



What are the factors that promote high post-16 participation of many minority ethnic groups?

A focused review of the UK-based aspirations literature

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REPORT

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The results of this systematic review are available in four formats. See over page for details.

The results of this systematic review are available in four formats:

SUMMARY

Explains the purpose of the review and the main messages from the research evidence

REPORT

Describes the background and the findings of the review(s) but without full technical details of the methods used

TECHNICAL REPORT

Includes the background, main findings, and full technical details of the review

DATABASES

Access to codings describing each research study included in the review

These can be downloaded or accessed at:

<http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2386>

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List of abbreviations

DCSF	Department for Children, Schools and Families
DfEE	Department for Education and Employment
DfES	Department for Education and Skills
DIUS	Department for Innovation, Universities and Skills
FE	Further education
FTE	Full-time education
HE	Higher education
HEFCE	Higher Education Funding Council
HESA	Higher Education Statistics Agency
KS	Key stage
LEA	Local education authority
MEG	Minority ethnic group
NEET	Not currently engaged in employment, education or training
NQF	National Qualifications Framework
RDD	Regression discontinuity design
SES	Socio-economic status
UCAS	Universities and Colleges Admissions Service
WoE	Weight of evidence



Abstract

What do we want to know?

The research question for this review is as follows:

What are the factors that drive high post-16 participation of many ethnic minority groups, and what strategies are effective in encouraging participation?

The Review Group attempted to answer this question through a scoping of the research literature, resulting in a 'systematic map' and two in-depth reviews. The first in-depth review focused on the international interventions literature, in order to identify interventions which have successfully increased post-16 participation of minority ethnic groups (Torgerson et al., 2007).

This report outlines the results of the second in-depth review. The overall aim of this review was to attempt to determine the factors that drive high post-16 participation of many minority ethnic groups. The 'systematic map' from the first review was updated to include any studies, of the views, attitudes and aspirations of ethnic minority students relating to post-16 participation, that were identified too late to be included in the original 'systematic map'. An in-depth review was then conducted, focusing on a subset of studies from the updated 'systematic map'.

Who wants to know and why?

Widening participation in formal post-compulsory education and training is a policy agenda common to most developed countries, with political attention in the UK largely focused on young (potential) students aged 16-21. Participation has been increasing. In 1972, only 37% of 16-year-olds were in fulltime education. Today 87% of young people participate in full- or part-time education or training in the year after compulsory schooling, and 76% are doing so two years after the end of compulsory schooling (DfES, 2007).

The most recent developments outlined in the Government White Paper (DfES, 2007) 'Raising expectations: staying in education and training post-16' includes the proposal to raise the age at which young people may leave compulsory education or training from 16, initially to 17, and eventually to 18. The White Paper also details plans for the introduction of diplomas which will offer a mix of practical and theoretical study, and will allow students to begin working and gain qualifications to help them advance quickly in a specific occupation.

However, inequalities in participation in all forms of post-compulsory education have endured over the past fifty years in the UK, with significant minorities remaining routinely excluded (see, for example, Beinart and Smith, 1998). Finding ways to address these inequalities and raise post-16 participation in all ethnic groups are important policy issues.

What did we find?

Three additional studies were identified for inclusion in the up-dated systematic map, making a total of 68 studies. This review concentrated on the aspirations studies which all investigated the post-16 views and aspirations of groups of diverse minority ethnic groups. Of the 45 aspirations studies, 23 were included in the in-depth review. These studies examined relationships and/or statistical analyses with regard to the factors that could be instrumental in determining young people's views about post-16 participation, by considering a variety of variables. The minority ethnic focus was varied across the 23 studies, and included both traditionally high-achieving, high participating groups and low-achieving, low-participating ones. The Review Group summarised all the promoters and non-promoters of post-16 participation derived from the 23 studies in a hierarchy of eight levels of influence, starting with government policy and working through institutional practices and other external influences, down to individual aspirations. A total of 21 promoters of participation and 21 non-promoters were identified in the eight levels of influence. Other factors not in these levels of influence were also identified (two promoters and eight non-promoters). The Review Group analysed the promoters and non-promoters within each level of influence, focusing on those which emerged from large numbers of studies or from one or more studies of a high weight of evidence. The main results from the review are summarised below.

Government

The educational maintenance allowance (EMA) was found to be a promoter of post-16 participation, and appeared to be more important for black students than for white students or Indian students.

Universities

The wider entry requirements and inclusive admission practices of new universities encouraged applications from ethnic minority

groups, but minority candidates may face an 'ethnic penalty' with applications to 'old' and 'new' universities having differential success. The chances of a successful application may also be limited by the narrow application strategy of some ethnic groups who tend to apply to geographically close institutions.

Schools

High quality staff support was seen to increase the likelihood of staying on post-16 in general, as did a positive atmosphere and an emphasis on academic excellence. The reverse of these factors, especially low teacher expectations and poor quality teaching, were seen as barriers to participation. Other non-promoting factors included racial issues and a Eurocentric curriculum.

Careers advice

Careers advice was not generally found to play a major role in decisions to participate post-16; however, the influence of careers advice was greater for students from some ethnic minorities, especially black Caribbean students.

Work

All ethnic groups participated in work experience and most thought this had been helpful in their decision to continue in education. However, wanting a job or training place was the principal reason given for leaving education at 16, particularly for white students.

Religion

There were no studies of medium or above weight of evidence that commented on religion as a promoter or non-promoter of post-16 participation.

Family

In families where parents placed a high value on education and offered strong parental support for post-16 participation, and where there was positive support from the wider community, there was an increased likelihood

of continuing in education; once again, the reverse of these factors lead to decreased post-16 participation. Families were a stronger push factor for minority ethnic groups than for white students in relation to the need for qualifications and the type of qualification studied. Socio-economic status also appeared to affect post-16 participation, with young people from higher social classes being more likely to remain in education. For many students, financial constraints and family reasons were important reasons for leaving education.

Individual aspirations

The expectation of economic gain and career advance resulting from post-16 participation was found to motivate students to stay on post-16; ethnic minority pupils in particular often aspired to professional jobs. However, lower individual aspirations decreased the likelihood of continuing in education. Lower individual aspirations were especially seen in black Caribbean boys and seemed to be related to disaffected peers and a low commitment to schooling. Young people were also more likely to stay in education if they had a positive attitude towards school and viewed post-16 education as a 'natural progression' from school.

Other factors

Having positive peers increased an individual's participation in post-16 education and, conversely, students with disaffected or negative peers were less likely to continue in education regardless of ethnic group. Young men were more likely to participate than young women. Older candidates were also found to be less successful applicants.

Of all eight levels of influence, the factors within the family and individual aspiration levels stand out as being the major determinants of post-16 participation. Sixteen medium to high WoE studies found that parents placing a high value on education, strong parental support for post-16 participation, positive family influence, and being in a higher social class were determining factors in post-

16 participation in schools and in further and higher education. On the other hand, eight studies found that parents placing a low value on education, parental influence against post-16 participation, negative family influence, and being in a lower social class could be factors acting as barriers to post-16 and further and higher education.

