through extensive pilot work preceding the study. The AHEQ statements relate to the following factors:
 - Own attitudes and perceptions of peer and family attitudes toward Higher Education;
 - Academic self-concept in relation to:
 - the importance of school work; and,
 - self-competence in school work;

- the degree of effort expended in school-work; and,
- identification with others: school, peer and family.

The AHEQ includes space on which respondents indicate their involvement in three specific Widening Participation activities (described as Activity Questions):

- (1) Mentoring type activities;
- (2) Study skills type activities; and
- (3) 'Aim Higher' type activities.

The latter, 'Aim Higher' activities, are specifically aimed at increasing access to HE. This list was generated by the LA and is specific to the context within which the research was conducted.

2. Local Authority data Data³ on students' academic and social background including attainment, predicted General Certificate of Secondary Education grades (GCSEs), SATs scores, behaviour, exclusions, Special Educational Needs, gifted and talented, free school meals and ethnicity were mapped onto the AHEQ data. SATs are the standard examinations that students sit in Year 9 (age 13) and GCSEs are the standard examinations that students sit in Year 11 (aged 16). Choices of GCSE subjects to be undertaken are made before Year 10 (age 14)⁴.

Procedure

Parents and/or guardians were informed of the study and its intention to make use of LA held data as well as their child's responses to the questionnaire. Parents were offered the opportunities to withdraw their children if they wished⁵.

The AHEQ was administered by a special teacher coordinator in each of the schools that participated in the study. Completed questionnaires were returned directly to the research team. Questionnaire data were then matched with biographic and demographic data provided by the LA.

Treatment of data

Seven questions were excluded from the AHEQ questions as they were not relevant. Total scores were created for each of seven factors; identification with peers, family and school, views on likelihood of attending university, likelihood of friends attending university, perceptions of GCSE and A level grades and general academic motivation.

Results

Overview

The results indicate that there were sex differences and interactions in middle adolescents (aged 14-15 years) who made more negative responses than older or younger students generally. Young women were more positive than young men about education generally. However, sex and cohort interactions showed differences in young men’s own attitudes and their perceptions of others’ attitudes, and their involvement in ‘Aim Higher’ activities, as being more positive than young women on a number of dimensions. Findings with respect to each of the main factors are presented below.

AHEQ and Activity scores for students in Year 10 in 2003 and students in Year 10 in 2004

Year group at start of study	Time 1 (2003)	Time 2 (2004)	Total
9	1,329	0	1,329
10	1,074	1,452	2,526
12	328	0	328
Total	2,731	1,452	4,183

Note: 681 of the 1,329 students in Year 9 at the start of the study were sampled again the following year when they were in Year 10

Table 1: Number of students participating in the study at Time 1 (2003) and Time 2 (2004)

Type of question	Factor	Question numbers
Views about HE	1. Views on likelihood of attending university 2. Likelihood of friends attending university 3. Family attending university	4, 5, 6, 7, 13, 14, 17, 20 2, 9, 10, 12, 15, 55 3, 16, 18, 21
Academic views	4. GCSE and ‘A’ levels 5. General academic motivation	57, 58, 59, 60, 61, 62 24, 27, 28, 32, 42, 46, 51, 54
Identification with others	6. School identity 7. Peer identity 8. Family identity	1, 11, 19, 31, 35 26, 36, 37, 43, 53 33, 50
Questions not relevant and not included in analysis		22, 25, 34, 38

Table 2: Factors in the Attitudes to Higher Education Questionnaire

A two-way Analysis of Variance (ANOVA) was carried out comparing cohort 1 young men and women with cohort 2 young men and women on all factors. No significant effects were found for perceptions of family attitudes to attending university. Significant effects were found on all other factors and, in addition, some interactions were also found. Summaries are given below.

Views on likelihood of attending university Only sex was found to be significant ($p < 0.0005$) with young men's scores significantly lower than young women's (means = 31.57 vs. 33.21); suggesting that young men were less likely to expect to attend university.

Likelihood of friends attending university There were significant main effects of sex ($p < 0.0005$) and cohort ($p < 0.0005$) for perceptions of friends' attitudes to attending university. Young men's scores were significantly lower than women's (means = 17.81 vs. 19.04). Scores of cohort 2 were significantly higher than cohort 1 (means = 18.17 vs. 18.69).

