TECHNICAL REPORT

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

A systematic map, and a focused review of the international intervention studies

Review conducted by the York Post-16 Review Team

Technical report written by Carole Torgerson, Beng Huat See, Graham Low, Kath Wright, Stephen Gorard

EPPI-Centre
Social Science Research Unit
Institute of Education
University of London

EPPI-Centre report no. 1506T· 2007

EPPI CENTRE · SSRU Social Science Research Unit · IOE LONDON Leading education and social research Institute of Education University of London

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/**

The EPPI-Centre reference number for this report is 1506T.

This report should be cited as: Torgerson CJ, See BH, Low G, Wright K, Gorard S (2007) What are the factors that drive high post-16 participation of many minority ethnic groups, and what strategies are effective in encouraging participation? A systematic map, and a focused review of the international intervention studies. Technical report. London: EPPI-Centre, Social Sciences Research Unit, Institute of Education, University of London.

CONTENTS

List of abbreviations

AGP	Adult guidance pilot
BHS	Beng Huat See
CA	Career academy
CJT	Carole Torgerson
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
GDL	Graham Low
GPA	Grade point average
HE	Higher education
HEFCE	Higher Education Funding Council for England
HIE	Higher education institution
KW	Kath Wright
NIACE	National Institute of Adult Continuing Education
NQF	National Qualifications Framework
NVQ	National vocational qualification
PT	Part-time
QA	Quality assurance
RG	Review Group
RQ	Research question
SADP	School Attendance Demonstration Project
SDP	Student diversity program
SG	Stephen Gorard
UROP	Undergraduate Research Opportunity Program
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 overall aim of this review was to attempt to determine the factors that drive high post-16 participation of many minority ethnic groups, through a scoping of the research literature and an in-depth review focusing on interventions.

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 education or training in the year after compulsory schooling, and 76% two years after the end of compulsory schooling (DfES, 2007). Inequalities in participation in all forms of post-compulsory education have endured over the past fifty years in the UK, with significant minorities routinely excluded (for example, Beinart and Smith, 1998).

What did we find?

A total of 65 studies were identified for inclusion in the systematic map. Of these, 12 were UK-based reviews. These reviews reported on previous relevant empirical research in the topic area of post-16 participation of minority ethnic groups. The remaining 53 studies in the systematic Mmap fell into two distinct categories: intervention studies (11 US-based studies) and aspiration studies (42 UK-based studies). The 11 intervention studies evaluated interventions to increase post-16 participation or improve retention of minority ethnic groups, or they evaluated interventions to improve achievement or learner motivation or identity of such groups. (Non-US intervention studies would have been included if they had included a control or comparison group and met strict quality inclusion criteria.) The 42 aspiration studies all investigated the post-16 views and aspirations of groups of diverse minority ethnic participants.

Ten intervention studies were included in the in-depth review. In a post-16 school setting, consistent high quality evidence of positive effects was found for a monetary incentives intervention in helping high achieving, ethnically diverse students to maintain their academic good standing. The strategy was found to be particularly effective in a subgroup analysis of Asian students. In a post-16 school setting consistent medium quality evidence of positive effects was found for a school engagement intervention (two studies carried out by the same research team). There were two medium-sized randomised controlled trials undertaken by the same group of researchers, both of which demonstrated positive results for the intervention. However, the study populations were similar in both trials and of limited generalisability to the UK context. In post-16 higher education (HE) settings, consistent high quality evidence was found for positive effects of a faculty/student mentoring strategy in improving academic performance and retention.

What are the implications?

The main strength of this systematic review lies in its rigorous design, which allows the results and conclusions of the review to be relied upon by users of the review. A further strength of the review is the broad and inclusive nature of the systematic map. The Review Group included all the UK-based aspirations studies investigating the views of participants of both traditionally high- and low- achieving minority ethnic groups and all

international intervention studies, using a control or comparison group design. A limitation of the in-depth review is that there were no UK-based interventions studies fulfilling the inclusion criteria available to be included; this is a limitation of the existing research in the field. The Review Group searched for such research, but found that it has not been undertaken. A final caveat of the review is that the minority ethnic groups predominant in the studies synthesised are of limited relevance to the UK context.