Fifteen studies found that individual aspirations and motivations for participation in post-16 education were major drivers for participation - not only in terms of aspirations for education as an end in itself and for economic gain and better job opportunities, but also in simply placing a high personal value on education and a belief that this would lead to personal satisfaction).

What are the implications?

Differences between ethnic groups are largely explained by differences in cultural attitudes towards education in general and higher education in particular. Minority ethnic groups with high participation tend to have a high cultural awareness of the value of extending young people's education.

In terms of interventions, financial assistance was seen as being important in one study. Financial assistance may be more important among those groups with low expectations and low emphasis on the value of post-16 and higher education. Careers advice appears helpful for some ethnic groups, and work experience is generally useful either in providing a reason for subsequent training or in acting as a negative experience of the workplace in comparison with college. If one really wants to increase participation, then one cannot assume that current opportunities are ideal and that all one has to do is to encourage the reluctant to take part.

This review has identified a number of areas where more rigorous research is required. In the systematic map of research, the Review Group did not identify any UK-based evaluations of interventions aimed at changing behaviour or attitudes using a strong design to enable causal

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inference (e.g. randomised trials or regression discontinuity evaluations). The data in this review is observational and consequently the results need to be treated with some caution.

How did we get these results?

The systematic map was updated to include studies identified too late to be included in the first review. A narrower set of inclusion criteria was used to select studies for the in-depth review question: *What are the factors that drive high post-16 participation of many ethnic minority groups?* The included studies were then data-extracted and quality appraised. The results were reported and synthesised in terms of the strength of evidence for possible promoting and non-promoting factors. Finally, conclusions were drawn and implications were considered for policy, practice and research.

Where to find further information?

<http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2386>



CHAPTER ONE

Background

Aims and rationale for the current review

Much of the UK-based research in the field of participation studies is understandably focused on why particular social, familial and economic groups are under-represented. Addressing this question may identify barriers to success and, in some cases, possible policy levers to improve the situation; in many cases, this approach could also lead to wider societal and non-educational remedies.

An alternative and more positive approach is to focus on differential success and seek to uncover the determinants of success, and then translate the findings into a remedy for ‘failure’.

Given that some minority ethnic groups have higher rates of participation in the UK at both age 16 and 18 than both the majority white cohort and some other minorities, identifying potential determinants for participation could lead to a method of increasing participation for all.

Two in-depth reviews have been conducted, which together have attempted to determine the factors that drive high post-16 participation of many ethnic groups through a descriptive mapping or scoping of the research literature. The first in-depth review focused on the international interventions literature, in order to identify interventions which have

successfully increased post-16 participation of minority ethnic groups (Torgerson et al., 2007).

This report outlines the results of the second in-depth review. The overall aim of this review was to attempt to determine the factors that drive high post-16 participation of many minority ethnic groups, through an updated systematic map of the views, attitudes and aspirations of ethnic minority students relating to post-16 participation in fulltime education literature and an in-depth review focusing on a subset of these studies.

Definitional and conceptual issues

The definition of ethnicity is contentious, confused and liable to change over time. It is probably best understood as self-referenced. Most studies in this review recorded the ethnicity of participants through a self-referencing method. In this review, the term ‘minority ethnic group’ refers to all groups that are not recorded under the ‘white British’ ethnic group category. This approach is supported by the Office for National Statistics (ONS, whose website may be found at http://www.statistics.gov.uk/about/ethnic_group_statistics/). ‘Minority ethnic’ in this review also includes two additional categories, ‘gypsy/Roma’ and ‘traveller of Irish heritage’. The DfES adopted these groups as categories under the ‘White’ ethnic group - incidentally, these groups

did not appear in the national census - in order to support the Departments work to raise the attainment of traveller children, consequently this review included them as ethnic minorities (<http://www.standards.dfes.gov.uk/ethnicminorities/collecting/763919/811067/>).

Policy and practice background

The desire to widen participation in formal post-compulsory education and training is a policy agenda common to most developed countries, and political attention in the UK has largely focused on young (potential) students aged 16-21. At a general level, participation has been increasing. In 1972, only 37% of 16-year-olds were in fulltime education. Today, 87% of young people participate in full- or part-time education or training in the year after compulsory schooling, and 76% are doing so two years after the end of compulsory schooling (DfES, 2007).

The most recent developments outlined in the Government White Paper (DfES, 2007) 'Raising expectations: staying in education and training post-16' includes the proposal to raise the age at which young people may leave compulsory education or training from 16, initially to 17, and eventually to 18. The White Paper also details plans for the introduction of diplomas which will offer a mix of practical and theoretical study and will allow students to begin working and gain qualifications to help them advance quickly in a specific occupation.

However, inequalities in participation in all forms of post-compulsory education have endured over the past fifty years in the United Kingdom, with significant minorities remaining routinely excluded (see, for example, Beinart and Smith, 1998). Individuals participating in adult education are heavily influenced by 'pre-adult' social factors, such as socio-economic status, year of birth and type of school attended.

However, the situation for patterns of participation in terms of sex and ethnic background is much less clear. Some studies

have claimed to find that men are more likely to participate in specific sectors of post-compulsory education than women (Green, 1994). However, women outnumber men in higher education in England, and have been more likely than men to participate in frequent short-term training. Similarly, some studies suggest that the members of the majority white ethnic group in England have been less likely to participate in many sectors of post-compulsory education. In one study, black women employees (not including those from the Indian sub-continent) were the most likely to have received training in the previous four weeks (DfEE, 1995). Other studies, however, suggest the reverse. Place of residence, sex and ethnicity are clearly related to other important characteristics. For example, males are more likely to be employed fulltime than women (Tremlett et al., 1995), with unpaid work at home not widely accredited (Butler, 1993). Leslie and Drinkwater (1999) suggest, that while British-born ethnic minorities are more likely to participate in post-16 education than white UK students, the figures are lower for black-Caribbean students than any other minority, and anyway there is some concern that some minorities may feel that it is preferable to stay on in education largely because they will face discrimination in the work force.

According to the DfES (2006a), all minority ethnic groups in England and Wales are more likely to be in fulltime education at age 18 than 'white' individuals. They are all also at least as likely to be in higher education. This means that a smaller proportion of ethnic minority individuals in education at age 18 are in higher education. This applies to 'Asian' individuals, and also to the two main subgroups of Indian, and Pakistani / Bangladeshi individuals. White individuals are correspondingly more likely to be in employment. When broken down, the figures for all other activities (such as part-time job) are small. The figures for those not in education, training or employment are roughly the same for all groups (around 12%) except Indian individuals (4%). On the basis of these figures, one may conclude that all ethnic minority groups, but especially Indian individuals, have relatively high levels of

participation in immediate post-compulsory education. The figures for those in education aged 17 (DfES, 2005a) are larger for all groups, and for those aged 19 (DfES, 2005b) they are smaller for all groups, but otherwise the conclusion remains valid.