Perceptions of GCSE and 'A' level grades Young men had significantly lower perceptions of their likely GCSE and 'A' level grades than the young women did ($p < 0.0005$) (means = 22.24 vs. 23.27). There was no significant effect of cohort.

General academic motivation Significant main effects for sex ($p < 0.0005$) and cohort ($p < 0.0005$) were found in respect of general academic motivation. Young men's scores were significantly lower than women's (means = 30.60 vs. 31.86), and scores in cohort 2 were significantly lower than cohort 1 (means = 31.67 vs. 30.79). This is an interesting finding and will be discussed in more detail later.

Identification with school A significant main effect of sex in relation to identification with school ($p = 0.01$) was found, with young men's scores significantly lower than young women's (means = 11.41 vs. 11.91). There was a significant interaction of sex and cohort ($p = 0.015$); whereby there was no significant difference between young women in cohort 1 and 2, whilst cohort 2 young men's scores were significantly greater than those in cohort 1 (means = young men 11.22 vs. 11.61) (see figure 1).

Identification with peers Significant main effects of sex ($p = 0.006$) and cohort ($p = 0.003$) were found for identification with peers. Cohort 1 young men's scores were significantly lower than the cohort 1 young women's scores (means = 14.76 vs. 15.37). A significant interaction effect between sex and cohort ($p = 0.001$) was also found as there was a significant difference between young men's scores of peer identity in cohort 1 and cohort 2 (means = 14.76 vs. 15.36) whilst there was no significant difference in young women's scores (see figure 1).

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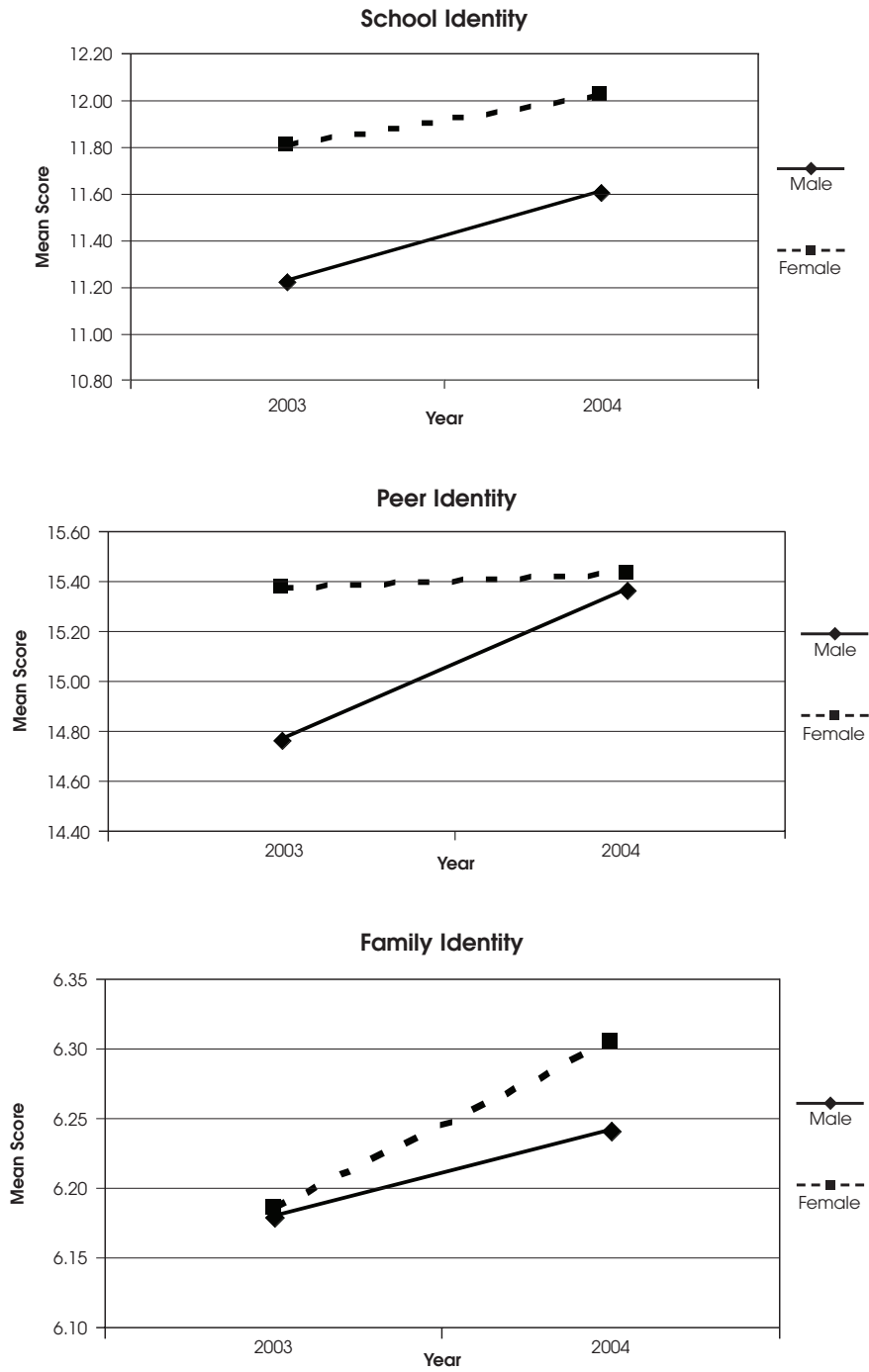


