

Measuring the impact of Aimhigher on participation in higher education by learners in South East London

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Aimhigher is a key initiative to widen and therefore increase participation in higher education (HE). Aimhigher organises cultural activities to ease the educational progress of young non-traditional learners. These activities range from mentoring, summer schools, visits to university and others, and are designed to influence young people towards attaining in school, developing HE awareness; and aspiring to enter to HE. Activities are delivered by partnerships between HE institutions, further education colleges, local education authorities, schools and other educational agents located in deprived and low-participating areas. The volume of the activities has increased exponentially in recent years.¹

After reviewing the literature on the quantitative impact of Aimhigher on HE participation, this paper explains how this has been measured with the data held by the local partnership. The following section presents the results of the regression analysis: there is strong evidence that Aimhigher has had a positive impact on GCSE results in, and, especially, HE applications and entry from, South East London; and it is estimated that taking part in an Aimhigher activity increases the probability of entering into HE by 4.1 percentage points.

Literature review

In line with a wider trend within Widening Participation (WP) research in Britain and elsewhere (Scott, 2004), most of the evidence of impact of Aimhigher on HE participation has been generated by practitioners. It mainly consists of secondary data on schooling attainment and HE participation from their areas of intervention, as well as attitudes of learners and agents involved in the provision of the activities. These can be found on the partnerships' websites. These measures help evaluating the impact of Aimhigher by showing whether learners and other actors perceive the activities as beneficial, or otherwise, and whether and to what extent they lead to attitudinal and overall behavioural shifts.

In a number of cases, practitioners have shown that learners' developed positive attitudes towards HE after significant Aimhigher interventions, and the evidence produced by Aimhigher partnerships on attitudes to date is 'overwhelmingly positive and consistent' (HEFCE 2006: 47). However, whereas the immediate impact is not in doubt, '[t]here are clearly questions about how lasting such an impact is' (HEFCE 2006: 50; see also EKOS 2007); it is common for Aimhigher participants to declare an intention to apply for HE, but subsequently fail to do so.²

Partnerships have produced evidence of particularly rapid growth in schooling attainment, and HE entry from, the schools, as well as the areas, of intervention. However, while 'secondary data ... help partnerships identify the direction and pace of change' (Hatt et al. 2007, p.287), trends reflect also the effect of other

intervening factors, some of which Aimhigher partnerships have limited control over (like schooling attainment), and others upon which they have none, (such as changes in the HE financial regime and employers' demand for graduates). Changes in HE participation reflect also the impact of other WP initiatives, like foundation degrees and Opportunity Bursaries.

Attitudes and secondary data allow us to quantify the impact of Aimhigher only in an imprecise manner, thereby making it difficult to compare its effectiveness with that of alternative policies. In an influential review of WP research Gorard et al. (2006, p.116) have also lamented that 'most interventions have had no rigorous evaluation. We encountered no randomised controlled trials or similar. This makes it difficult to judge the success, or otherwise, of any attempts to widen participation in the short term' (see also Gorard and Smith 2006).

Such remarks neglect the statistical evaluation of the quantitative impact of Aimhigher which has been carried out by the National Foundation for Educational Research in association with the Department for Education and Skills (DfES) (Emmerson et al. 2006; Morris, Rutt and Yeshanew 2004, 2005; Morris and Golden 2005; Morris and Rutt 2005, 2006) and by other scholars (Gilchrist et al. 2003; Maras and Carmichael 2006). However, most of these studies concerned a previous initiative, rather than Aimhigher in its current form, where the focus has been on attainment in compulsory schooling, progress in post-compulsory schooling, and learners' attitudes towards HE.

Only one of these studies (Emmerson et al. 2006) has addressed the impact on actual HE participation. This neglect is particularly serious in view of the fact that the former proved to be a poor proxy for the latter. While activities had a statistically significant impact on GCSE results and progress into post-compulsory education, and promoted positive attitudes towards HE, they did not have a statistically significant effect on actual HE participation.

Method

One of the reasons why little statistical analysis of the impact of Aimhigher on entry in HE has been published to date is that ethical concerns, about data protection and appropriate targeting, mean that tracking studies have been limited. In consequence relatively little is known about what happened to Aimhigher participants after the activities, and even less is known about comparable individuals who did not take part in them. It is likely, and possibly desirable, that this situation will not change in the future. The development of alternative methodologies, which do not rely on individual longitudinal data, represents a challenge for the interested researcher. One possible solution is to examine school-level data, instead of individual data; this is the approach taken in the present study.