The situation with respect to qualifications is more mixed, although again it must be stressed that some figures are very small. For example, the difference between 40% black individuals with NQF Level 3 and 37% Pakistani/Bangladeshi is actually only five individuals in a survey with a less than 50% response rate. There are few robust differences in the kinds of qualifications obtained, but there is an indication that black individuals are more likely to hold an NVQ or equivalent (as opposed to A or AS levels) than other groups. This may partly explain their lower take-up of higher education (HE) when we consider those in education at age 18. According to the DfES (2006b), Pakistani / Bangladeshi and black pupils have generally lower levels of attainment than other groups by age 16 at school, while Indian (and Chinese) pupils have higher levels of attainment. However, much of the difference here is attributable to differential deprivation and levels of parental education, and it appears to be the case that most ethnic groups make greater progress at school (in value-added terms) than the white group.

Research background

Experience in the field of post-compulsory participation studies (Gorard and Rees, 2002; Selwyn et al., 2005), suggests that the majority of UK-based research is 'qualitative' in nature, seeking to explain differential rates of participation. Of the remainder, most is correlational, based on analyses of retrospective learning histories or cohort studies.

In a recent review for HEFCE of the barriers to participation in FE and HE undertaken by one of the authors of this review (Gorard et al., 2006), nearly 2,000 research reports were gathered for consideration. A large proportion of ostensible research reports actually

contained no evidence, or were so inadequately described that they had to be ignored as evidence. Of the remaining research reports, many showed substantially clear defects, such as making a comparative claim without the use of evidence from a comparator, or even simple misreading figures such that a larger number was treated as being smaller than a genuinely smaller number. Much of the remainder did not directly involve a clear analysis based on ethnic minority groups.

The authors of the HEFCE review had considerable difficulty in establishing patterns of participation for ethnic minority groups, even using the official large-scale data available which depends on a sequence of less than perfect analytical steps, including:

- a suitable definition of, and method of measuring, membership of the social groups involved
- a suitable definition and characterisation of the relevant population
- an accurate measure of the prevalence of the social groups in the relevant population
- an agreed definition of what is meant by participation in HE
- an accurate measure of the prevalence of those with higher education experience in the social groups involved

From the results of these five steps, they could then calculate the difference between the proportion of each social group in the relevant population and the proportion of the same group in HE. If this difference was large and important, then they could assume that there was a problem or a positive case, requiring either explanation or amelioration. However, the volatility of the figures, the smallness of some ethnic groups in England, the number of missing cases and values, changes in definitions over time and inconsistency between datasets meant that the error components in any analysis tended to overshadow the small differences between ethnic groups.

Authors, funders and other users of the review

The York Post-16 Review Group undertook this review mainly as a response from policy colleagues at the DCSF/DIUS (formerly DfES) who funded the research. The group worked in partnership with an Advisory Group, comprising policy colleagues, to ensure relevance of the review to policy makers who might be interested in the determining factors that could be affected by policy decisions. However, the group has attempted in this summary to provide information for a wide range of audiences, including practitioners, research funders, and educational researchers. Implications for all these audiences have been drawn out in the conclusions to the review.



CHAPTER TWO

Methods of the review

User involvement

The Advisory Group included representatives from key constituencies of policy users, including a representative from the Lifelong Learning and Skills Directorate at the DfES and representatives from Strategic Analysis at the DfES. The focus of the review was identified through discussion with members of the Advisory Group at an initial meeting, and through the development of the protocol, and refined in response to comments by them and by colleagues representing the EPPI-Centre.

Identifying and describing studies

The inclusion / exclusion criteria for the updated systematic map were identical to those used for the systematic map in the first review (Torgerson et al., 2007). Studies were included if they were UK-based and either focused on minority ethnic pupils' (or students') views or aspirations with respect to post-16 participation in fulltime education, or else evaluated interventions designed to increase post-16 participation of minority ethnic groups. Non-UK studies were only included for the latter group, if they evaluated interventions.

The Review Group included surveys, qualitative research, case studies and reviews to investigate pupils' or students' views, but focused on experiments for evaluating

interventions. Studies also had to meet strict quality criteria.

Reports were identified through the searching and screening procedures described for the original systematic map (Torgerson et al., 2007) but received too late to be included in the first review. The same inclusion and exclusion criteria that were used in the first review were applied to the additional reports identified.

Characterising included studies (EPPI-Centre and review-specific coding)

The studies included in the updated systematic map were keyworded, using EPPI Centre (2003) Core Keywording Strategy: version 0.9.7. Additional keywords, specific to the context of the review, including details of ethnicity and the specific participation, retention, attitudes and achievement issues that the authors of the study were trying to understand or improve, were also applied to these studies. All the keyworded studies were added to the larger EPPI-Centre database, REEL, for others to access via the website.

Identifying and describing studies: quality-assurance process

Application of the inclusion and exclusion criteria and the keywording was conducted by pairs of Review Group members working independently and then comparing their decisions before coming to a consensus.

In-depth review

A subgroup of relevant studies from the aspirations area of the map was selected for the in-depth review. To be included in the focused in-depth review, a study had to be mapped as a 'UK-based aspirations' study in the updated systematic map, either eliciting students' aspirations about education which are clearly post-16 (cross-sectional / views study) or investigating the relationship between aspirations and educational variables (secondary data analysis). The key focus of the study had to relate to post-16 aspirations and the analysis of different minority ethnic groups needed to be distinct.

Aspirations studies identified as meeting the inclusion criteria were analysed in depth, using the EPPI-Centre's detailed data-extraction tool (EPPI-Centre, 2007) and software, EPPI-Reviewer (Thomas and Brunton, 2006). For the cross-sectional / views studies, detailed data was extracted about, for example, the participants, views, attitudes and other key determinants of participation, and design features relating to the quality of the included studies; for secondary data analysis studies, detailed data was extracted about characteristics of the samples and design features relating to the quality of the studies (for example, appropriate statistical methods and sample size).

Assessing the quality of studies and weight of evidence for the review question

The two different types of study (cross-sectional / views studies and secondary data

analyses) were separately assessed for quality and weight of evidence using three components to help in making explicit the process of apportioning different weights to the findings and conclusions of different studies.

For a cross-sectional / views study, weight of evidence was based on the following:

- soundness of studies (at a general level), valid and appropriate data collection, data analysis and data interpretation, based upon the study only (weight of evidence A)
- appropriateness of the research design and type of analysis used for answering the review question (weight of evidence B)
- relevance of the study sample, measures, actual analysis or other indicator of the focus of the study to the review question (weight of evidence C)

An overall weight (weight of evidence D) was then calculated taking into account A, B and C, and using a pre-established formula for moving from A, B and C to D.

For a secondary data analysis, weight of evidence was based on the following:

- soundness of studies (internal validity and reliability of data collection, data analysis and data interpretation), based upon the study only (weight of evidence A)
- appropriateness of the research design and type of analysis used for answering the review question (weight of evidence B)
- relevance of the study sample, measures, actual analysis or other indicator of the focus of the study to the review question (weight of evidence C)

An overall weight (weight of evidence D) was then calculated taking into account A, B and C, again using a pre-established formula for moving from A, B and C to D.