Figure 1: Mean AHEQ scores for School, Peer and Family Identity for male and female students at Time 1 (2003) and Time 2 (2004)

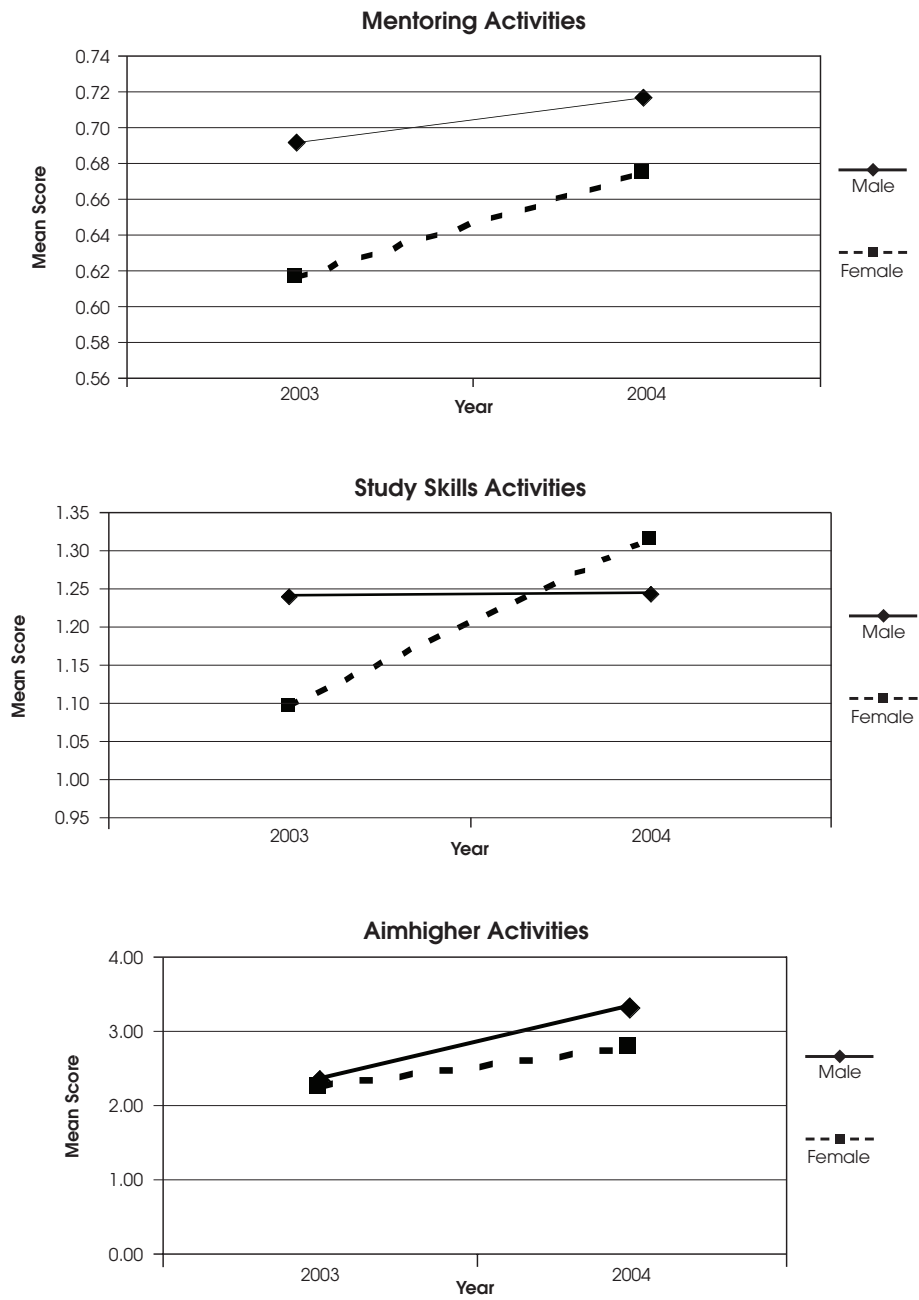


Figure 2: Mean scores for participation in Mentoring, Study Skills and 'Aim Higher'-type activities for male and female students at Time 1 (2003) and Time 2 (2004)

Identification with family A significant main effect of identification with family was found for sex ($p < 0.0005$) with young men's scores significantly lower than young women's (6.21 vs. 6.25), and a significant main effect for cohort was found ($p = 0.001$) with scores in cohort 2 significantly higher than in cohort 1 (6.18 vs. 6.27). There was also a significant interaction between sex and cohort ($p < 0.0005$) showing that there was a bigger difference between cohorts for the young women than there was for the young men (see figure 1).

Participation in mentoring type activities There were significant main effects of sex ($p < 0.0005$) and cohort ($p = 0.001$). Young men participated in significantly more mentoring type activities than young women (means = 0.71 vs. 0.65). There was also a significant interaction between sex and cohort; participation in mentoring-type activities was significantly higher in cohort 2 than cohort 1 for young women (means = 0.62 vs. 0.68) but not for young men (see figure 2).

Participation in study skills type activities Significant main effects were found for sex ($p = 0.001$) and cohort ($p < 0.0005$). The cohort 1 young men scored higher than the cohort 1 young women (means = 1.24 vs. 1.10), but a significant interaction ($p < 0.0005$) was found whereby young women in cohort 2 scored significantly higher than young men (means = 1.32 vs. 1.25) (see figure 2).

Participation in 'Aim Higher' type activities Significant main effects for participating in 'Aim Higher' activities were found for sex ($p = 0.005$) and cohort ($p = 0.026$). There was no significant difference between young men and young women in cohort 1. There was a significant difference in young men's and women's participation between cohort 1 and cohort 2 (means = young men 2.37 vs. 3.33; young women 2.26 vs. 2.76). There was a significant interaction between sex and cohort ($p = 0.002$); a greater difference in young men's participation in 'Aimhigher' activities between cohort 1 and 2 compared to young women (see figure 2).

Discussion

Summary