Three data-sets in particular have been employed: (i) the local Aimhigher partnership's and Connexion's databases, which contain information on which high intensity³ activity took place with data on time, numbers of students, year group and school or college in south east London;⁴ (ii) performance tables of schools and colleges in South East London published by the DfES, which indicate how many students took their GCSE and A levels in each year from each school, and

their results; (iii) UCAS data on HE applicants and successful applicants from educational establishments in South East London, which include information on the school or college previously attended and his or her social profile, in terms of age, socio-economic status, and ethnicity.

The impact of Aimhigher on the schooling cohorts is examined through ordinary least squares multiple regression analysis. Specifically, the impact on six independent variables has been examined:⁵ the number of pupils achieving five or more A*-C GCSE grades; number of HE applicants and entrants; the differences in the number of HE applicants and entrants from low and high socio-economic background; and from an ethnic minority and white British background. The dependent variable 'Aimhigher' refers to the number of individuals who have participated in a high intensity activity at some point during their schooling career in each given cohort of year 11 when examining GCSE results, and year 13, when analysing trends in HE applications and entries. Thus, for example, for each given school, the number of individuals taking their A levels in 2005-06 who have participated in an Aimhigher activity is equal to the number of year 13 pupils taking part in a high intensity activity in that year plus the number of year 12 individuals taking part in a high intensity activities in 2004-05, and so on.⁶ In this way, samples of over one-hundred observations to investigate the impact of Aimhigher activities on applications for and entries into HE, and about twice as many for the analysis of GCSE results, were constructed. Given that inaccuracies are to be expected, all the outliers have been excluded.

To control for the effect of unobservable school specific variables, the analyses are based on differences in the values of the variables with respect to the previous year. In addition, the following controls have been included. First, year, which controls for year-specific effects upon the trends in attainment and participation in HE, such as that due to the introduction of variable fees. Second, the size of cohort, to control for its effect upon the number of individuals achieving five or more A*-C grades, and the number of individuals applying for and entering into HE. When examining the effect of activities on widening applications and entry, the function of this control is to provide a proxy for alterations in the social composition of the cohorts, as one would expect a larger cohort to include a higher number of white British and low socio-economic status individuals. Third, a number of categorical variables controlling for the effect of the type of students' intake; specifically, these refer to whether the school is independent, selective, for boys only, for girls only, or mixed. In addition, when examining the impact on the social composition of HE applicants and entrants, the number of 'unknown' entries has been included in the analysis, as the latter tend to be volatile, and might influence the results.⁷

Results

Predictably, the most important factor in explaining the number of individuals achieving five or more A*-C GCSE grades, and number of HE applicants and entrants was the size of the cohort. 2006 produced faster growing GCSE results,

Table 1
Regression equations

Variable	GCSE	Applications	WA SES	WA Ethnicity	Entry	WE SES	WE Ethnicity
Aimhigher	0.038*	0.045**	0.068**	-0.008	0.041**	-0.006	0.010
Year	5.241**	-3.432	0.214	2.565	-4.696**	-8.941**	-0.869
Cohort	0.37**	0.259**	-0.017	-0.006	0.198**	-0.084	-0.058
Independent	-6.054**	-6.81**	7.029	6.325	-9.299	10.630	2.850
Selective	3.386	7.417	-4.559	-3.403	7.060	-8.640	-6.920
Girls	-1.622	-3.617	0.166	-3.106	-1.920	0.074	0.910
Boys	4.216*	-7.648	-2.774	-5.560	-7.160	-1.650	-18.649*
Unknown	-	-	0.302**	0.383	-	0.728**	-0.057
R square	0.609	0.483	0.229	0.080	0.395	0.420	0.139

Key: WA=widening applications; WE=widening entry; SES=socioeconomic status; *=significant at the 1.5 per cent level; **=significant at the 1 per cent level.

and, consistent with the UCAS data, slower growth in HE applicants and entrants than the previous year. There is evidence that the gap between boys and girls is narrowing in terms of GCSE attainment, but widening in terms of HE applications and entries. The gap between state and independent schools is narrowing in terms of GCSE results and HE applications and entries, indicating that HE entry from the sub-region is widening.

Aimhigher was the fifth most important factor in explaining GCSE results, and the third most important factor in explaining HE applications and entries. The impact of Aimhigher on GCSE results was positive and significant at the 1.5 per cent level; the effects on HE applications and entries were positive and significant at the 1 per cent level, but the P-value was lower in the former case. There is evidence of impact on widening applications (the coefficient is positive and significant at the 1 per cent level), albeit not entries, in favour of low SES individuals, but no evidence of impact on altering the social composition of HE applicants and entrants in favour of ethnic minorities. The former result reflects the fact that the analysis of the impact of Aimhigher on WP is particularly prone to error. The latter result supports the argument that Aimhigher should not treat ethnic minorities as a specific target group, as they already exhibit a high propensity to enter HE (HEFCE 2007).