Synthesis of evidence

The data were synthesised to bring together the studies which answered the review question and which met the quality criteria relating to appropriateness and methodology. The focus was on themes relating to post-16 factors ('promoters' and 'non-promoters') grounded in the data in the following categories of influence: government policy; institutional practices - universities; institutional practices - schools; careers service; work; religion; family; individual aspirations; and other factors.

The term 'promoter' is used to denote any factor that encourages or facilitates post-16 participation. The term 'non-promoter' has been chosen as it is a neutral one, and does not necessarily denote a barrier to participation, although in some cases it does do so. For example, the careers service appears to play a minor role, but does not act as a barrier to post-16 participation. The Review Group intentionally adopted a comprehensive approach, which necessarily included both promoters and non-promoters. Promotional and non-promotional factors cover the whole spectrum and so this is much more of an unbiased, complete approach. The aim is towards drivers, but, in the interest of balance and an unbiased approach to the topic, the barriers and neutral factors have been involved as well as the facilitators; the two are intimately connected.

The narrative synthesis was undertaken by identifying the emerging post-16 factors from the high and medium quality studies, using a grounded approach (Strauss and Corbin, 1998), which appeared to determine post-16 participation according to the views, attitudes and aspirations of minority ethnic groups and which investigated the relationships between aspirations and educational variables. The Group then looked at the low quality studies for findings which confirmed those in the high and medium quality studies.

In-depth review: quality-assurance process

Data-extraction and assessment of the weight of evidence for the studies included in the in-depth review were undertaken in the following way:

One study (Shiner and Modood, 2002) was independently data-extracted and quality appraised by four members of the Review Group, who then discussed the data-extractions and resolved any disagreements. A representative from the EPPI Centre also data-extracted this study and the data-extraction was compared with the Review Group's moderated extraction. This was done in order to check and develop consistency of data extraction judgements between members of the Review Group and the EPPI Centre.

One study (Francis and Archer, 2004) was data-extracted by three members of the Review Group. This was done as a further check on consistency of data-extraction and quality assessment between members of the Review Group. Each member of the Review Group independently data-extracted a further study, and these four studies were double data-extracted by a representative from the EPPI Centre.

Independent double data-extraction was carried out on three further studies. Twelve studies were data-extracted by one reviewer and confirmed/moderated by a second reviewer. Finally, two studies were data-extracted by one reviewer.



CHAPTER THREE

What research was found?

Studies included from searching and screening

Three studies (Bagguley and Hussain, 2007; Strand, 2007; Strand and Winston, 2008) identified too late to be included in the original systematic map (Torgerson et al., 2007), were added to the 42 studies coded as ‘aspirations’ studies in the first review. These three studies were identified through electronic searching (one study) and through contact with a substantive expert (two studies).

Updated systematic map

The updated systematic map for this review therefore contained a total of 68 studies. Of these, 12 were UK-based reviews of previous empirical research on post-16 participation of minority groups and 11 were intervention studies evaluating interventions to increase post-16 participation, to improve retention of minority ethnic groups, or to improve achievement, learner motivation or identity in such groups. The three additional studies identified were all aspirations studies and consequently the updated systematic map included 45 aspirations studies all investigating the post-16 views and aspirations of groups of diverse minority ethnic participants.

In-depth review

The 45 studies coded as aspirations studies were screened in detail for inclusion in the in-depth review, using inclusion/exclusion specifically developed criteria. In order to be included, a study had to be mapped as a ‘UK-based aspirations’ study in the updated systematic map. It had either to elicit students’ views and/or aspirations about education which were clearly post-16 (cross-sectional / views study), or to investigate the relationship between aspirations and educational variables (secondary data analysis); the key focus of the study had to relate to post-16 aspirations; and the analysis of different minority ethnic groups had to be distinct. Of the 45 studies, 22 were excluded from the in-depth review because they did not meet these inclusion criteria. The remaining 23 studies were included.

The 23 studies were of two distinct study designs: secondary data analyses and cross-sectional / views studies. There were six secondary data analyses and 20 views studies. It should be noted that three studies included both types of study design within a single study, making a total of 26 studies in the in-depth review (hereafter ‘sub-studies’).



CHAPTER FOUR

What were the findings of the studies?

As outlined in Chapter 2, the 26 studies (including six sub-studies) included in the in-depth review were fully data extracted and quality appraised. Data was extracted relating to the topic focus, the study method, and the emerging participation themes.

An overall weight of evidence (WoE) judgement was made about each study based on its internal validity, and relevance to this review in terms of its design, sample, measures, etc. Three studies were judged to be of overall 'high' WoE; two studies were judged to be of overall 'high to medium' WoE; three were judged to be of 'medium to high' WoE; and seven were judged to be of 'medium' WoE. Eleven were categorised as 'medium to low' or 'low' WoE.

It should be noted that the process for weighting the studies was a complex one and included judgements based on quality issues such as sample size, but also on issues relating to relevance for the review question (see Chapter 2).

Synthesis of evidence

As outlined in Chapter 2, a conceptual framework informed the synthesis through a particular focus on themes related to post-16 factors which promoted or facilitated participation ('promoters'), or which were barriers to participation or which played a

neutral role ('non-promoters'). Some of these themes were established initially through a reading of background material relating to post-16 participation of ethnic minority groups. Other promoters emerged during the data-extraction process.

The emerging post-16 themes or factors which appeared to determine post-16 participation according to the views, attitudes and aspirations of minority ethnic groups, and which investigated the clear relationships between aspirations and educational variables were identified using a grounded approach (Strauss and Corbin, 1998). The process began with the high and medium WoE studies, then the medium to low and low WoE studies were analysed for themes which confirmed those in the high and medium WoE studies. Promoters and non-promoters in the following eight categories of influence were coded for in each study: government policy; institutional practices - universities; institutional practices - schools; careers service; work; religion; family; and individual aspirations. 'Other factors', which did not fall into any of the eight levels of influence, were also coded. Itemised subheadings were included in each of the categories. This matrix provided our conceptual framework.

A total of 23 promoters and 29 non-promoters were identified in the eight levels of influence and other factors.

Government policy

Factors promoting participation

- Award of educational maintenance allowance (EMA)

One study: Middleton et al., 2005

In terms of government policy, one high WoE secondary data analysis found that the education maintenance allowance (EMA) intervention - a monetary incentive awarded to students from low income families to encourage post-16 participation - was felt to be 'very important' in their decisions to stay in fulltime education by 25% of the students in the pilot areas who were awarded an allowance. The figure was highest for black students (40%), and lowest for Indian students (20%) and white students (23%). However, it was hard to explain why 73% of those who said the EMA was 'very important' also said they would 'probably' or 'definitely' have stayed on without it.