This paper reports the findings of stage two of a longitudinal study designed to assess the impact of Widening Participation activities in a London Borough. In particular, we assessed the impact of 'Aimhigher' activities, which are targeted at students' from backgrounds such that university may not have previously been considered an option for them. A previous stage of this study had shown students' attitudes towards HE and their levels of participation in 'Aimhigher' activities were linked to prior attainment. It is important that these findings are considered in the context of those findings (Maras et al. 2007). Findings of the current study were that there were some significant

differences and interactions between male and female Year 10 students in cohorts 1 (2003) and 2 (2004).

After the 'Aimhigher' intervention, girls were more positive than boys in terms of their views on likelihood of attending university, likelihood of friends attending university, GCSE and A level competence, general academic motivation, identification with school and identification with peers. Their attitudes were never more negative than boys', but they participated in significantly less mentoring type activities than boys.

There were some significant differences between cohorts 1 and 2; cohort 2 scored significantly higher than cohort 1 on their perceptions of friends attending university, identification with peers and involvement in 'Aimhigher' activities. However, cohort 2 scored significantly lower on general academic motivation than cohort 1.

The significant interactions of sex and cohort on identification with school, peers and family, and participation in mentoring, study skills and 'Aimhigher' activities indicate that some interventions have more impact on young men than young women, and vice versa and may point to the need to tailor interventions according to both sex and age.

'Aimhigher' is founded on the notion that providing information and HE related experiences will encourage young people to enter university. This rationale is not unique to the United Kingdom. It reflects international concerns about access to education (e.g. Mooney 2005, Netaid 2006, UNESCO 2006). Findings from our study are supported by national statistics and anecdotal evidence that suggests that this strategy appears to be working. It is especially valuable when targeted at young people with the aptitude to go on to HE but who might not previously have considered university an option. The quote at the start of this paper is typical of many of the students who participated in this study and at whom 'Aimhigher' activities are targeted: Not only do these students have few or no family members with higher degrees, they have very little understanding of higher education per se and do not immediately see its relevance for them.