According to the estimates, participating in an Aimhigher activity increased the likelihood of achieving five or more GCSE grades A*-C by 3.8 percentage points, applying for HE by 4.5 percentage points, and entering into HE by 4.1 percentage points. The comparatively low impact on GCSE results is consistent with the fact that the majority of the Aimhigher activities are aimed at influencing aspirations, rather than directly attainment-rising. The greater impact on HE applicants than entrants is consistent with the fact that the latter, more markedly than the former, depend on factors outside the control of Aimhigher partnerships, such as institutional access policies.

Conclusion

Associations based on aggregate figures are usually stronger, but regression analyses based on a restricted range of variables often produce weaker associations. Notably, the estimated HE entry rate from South East London produced by the regression analysis, 19.8 per cent, is in the order of magnitude of, but lower than, its expected value. If confirmed by other analyses, the measures of the impact of Aimhigher on HE participation presented here would make it likely that Aimhigher is cost-effective, particularly in view of the fact that the demand for HE is inelastic. These results are encouraging for Aimhigher.

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Notes

¹In South East London between 2002-03 and 2006-07, the number of Aimhigher participants increased from around 1,500 to over 10,000 (Aspire 2007; Connexions 2003; SELHEPS 2002). On the growth of Aimhigher see also Bowers-Brown et al. (2006) and Pennell et al. (2005).

²We owe this point to Marian Morris.

³The activities organised by Aimhigher are divided in two categories: low and high intensity. Low intensity activities include careers fairs and HE evenings; high intensity activities, the major part of Aimhigher's offer, involve half a day and whole day events where all participants follow a specific programme.

⁴The data gathered by the local Aimhigher partnership and Connexions was mainly driven by the requests of the funding bodies, which became progressively more demanding. In their early years, partnerships were requested to produce evidence mainly on the volume of activities organised, and it is only at a later stage that evidence of accurate targeting began to be produced. As a result, the databases contain detailed information since 2003-04, but only imprecise information for the previous years. As a result of the way in which the data has been gathered, there are issues of accuracy for the period before 2003-04; the temporal horizon of the analysis was thus necessarily constrained to 2003-04, 2004-05, and 2005-06. Given that the volume activities organised increased substantially from 2003-04, the actual quantitative bias resulting from inaccurate estimates in the previous years is likely to be small.

⁵As the dependent variables are based on number of individuals, a discrete variable, the assumption of continuity of the dependent variable is violated. However, as stressed by Fox (1991: 63), '[t]his problem ... is only serious in extreme cases-for example, when there are very few response categories' (see also Amemiya 1990). In the present analysis, the dependent variable takes a number of distinct values; hence, the violation does not constitute a serious problem. Whereas the assumption of independence is reasonable when comparing the behaviour of different schools, this is not necessarily the case when comparing the behaviour of the same school over a number of years. However, given that data relating to a number of schools over only two time periods has been examined, the assumption that the values taken by the dependent variables are independent from each other is reasonable. This is confirmed by the fact that the Durbin-Watson test provided no source of concern.

⁶A problem with computing this measure is that there is a high degree of mobility from, and into, the sub-region at the end of compulsory schooling, and no information on how participants behaved in this respect is available. To address this concern, two extreme case scenarios were considered: one whereby all compulsory schooling participants stayed in compulsory schools located in the sub-region, but for a proportion of school leavers of 30 per cent (this figure corresponds to the rate of progression in post-compulsory schooling of a relatively low progressing borough, Greenwich) and, another one, whereby all compulsory schooling participants left the sub-region. Although the first estimate is more realistic, an advantage of the second estimate over the first one is that it is less dependent on less accurate pre-2003-04 data, and therefore provides a control for the strength of the results obtained through the analysis based on the first estimate. Given that no new results emerged from the analysis based on the second estimate, only the results of the analysis based on the first estimate have been presented here.

⁷Changes in the method of measurement meant that we were unable to control for the impact of A level attainment on HE applications and entries, and number of students with special educational needs on GCSE results. The absence of data on the social composition of the cohorts has serious consequences for the analysis of alterations in the social composition of the HE applicants and entrants, as these are directly related to it, and is reflected in particularly low

R square values. For this reason, as well as notorious problems associated with the inaccuracy of data on socio-economic status, particular caution is needed in interpreting the results of these analyses.

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