Institutional practices - universities

Factors promoting participation

- Wider entry requirements
- Inclusive admission practices

Two studies: Bagguley and Hussian, 2007; Shiner and Modood, 2002

In terms of university practices, two studies found that allowing wider and lower university entry requirements and more inclusive admission practices increased participation. These two studies, judged to be of medium to high WoE, examined participation in higher education through a secondary data analysis and views study of the diversity of South Asian women's experiences of higher education (HE) and the barriers they faced (Bagguley and Hussian, 2007)¹, and a secondary data analysis

of the role of ethnic bias in the allocation of HE places (Shiner and Modood, 2002). Bagguley and Hussian found that choice of university was largely determined for the women concerned by the combination of courses offered and lower 'A' level requirements. Shiner and Modood (2007) found that ethnic minority candidates were concentrated in the new universities, largely due to patterns of application, but also to a greater commitment among those universities to widening the social and ethnic basis of participation in HE.

Non-promoting factors

- Less inclusive admission practices (old universities)
- Narrow application strategy

Four studies: Archer and Hutchings, 2000; Bowl, 2001; Joseph Rowntree Foundation, 2006; Shiner and Modood, 2002

One medium to high WoE study (Shiner and Modood, 2002) found 'strong evidence' that minority candidates faced an ethnic penalty, especially among 'old' universities. The rate at which an initial application yielded an offer depended on the type of institution applied to ('old' or 'new' university). Also, the location of the institution was an important factor: ethnic minority students in the sample tended to apply to institutions geographically nearby - this may have reduced their chances of success. One medium WoE study (Joseph Rowntree Foundation, 2006) found that further and higher institutions were not doing enough to support ethnic minority young people, especially those living away from home. The findings of two low WoE studies supported these conclusions.

Institutional practices - schools

Factors promoting participation

- High quality of support
- Positive school ethos

¹ "A further analysis by Gittoes and Thompson (2005, 2007) of the underlying data used by Shiner and Modood (2002) was not located through our electronic searching. Using a different approach to analysis, it did not find an 'ethnic penalty' specific to old universities (once certain courses and cases had been excluded from analysis). However, the Gittoes and Thompson study has not been formally appraised as part of our review process, so we are unable to say what effect the new study might have had on the review findings.

Five studies: Abbas, 2002; Clayden and Stein, 2002; Conner, 2004; Gayle et al., 2002; Rhamie and Hallam, 2002)

In terms of school practice, five studies concluded that high quality of staff support increased the likelihood of students staying on post-16. In addition, two studies found that the ethos of a school was a particularly important factor influencing post-16 participation. This included a positive atmosphere and an emphasis on academic excellence. For example, Connor (2004), in a cross-sectional study judged to be of high WoE, surveyed 1,000 year 13 students and found that staff support may have affected their likelihood of staying on at school.

Non-promoting factors

- Racial issues
- Low expectations
- Teacher quality
- Eurocentric curriculum

Six studies: Abbas, 2002; Bowl, 2001; Crozier et al., 2005; Fitzgerald et al., 2000; Francis and Archer, 2004; Strand, 2007

Four medium WoE studies raised concerns about racial issues. Two studies found low expectations to be an issue in post-16 participation. Crozier et al. (2005) found that many Bengali and Pakistani students talked about teachers having low expectations of them. Racial harassment and abuse was a prominent theme. Fitzgerald (2000) found that the majority of respondents were positive about their secondary school. Over half said their teachers encouraged them to do their best. However, a minority (10%) said they did not get on with teachers and 14% said their teachers had not encouraged them to do their best. These factors were seen by the researchers as barriers to academic success. Francis and Archer (2004) included examples of how the British curriculum took a Eurocentric stance which did not always accommodate cultural differences, and which therefore could have

impeded minority ethnic students. The study focused exclusively on British Chinese young people, their parents and their teachers. The authors also noted that views of learning constructed by British Chinese pupils did not always fit the Western models of the 'ideal' pupil or 'correct' approaches to learning.

External agencies: careers service

Factors promoting participation

- Careers advice (schools and outside agencies)

Two studies: Conner, 2004; Middleton et al., 2005

Two studies, judged to be of high weight of evidence, conducted surveys and secondary data analyses and found that the careers service played a minor role in encouraging post-16 participation, but the role was greater for students from some ethnic minorities, especially black Caribbean students. For example, in the study by Connor (2002) a survey of potential HE entrants in year 13 in schools and colleges (1,000), followed by in-depth interviews with 42 of these students and a survey of 80 parents of the students, followed by in-depth interviews with 13 of them (of whom ten were from ethnic minority groups), revealed that careers teachers and the careers service were found to be more influential among all minority ethnic students than among white students. In the study by Middleton et al. (2005), 16% of all students surveyed rated the careers service as the greatest source of helpful advice; for black students, the figure was 21%, with the figure for Indian students being 15%.

Non-promoting factors

- Careers advice

Four studies: Allen, 1998; Bowl, 2001; Joseph Rowntree Foundation, 2006; Middleton et al., 2005

Four studies, including one high WoE study and

one medium WoE study, found that careers advice did not play a major role in the post-16 decisions of the majority of students; these included one study judged to be of high weight of evidence. For example, Middleton et al. (2005) found that those remaining in FE were more likely to say careers service had played a minor role in their decision to participate post-16, except in the case of black students (Middleton et al., 2005). A study undertaken for the Joseph Rowntree Foundation (2006) found that careers advice in schools did not play an important role in shaping post-16 decisions.

It should be noted that, overall, the evidence in this review concerning the influence of the careers service demonstrates that it is not a major influence in determining post-16 decisions. However, it is included in the promoting category because its influence does appear to be greater for students from some ethnic minorities, especially black Caribbean students.

Work

Factors promoting participation

- Work experience

Two studies: Archer and Hutchings, 2000; Middleton et al., 2005

One high weight of evidence study (Middleton et al., 2005), which involved a secondary data analysis on the education maintenance allowance pilot dataset, found that a large proportion of all ethnic groups (white, black, Indian and Bangladeshi/Pakistani) had been offered (90%) or had participated in (88%) work experience. Overall, 68% of those interviewed (all groups) felt that work experience had been 'fairly' or 'very helpful' in their eventual decision to continue in post-16 education. There was also one low weight of evidence study commenting on work as a promoter (economic motivation to stay on in education).

Non-promoting factors

- Desire to work or train

Two studies: Beck et al, 2006; Middleton et al., 2005

One high weight of evidence study (Middleton et al., 2005) noted that, for most individuals, but especially white students, wanting a job or a training place was the principal reason for leaving education. One low weight of evidence study also provided support for this conclusion.

It should be noted that, Note: although these studies were not specifically concerned with changes over time in the job market, such changes can and do occur, and may well significantly affect work preferences of students from any ethnic group.

Religion

No medium or higher weight of evidence studies were identified which commented on religion as either a promoter or non-promoter of post-16 participation.