Implications

The findings from this study and our related work have implications for school-based interventions generally, and widening participation activities specifically. In combination with our previous work, Maras et al. (2006, 2007) Year 10 students (aged 14-15 years) were more negative than older or younger students on most of the measures. This also reflects the literature on developmental changes in adolescence (Eisenberg et al. 2005). There is a tension between these developmental factors and examination systems (for example, GCSE subject choices) that require young people

to start thinking about their future educational paths at this age, when they are likely to be most resistant.

'Aimhigher' interventions though also targeted at younger and older students are increased around the age of 14. Data reported in this paper indicate that the Year 10 students in cohort 2 were more positive about HE than Year 10 students in cohort 1 who had less involvement in 'Aimhigher' activities. However, there were interesting sex differences within these findings. Cohort 2 young men showed increased peer identification and cohort 2 young women showed increased family identification. There was also evidence that the cohort 2 young men participated in more 'Aimhigher' activities and the cohort 2 young women more mentoring activities. The former focuses on access to HE per se whilst the latter offers more general educational and emotional support. Although the cohort 1 young women's attitudes and involvement in 'Aimhigher' activities was higher than the cohort 1 young men's involvement, the picture now seems to be changing somewhat. The increase in involvement in 'Aimhigher' activities was greater for young men than young women between cohorts 1 and 2. Such differences suggest that it may also be useful to consider the differential impact of interventions for young men and young women.

A particularly interesting finding was that general academic motivation was significantly less in cohort 2 than in cohort 1. This is a worrying finding as it has previously been shown that least motivated students are at high risk for dropping out (Hardre & Reeve 2003). However, upon further reflection, it is perhaps not entirely surprising: findings from stage three of this study – focus groups, to be published at a later date, suggest that much of the salient information students took from 'Aimhigher' interventions were to do with increased earning potential, financial success and material possessions concurrent with participation in HE. Previous research has long shown a link between a focus on extrinsic, unrelated rewards and a decrease in academic motivation (for example, Deci 1971, Jordan 1986, Covington & Mueller 2001). The consequences of such a decline in motivation on students' aptitude once in HE where traditionally students are required to work more independently and for their own targets warrant further investigation.

There is a lack of specificity found in work in this area. Merely counting numbers of students entering HE in order to justify government targets is clearly not sufficient; there is a need to understand the complex routes young people take to higher education and the impact of salient others. It is not enough to look at social context, that is, family background and socio-economic factors alone. In this and our related work we have found that social processes are crucial factors in young people's learning and behaviour. How, why and when do young people most identify with salient others? The findings of this study with respect to levels of identification show

that young men and women identify far more with their peers than school or family. The potential role of social identity and the relationships between social identity and young people's self reported concepts of academic competence, effort and importance and attitudes toward higher education needs further exploration. If a student identifies more strongly with his peers than anyone else, the attitudes towards HE of said peers will have a big impact on the attitudes of that student. Whether this may be a positive or a negative phenomenon may well be affected by the success of 'Aimhigher' interventions.

Conclusions

In conclusion, we are currently analysing the third stage of this longitudinal study, in which we are looking at the young people we have tracked for three years. This work includes focus groups in which we have found that the primary reason for young people wanting to go on to HE was financial. The predominant two related themes of all of the focus groups were the desires held by the students 'to better themselves' and to have 'increased opportunities' both of which were related to a third theme of 'earning higher salaries'. The link between HE and better jobs (equated with higher earnings) reflects one of the main messages of 'Aimhigher' and is seen as a means of attracting families to the notion of participation in HE. This surprised the research team. It suggests that the days of wanting to learn for learning's sake have passed and raises a question about HE – are academics teaching in HE aware of this focus on earning rather than learning? Universities are delivering curriculum to an increasingly diverse student body that may have very different motives than those held by academics teaching them.

'Aimhigher' in the UK is concerned with partnerships between HE and schools. In reality, the main focus has been on increasing numbers at entry point. If the Government's target of 50% of 18-30 year olds entering HE is achieved then there is a pressing need to address the learning experience of the wider group of students now accessing our courses. How we might do that is one of the biggest challenges in secondary schools and higher education today.