Family

Factors promoting participation

- High value placed on education by parents
- Strong parental support for post-16 participation
- Positive family/cultural/community influence
- Social class

Sixteen studies: Ahmad, 2001; Allen, 1998; Archer and Hutchings, 2000; Bagguley, 2007; Basit, 1997; Connor, 2004; Crozier, 2005; Dale, 2002; Gayle, 2002; Fitzgerald et al., 2000; Francis and Archer, 2004; Joseph Rowntree Foundation, 2006; Middleton et al., 2005; Rhamie and Hallam, 2002; Strand, 2007; Strand and Winston, 2008

Overall, there were 16 studies which provided evidence for family-related factors which promoted post-16 participation in education. All studies included in this review and weighted medium WoE or higher found evidence of influence at the family level for encouraging post-16 participation. The findings from one medium to low study and four low WoE studies confirmed this conclusion. Of the studies, 13 found that parental value of education was an important determinant; and twelve studies found that strong parental influence or support was crucial in determining post-16 destinations. Nine studies noted the positive influence of wider family, culture and community, and four studies highlighted higher social class as being influential. For example, a high weight of evidence study (Connor et al., 2004) used secondary analysis and cross-sectional methods to investigate factors influencing participation, retention in and progression to HE of minority ethnic group students. The authors found that parents and families were stronger push factors for minority ethnic groups than for white students with respect to helping them to succeed through gaining HE qualifications. Parental influence had a greater effect on minority ethnic young people than on white students in steering them towards certain courses, especially in professional/vocational subjects. Parental influence was the strongest factor for potential entrants, although parental influence on final choice of institution and course was limited. A high to medium secondary data analysis (Gayle et al., 2002) identified the factors that influence young people's choices of entry to HE and participation on a degree level course.

The authors undertook an 'exploratory' analysis of a set of nationally representative data through statistical modelling, using data from the Youth Cohort Study of England and Wales (YCS): Cohort III. The research aimed to explore what external factors, beyond educational attainment, influence participation. After controlling for educational attainment, occupational social class was found to be a highly statistically significant factor influencing young people's entry into HE. This applies to all young people, from all ethnic groups including white participants.

Non-promoting factors

- Low value placed on education by parents
- Parental influence against post-16 participation
- Negative family / cultural / community influence
- Social class

Eight studies: Abbas, 2002; Ahmad, 2001; Allen, 1998; Bowl, 2001; Dale, 2002; Middleton et al., 2005; Shiner and Modood, 2002; Strand, 2007

Overall, there were eight studies which provided evidence that family influence could be a barrier to post-16 participation. One of these was of high WoE (Middleton et al., 2005), one was of medium to high WoE (Shiner and Modood, 2002), two studies were of medium WoE, one was a medium to low WoE study and three were low WoE studies. Middleton et al. (2005) found that Indian and Pakistani/Bangladeshi young people noted financial constraints and family issues as important reasons in the decision to leave education. Moreover, Pakistani/Bangladeshi or black students not continuing in education for family or financial reasons were 'much less likely' to have found work or training than white or Indian young people.

Individual aspirations

Factors promoting participation

- Individual motivations for participation in HE (economic gain and better job opportunities, personal sense of achievement and satisfaction, high value of and aspiration for education)
- Belief in post-16 education as a 'natural progression'
- Positive attitude towards school

Fifteen studies: Ahmad, 2002; Archer, 2000; Bagguley and Hussian, 2007; Basit, 1997; Beck, 2006; Clayden and Stein, 2002; Conner, 2004; Dale, 2002; Fitzgerald et al., 2000; Francis and Archer, 2004; Hagell and Shaw, 1996; Joseph Rowntree Foundation, 2006; Rhamie and Hallam, 2002; Strand, 2007; Strand and Winston, 2008

Overall, there were 15 studies which provided evidence for various promoters of post-16 participation within the individual aspirations level of influence. Of these there was one high WoE study (Connor, 2004), one high to medium WoE study (Strand and Winston, 2008), one medium to high WoE study (Bagguley and Hussain, 2007), six medium WoE studies (Ahmad, 2002; Fitzgerald et al, 2000; Francis and Archer, 2004; Hagell and Shaw, 1996; Joseph Rowntree Foundation, 2006; Strand, 2007), two medium to low WoE studies and four low WoE studies.

Of these studies, 13 noted individual motivations for higher education, suggesting this is an important promoter of post-16 participation. The high WoE study (Connor, 2004) and Bagguley and Hussian (2007) both noted the expectation of economic gain and career advantage resulting from post-16 participation motivated students to remain in education. Strand and Winston (2008) similarly found that pupils from black African, Pakistani and other Asian backgrounds aspired to professional jobs often related to medicine or computers. Two of the medium WoE studies (Francis and Archer, 2004; Joseph Rowntree Foundation, 2006) also identified economic gain and better job opportunities as motivating factors.

The five medium WoE studies also highlighted a number of other motivating factors, including a personal sense of achievement and satisfaction, and, improved knowledge and ability (three studies); a high value of and aspiration for education (three studies); the chance to leave home and gain independence (one study); and a personal interest in the particular subject (one study). Students were also motivated by the social significance attached to having

a higher education qualification (one study). Women were motivated by the need to prove themselves and compete in the labour market (one study).

Other promoters identified within this level of influence included the feeling that participation in post-16 education was a natural progression from school (two studies). A positive attitude towards school was also found to increase the likelihood of post-16 participation in three studies.

Non-promoting factors

- Lower individual aspirations (related to, for example, disaffected peers, 'low commitment to education', lack of understanding of the post-16 market and university entry)

Five studies: Abbas, 2002; Bowl, 2001; Crozier et al., 2005; Hagell and Shaw, 1996; Strand and Winston, 2008

One high to medium WoE study, Strand and Winston (2008), suggested that the lower aspirations of black Caribbean students seemed to be related to having disaffected peers and also a low commitment to schooling. This finding was echoed in the medium WoE study, Hagell and Shaw (1996). A further medium WoE study (Crozier et al., 2005) also noted that a non-promoter of post-16 participation was a lack of understanding of the post-16 market and university entry; students were unaware of what they needed to do early on in their lives to ensure successful entry into further education

Other factors

Factors promoting participation

- Positive role of friends
- Gender

Three studies: Gayle et al, 2002 Joseph Rowntree Foundation, 2006; Strand and Winston, 2008

One high to medium WoE study (Strand and Winston, 2008) found that having positive peers increased an individual's participation in post-16 education. This conclusion was supported by a medium WoE study (Joseph Rowntree Foundation, 2006) in which respondents noted that most or all their friends intended to go to university. This could have affected their personal decisions to remain in education. The explanations given for friends' decisions to continue in education were related to ambition, opportunity and expectation, or, the fact that going to university was felt to be the norm. A high WoE study (Middleton et al., 2005) also noted that respondents often consulted their friends in the decision-making process, although they rarely felt the advice was helpful.

A study by Gayle et al. (2002) was judged to be of high to medium WoE and found that young men (from all ethnic groups) were more likely to participate in higher education than young women. Through the 'sample enumeration', the authors demonstrated that the difference in participation between males and females could be mostly accounted for by the 'gender effect' (i.e. gender discrimination).

Non-promoting factors

- Negative impact of friends
- Negative impact of older age
- Gender

Six studies: Bowl, 2001; Clayden and Stein, 2002; Gayle, 2002; Rhamie and Hallam, 2002; Shiner and Modood, 2002; Strand and Winston, 2008

One high to medium weight of evidence study (Strand and Winston, 2008) found that having positive peers increased participation, and that the reverse effect was true for negative peers. The authors calculated that students with disaffected or negative peers were three times less likely to continue in education. One medium to high WoE study (Shiner and Modood, 2002) suggested that the age of applicants

could be one of a number of socio-demographic variables which might explain the differing rates at which ethnic groups are offered places and the different types of university to which students applied. In short, older candidates were less likely to be successful applicants. One high to medium WoE study (Gayle, 2002), as previously discussed, found that young women were less likely to remain in education than young men and demonstrated that this was mostly accounted for by gender discrimination.

Summary

In the synthesis, of all eight levels, factors in the two levels of family and individual aspirations stand out as being the major determinants of participation in post-16 education. Sixteen studies found that a high value placed on education by parents, strong parental support for post-16 participation, positive family influence and being in a higher social class were determining factors in participation in schools post-16 and in further and higher education. On the other hand, eight studies found that a low value placed on education by parents, parental influence against post-16 participation, negative family influence, and being in a lower social class could be factors acting as barriers to post-16 and further and higher education.

Some of the reasons identified in the studies indicating why some parents place a high value on education include the belief that it is a path to success and/or to qualifications; it is an investment for future or better employment opportunities; it is an insurance against marriage difficulties, or it will enhance the chances of a 'good' marriage (Muslim women); it bestows social prestige, or it will change the social class of the student.

Two other reasons identified in the studies are that education was felt to have an intrinsic value, and some parents simply have high educational aspirations for their children. A second group of factors includes parental support (for example, parents being prepared to use a range of resources to help their

20 What are the factors that promote high post-16 participation of many minority ethnic groups?

children); providing guidance, information, support; and lastly giving general support and encouragement to one's children, by, for example, talking to them about school. The influence of the family is closely linked to SES. High social class (as determined by, for example, size of family, home ownership and parental education) increases the likelihood of post-16 participation among all ethnic groups (Gayle et al., 2002; Rhamie and Hallam, 2002; Shiner and Modood, 2002; Strand, 2007).

Fifteen studies found that individual aspirations and motivations for participation in post-16 education were major drivers for participation - not only in terms of aspiration for education as an end in itself, for economic gain and better job opportunities, but also simply in placing a high personal value on education and a belief that this would lead to personal satisfaction.



CHAPTER FIVE

Implications, or ‘What does this mean?’

It is well known that minority ethnic students are more likely to participate in higher education (HE) than white students. However, their participation rates vary between universities, subjects, courses and geographical regions, and some minority ethnic students are more likely to leave early than white students; this applies, in particular, to black students. Although prior attainment is very important, it is not the only determinant of HE entry or choice of study. For example, in the study by Gayle et al. (2002), after controlling for educational attainment, the authors found significant main effects for a range of factors (for example, social class), but ethnicity was not found to be a statistically significant factor in determining participation in HE.

Summaries of studies concerning post-16 participation have a tendency to be recursive, and legitimately so. Participation in education or training at any age or stage is currently at least partly determined by experience and relative success or failure at the prior educational stage. Participation and success in the prior educational stage, in turn, depends at least partly on experience of the stage before that. Students who report enjoying school pre-16 and who obtain at least average Key Stage (KS) 4 results are more likely to stay on than school avoiders and those with little or no qualification at age 16. Why then are there apparent differences in post-16 participation between ethnic groups in the UK?

It is largely for the same reasons that those students who do well at KS 3 (and KS 2 before that) are more likely to be the ones reporting enjoying school at 16 and gaining average or better KS 4 results. The ethnic minority groups most likely to continue and be successful with education or training post-16 are the same groups with above average attainment at 16 and before. There are several groups of possible explanations for this situation, but none of the studies encountered in this review addressed the full picture.

Perhaps the reason groups such as students of Chinese or Indian origin are more likely to participate in post-16 education and have higher levels of attainment pre-16 is the same as the reason there is a link between socio-economic status (SES) and education more generally; the explanation is therefore not ethnically-based. Many studies in the review suggested that parental education (and so assistance) and residential stability were possible causal routes for SES to play out in terms of educational outcomes.

School attainment and post-16 participation are linked to student SES, as judged by parental occupation, education and income (Gayle et al., 2002; Shiner and Modood, 2002; Strand, 2007, Rhamie and Hallem, 2002). Many SES variables act as proxies for each other due to the high correlations between occupation, education and income. Ethnicity, insofar as it can ‘explain’ variation in attainment/

participation, has a similar role. If, for example, there is a tendency in the UK for the minority ethnic groups to represent different historical waves of immigration for different reasons (some economic migrants, some fleeing Kenya and Uganda, and so on), then it is also possible that they represent differing SES backgrounds. In general, ethnicity either disappears or is greatly reduced when SES is used as an explanatory variable in modelling educational outcomes (see, for example, Gayle et al., 2002).

The results of this review should be treated with caution because, unlike a simple indicator with a binary legal definition like sex or eligibility for free school meals, ethnicity is contentious, liable to change and complication over time, and confused. It is confused because current classifications confuses criteria such as national origin (for example, Chinese), skin colour (for example, black British), language, religion and culture. It is also confused because some individual categories are listed together as 'mixed' and some are not, even though it would be hard to maintain that any group was not mixed in some way. Some commentators allow that ethnicity must be self-referenced and self-judged. It is what one feels and is therefore liable to change over time.

Implications for policy

The most obvious reason why students who are more successful in education pre-16 (including ethnic groups in the UK of Chinese and Indian origin) are also more likely to participate in education post-16 is that the system is selective. This selection can be overt, as with the standard requirements for sixth-form or college study of A-levels (such as five 'good' GCSEs including mathematics and English) or two or more A-levels (or equivalent) for entry to undergraduate level HE. The selection can also be indirect, through teacher discouragement, or advice and guidance, and even lack of parity of esteem between post-16 pathways. Selection is probably the greatest determinant of post-16 participation. As a nation, a decision probably needs to be made: either to continue

with this selective post-16 system and live with the stratified patterns of participation that result, or use anti-discriminatory legislation and retraining of practitioners to attempt to change post-16 education.

Secondly, by the age of 16, some students have apparently formed a learner identity that does not consider further episodes of formal 'schooling' desirable or appropriate. This is in effect self-selection, but it occurs as a direct result of the educational and familial determinants that combine to create learner identities which either seek or avoid further formal study. Of course, success or failure at school is closely linked to learner identity, but this is a relative, rather than an absolute, perception. If higher levels of post-16 participation are desired, then that participation has to be non-selective, it has to include pathways not resembling school to cater for those with negative school experiences, and schools would need to adjust to the forming learner identities of their pre-16 students.

The third group of explanations concerns socio-economic status (SES) and related variables. Policies supporting or enhancing positive individual and family attitudes towards participation in post-16 and higher education could be encouraged, although this should not replace any responsibility of the education system as a whole to attempt to equalise life chances for the most disadvantaged. If schools cannot and do not handle the inequalities, and leave this to parents, then this undermines an important part of their *raison d'être*.

Differences between ethnic groups are largely explained by differences in cultural attitudes towards education in general and higher education in particular. Minority ethnic groups with high participation tend to have a high cultural awareness of the value of extending young people's education.