‘BUT NO ONE IN MY FAMILY HAS BEEN TO UNIVERSITY’

Factor	Students (year groups)	Mean	Standard Deviation	P Value
Views on Likelihood of attending university	Years 9 and 12	33.01	5.59	.006
	Year 10	32.38	5.53	
Likelihood of friends attending university	Years 9 and 12	18.96	3.39	<.0005
	Year 10	18.14	3.37	
Family attending university	Years 9 and 12	10.25	2.60	.022
	Year 10	10.00	2.52	
GCSE and A levels	Years 9 and 12	23.56	4.59	<.0005
	Year 10	22.73	4.53	
General Academic Motivation	Years 9 and 12	32.06	4.55	.038
	Year 10	31.63	4.73	
School identity	Years 9 and 12	12.32	3.19	<.0005
	Year 10	11.50	3.34	
Peer identity	Years 9 and 12	15.27	3.21	.119
	Year 10	15.06	3.27	
Family identity	Years 9 and 12	6.35	1.91	.035
	Year 10	6.18	1.81	
Mentoring type activity	Years 9 and 12	.68	1.04	.591
	Year 10	.65	1.05	
Study Skills activity	Years 9 and 12	1.57	1.64	<.0005
	Year 10	1.17	1.49	
Aim Higher activity	Years 9 and 12	2.53	2.10	.027
	Year 10	2.32	2.09	

Table 3: Mean AHEQ and Activity scores at Time 1 for Years 9 and 12 combined and Year 10

Factor	Students (year groups)	Mean	Standard Deviation	P value
Views on likelihood of attending university	Year 10 in 2003	32.38	5.53	.402
	Year 10 in 2004	32.59	5.71	
Likelihood of friends attending university	Year 10 in 2003	18.14	3.37	<.0005
	Year 10 in 2004	18.80	3.46	
Family attending university	Year 10 in 2003	10.00	2.52	.158
	Year 10 in 2004	10.16	2.59	
GCSE and A levels	Year 10 in 2003	22.73	4.53	.105
	Year 10 in 2004	23.06	4.63	
General Academic Motivation	Year 10 in 2003	31.63	4.73	<.0005
	Year 10 in 2004	29.34	3.90	
School identity	Year 10 in 2003	11.50	3.34	.717
	Year 10 in 2004	11.45	2.21	
Peer identity	Year 10 in 2003	15.05	3.27	.010
	Year 10 in 2004	15.38	2.62	
Family identity	Year 10 in 2003	6.18	1.81	.074
	Year 10 in 2004	6.31	1.78	
Mentoring type activity	Year 10 in 2003	0.65	1.05	.354
	Year 10 in 2004	0.69	1.04	
Study Skills activity	Year 10 in 2003	1.17	1.49	.095
	Year 10 in 2004	1.28	1.60	
Aim Higher activity	Year 10 in 2003	2.32	2.09	<.0005
	Year 10 in 2004	3.04	2.27	

Table 4: Mean AHEQ and Activity scores for Year 10 students in 2003 and 2004

Factor	Students (sex)	Mean	Standard Deviation	P Values
Views on likelihood of attending university	Male	32.12	5.73	<0.0005
	Female	33.33	5.37	
Likelihood of friends attending university	Male	18.05	3.51	<0.0005
	Female	19.14	3.22	
Family attending university	Male	10.24	2.56	.114
	Female	10.08	2.58	
GCSE and A levels	Male	22.73	4.67	<0.0005
	Female	23.67	4.47	
General Academic Motivation	Male	31.34	4.94	.002
	Female	32.18	4.35	
School identity	Male	11.65	3.28	<0.0005
	Female	12.28	3.25	
Peer identity	Male	14.88	3.24	<0.0005
	Female	15.45	3.19	
Family identity	Male	6.30	1.89	.844
	Female	6.28	1.85	
Mentoring type activity	Male	0.76	1.12	<0.0005
	Female	0.60	0.96	
Study Skills activity	Male	1.38	1.64	.395
	Female	1.44	1.55	
Aim Higher activity	Male	2.39	2.18	.179
	Female	2.51	2.01	

Table 5: Mean AHEQ and Activity scores for male and female students at Time 1 (2003)

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Notes

- ¹ This paper reports findings from a longitudinal study. As such, parts of the Introduction draw on material referred to in other papers by the author (Maras, Carmichael, Patel & Wills 2007).
- ² Educational provision in England is organised at local level by regions described as Local Authorities (LAs).
- ³ Statutory education in England ends at age 16 years with GCSE examinations. Free education continues to 18 years for students who wish to take advanced qualifications ('A' levels) that will enable them to go on to higher education.