In terms of interventions, financial assistance was seen as being important in one study. Financial assistance may be more important among those groups with low expectations and low emphasis on the value of post-16 and higher

education. However, much of the argument for participation is based on simple human capital theory: the investment of time and fees will pay off. This does not work with some groups, who are as likely to leave education in order to earn money as to stay on in the hope of earning more. Education must be intrinsically appealing both for those whose vocation is a profession (e.g. medicine and law) and those interested in what is more traditionally labelled 'vocational routes'. Careers advice appears helpful for some ethnic groups, and work experience is generally useful either in providing a reason for subsequent training or simply acting as a negative experience of the workplace in comparison with college.

If one really wants to increase participation, then one cannot assume that current opportunities are ideal and that all that is necessary is to encourage the reluctant to take part.

Implications for research

This review has highlighted a number of areas in which the current research does not adequately answer the important questions, and has demonstrated the need for more rigorous research. In the systematic map of research, the Review Group did not identify any UK-based evaluations of interventions aimed at changing behaviour or attitudes using a strong design to enable causal inference (randomised trials or regression discontinuity evaluations). The results of this review need to be treated with some caution as all the data is observational and consequently cannot be used to conclude causal inference.

In order to move forward in the field, at each level of influence research could be undertaken to identify interventions that look promising, and evaluate them using rigorous methods. Random allocation is the 'gold-standard' method of evaluating whether something works or not. This is because groups formed through random allocation are balanced at baseline in all known and unknown covariates: for example, SES, gender and other potentially

confounding variables. Therefore, any differences observed in outcome can reliably be ascribed to the intervention. It would be possible to evaluate interventions using random allocation.

When randomisation is not possible, the best quasi-experimental approach is the regression discontinuity design (RDD). In an RDD, a cohort of participants is identified, ranked by some form of scoring mechanism (for example, family income) and a cut-off point is identified, with only those falling below the cut-off point being offered the intervention. The whole cohort is then followed up to observe the participation rates in post-16 and higher education. If the intervention is effective, then there is a break (or 'discontinuity') in the proportion attending post-16 and higher education commensurate with the cut-off point.

Family support and attitude have been identified in the review as important promoters and non-promoters of post-16 participation. One possible area of research might be a series of randomised trials evaluating different approaches to increasing parental support. For example, one might identify families at risk of low participation and randomly allocate them to receive an intervention that might promote parental support for higher education - outcomes would be the proportion attending higher education. Similarly, the Review Group noted that the use of financial incentives might promote increased higher education attendance. One might evaluate these by using either a randomised trial or regression discontinuity study.

In the latter design, one might identify a cohort of students and rank them according to financial status, offering the proportion that suffer the most financial hardship financial support contingent upon participation in higher education. Alternatively, randomisation might be possible in these circumstances. Either design would provide robust evidence as to the effectiveness of these interventions.

In the review, careers advice appeared to play a minor role for all ethnic groups, although it was

possibly more beneficial for some ethnic groups than others. Careers advice is offered across the country; however, there is no randomised or strong quasi-experimental evidence to support its use. A cluster or area randomised trial could be used to evaluate an enhanced careers service. Schools could be randomised to receive additional careers support versus usual support and the effectiveness could then be observed by differences in enrolment into higher education.

At present, although the link between ethnicity/SES and attainment/participation is clear, there is almost no research attempting to test why this is the case. Much research seems, indirectly, merely to reconfirm the pattern. Even some of the studies in this review base conclusions on consideration of one group only (such as 15 Asian women) which cannot, by design, show how these compare with other groups. Any intervention

or RDD study has to be longitudinal to avoid the problem that determining reasons for participation retrospectively tends to ignore non-participants, and could be open to rationalisation after the event. Using data from beforehand, such as attitudes and aspirations, is just as liable to error, since there is such a weak link between attitudes and actual subsequent participation; in one study, around 90% of students in the lowest mathematics set 'intended' to study at university, even though they were predicted to attain no good GCSEs.



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Appendix 1.1: Authorship of this report

This work is a report of a systematic review conducted by the York Post-16 Review Group.

The authors of this report are as follows:

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Preparing the final protocol: CJT

Developing and finalising the search strategies: KW and CJT

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Screening at first, second and third stages: CJT, BHS and HRA

Data extraction and WoE judgements: BHS, GDL, HRA, CJT, MB

Writing text for the final report: CJT, HRA, GDL, BHS, SG

Preparing the final report: CJT, GDL, HRA and BHS

Writing the summary for policymakers: DW (under 'Members of the Advisory Group' below)

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Conflicts of interest

There are no known conflicts of interest.

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Appendix 2: The standard EPPI-Centre systematic review process

What is a systematic review?

A systematic review is a piece of research following standard methods and stages (see figure 1). A review seeks to bring together and ‘pool’ the findings of primary research to answer a particular review question, taking steps to reduce hidden bias and ‘error’ at all stages of the review. The review process is designed to ensure that the product is accountable, replicable, updateable and sustainable. The systematic review approach can be used to answer any kind of review question. Clarity is needed about the question, why it is being asked and by whom, and how it will be answered. The review is carried out by a review team/group. EPPI-Centre staff provide training, support and quality assurance to the review team.

Stages and procedures in a standard EPPI-Centre Review

- Formulate review question and develop protocol
- Define studies to be included with inclusion criteria
- Search for studies - a systematic search strategy including multiple sources is used
- Screen studies for inclusion
 - o Inclusion criteria should be specified in the review protocol
 - o All identified studies should be screened against the inclusion criteria
 - o The results of screening (number of studies excluded under each criterion) should be reported
- Describe studies (keywording and/or in-depth data extraction)
 - o Bibliographic and review management data on individual studies
 - o Descriptive information on each study
 - o The results or findings of each study
 - o Information necessary to assess the quality of the individual studies

At this stage the review question may be further focused and additional inclusion criteria applied to select studies for an 'in-depth' review.

- Assess study quality (and relevance)
 - o A judgement is made by the review team about the quality and relevance of studies included in the review
 - o The criteria used to make such judgements should be transparent and systematically applied
- Synthesise findings
 - o The results of individual studies are brought together to answer the review question(s)
 - o A variety of approaches can be used to synthesise the results. The approach used should be appropriate to the review question and studies in the review
 - o The review team interpret the findings and draw conclusions implications from them

Quality assurance (QA) can check the execution of the methods of the review, just as in primary research, such as:

- Internal QA: individual reviewer competence; moderation; double coding
- External QA: audit/editorial process; moderation; double coding
- Peer referee of: protocol; draft report; published report feedback
- Editorial function for report: by review specialist; peer review; non-peer review

The results of this systematic review are available in four formats:

SUMMARY

Explains the purpose of the review and the main messages from the research evidence

REPORT

Describes the background and the findings of the review(s) but without full technical details of the methods used

**TECHNICAL
REPORT**

Includes the background, main findings, and full technical details of the review

DATABASES

Access to codings describing each research study included in the review

These can be downloaded or accessed at <http://eppi.ioe.ac.uk/reel/>

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