Secondary schools are for students aged 11-16 years. At the time of this study, seven out of the fourteen secondary schools had provision for this advanced study in what are described as sixth forms. No LA data were available for Year 12 students in one school.

- ⁴ SATs are national school standard attainment tests; Free School Meals are available to students from low-income families and are used as a broad measure of socioeconomic status; GCSEs are national school examinations taken at age 15/16; 'A' levels are national advanced level school examinations tests taken at age 17/18.
- ⁵ Schools and students were anonymised in databases and in reporting of results. Individual schools were however provided with feedback on their school, in relation to the other schools in the LA.

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Appendix A: Attitudes to Higher Education Questionnaire items (AHEQ)

1. I really like school a lot
2. Most of my friends will go to university or college after they leave school
3. Most of my family went to university or college after they left school
4. I think that going to university or college is an important thing to do
5. I want to go to university or college
6. My friends think I will go to university or college after I leave school
7. I think I will be able to go to university or college
8. Most of my family believe that they were able to go to university
9. My friends think that it is important to go to university or college
10. Most of my friends want to go to university or college
11. Most of my friends really like school a lot
12. Most of my friends intend to go to university or college after they leave school
13. My family think I will go to university or college after I leave school
14. My family think it is important to go to university or college after leaving school
15. Most of my friends think that they will be able to go to university or college
16. Most of my family enjoyed being at school
17. I will go to university or college after I leave school
18. Most of my family really wanted to go to university or college
19. I really do not like going to school
20. I think I will go to university or college after I leave school
21. Most of my family intended to go to university or college
22. Most of my family did not like going to school at all
23. When there is an opportunity I always get involved in doing things with my school
24. I think it is a waste of time working hard at school
25. I am very similar from the rest of my family
26. My friends are very like me
27. I want to do well in school
28. My family want me to do well in school
29. I am very different from the rest of my family
30. Whenever I can, I tell people which school I go to
31. I love reading when I am not in school
32. My school work is good
33. Other members of my family are very like me
34. My school work in English is very good
35. I like my school very much
36. I am very similar to other students in my school
37. I am very different from my friends
38. I would describe myself as an important member of my group of friends
39. Other students in my school are very like me
40. I would describe myself as member of my school
41. Whenever I can, I tell people who my group of friends are
42. When I do maths I try very hard

‘BUT NO ONE IN MY FAMILY HAS BEEN TO UNIVERSITY’

43. I feel a very important member of my group of friends
44. My friends think school is a waste of time
45. I would describe myself as member of my family
46. My school work in maths is very good
47. Whenever I can I tell people I am a member of my family
48. I find reading when I am not at school very boring
49. I like my friends very much
50. I am very similar to the rest of my family
51. When I do school-work I try very hard
52. When there is an opportunity I always get involved in doing things with my family
53. I am very similar to my friends
54. When I do English I try very hard
55. My friends think it is important to do well in school
56. When there is an opportunity I always get involved in doing things with my friends
57. I think I will complete 'A' levels
58. My friends think I will complete 'A' levels
59. My family thinks I will complete 'A' levels
60. I expect to gain at least level C in English and maths in my GCSE
61. My friends think I will gain at least level C in English and maths in my GCSE
62. My family thinks I will gain at least level C in English and maths in my GCSE

Intervention activities included on AHEQ (including widening participation activities)

I used the school library regularly for study

I spent more than one session with a school based learning mentor

I have had a mentor to help me and talk over my worries

I had additional help more than once with my school work in a learning support unit

I had extra help with my schoolwork with a classroom assistant in my lessons

I regularly went to a homework club

I went to a lunch time club for at least 6 weeks

I went to an after school club for at least 6 weeks

I went to two or more after school clubs for at least 6 weeks

I attended holiday revision session in school

I attended two or more holiday revision sessions in school

I went to a careers workshop out of school called 'The Real Game'

I went on a university visit with people outside school

I went on a visit to a university with my year group

The Aim Higher Roadshow visited my school

I went to see the Aim Higher Roadshow

I took part in a university Summer school

I have been given information about university

A teacher has talked to me or my class about going to university

A visitor to the school has talked to me or my class about going to university

Someone not connected with the school has talked to me about going to university

Write down one thing that has taken place in the last term that tells you that this school takes university seriously