A number of US-based interventions of high quality were encountered, and this is partly to do with the scale and funding of US research. Many of these studies are of limited value for a UK audience because the specific mix of ethnic minorities, their immigration patterns and history, and economic position are so different from the UK context. Ethnic participation studies are one of the areas (unlike perhaps research on curriculum areas and pedagogy) in which UK resources could most usefully be spent on 'parochial' research in the future. In particular, where interventions tested out in US-based evaluations of rigorous design and execution were found to be effective (for example, in post-16 school settings monetary incentives/sanction interventions and in post-16 HE settings faculty/student mentoring strategies), these could be tested out in the UK, using rigorously designed and executed evaluations.

How did we get these results?

Systematic searches were made for studies that could potentially address the review question which focused on minority ethnic pupils' or students' views or aspirations about post-16 participation in full-time education; were UK-based or evaluated interventions designed to increase post-16 participation of minority ethnic; and which met clearly defined quality criteria.

All the main educational, sociological and psychological databases (including databases of grey literature) were searched. Studies were included that met the inclusion criteria, these studies were characterised, and the inclusion criteria were narrowed for the in-depth review question: What strategies are effective in encouraging post-16 participation of minority ethnic groups? The included studies were then data-extracted and quality appraised, and the results were reported and synthesised in terms of strength of evidence; 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=2299

CHAPTER ONE

Background

1.1 Aims and rationale for current review

Much of the United Kingdom 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 and possible policy levers to improve the situation, although in many cases this approach may also lead to wider societal and non-educational remedies. An alternative approach is to focus rather on differential success and seek to uncover the determinants of success through case study, 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 may lead to a method of increasing participation for all.

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 in the field 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. However, some of the US-based participation literature is experimental in nature and seeks to investigate and estimate the differential effectiveness of strategies, methods and policies that aim to increase participation post-16 for minority ethnic groups.

The overall aim of this review, therefore, was to attempt to determine the factors that drive high post-16 participation of many minority ethnic groups, through a descriptive mapping or scoping (systematic map) of the research literature and an in-depth review focusing on effective interventions to increase post-16 participation.

The systematic map scopes (identifies and characterises) the research in the field, using the following overarching review question:

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

The descriptive mapping identifies and broadly characterises studies of two main kinds and gives summary details of the studies included in the map. Studies which focus on the determinants (values and aspirations) of high-participation ethnic minority populations are included to address the first part of the overall question, *What are the factors that drive high post-16 participation of many ethnic minority groups?* The study designs that can address this question are surveys, qualitative studies and case studies which investigate the views, aspirations and attitudes of both high- and low- participating minority ethnic groups. All such studies have been systematically searched for, located and screened for inclusion. In order to narrow the focus to context relevant literature, the searches have been restricted to the UK-based literature. To address the second part of the overall question (*What strategies are effective in encouraging participation?*), the Review Group has included evaluations of interventions for increasing participation in minority ethnic groups. Preliminary searches indicated that most of such studies have been undertaken in the US; for this reason, the international literature for this research was searched.

In addition to the systematic map, the Review Group also undertook a focused in-depth review of the international interventions literature. This literature was identified from the relevant area of the map (see later). Studies thus identified were synthesised in terms of nature of evidence. Estimates of the quantitative effects of interventions designed to encourage

participation and increase retention were included in order to provide an estimate of the differential effectiveness of strategies to increase post-16 participation for potential users of the review. A meta-analysis was not undertaken because there was insufficient homogeneity between the included studies.

The question for this focused review is as follows:

What strategies are effective in encouraging post-16 participation of minority ethnic groups?

Preliminary searches indicated that the literature base would probably be extensive; the members of the Review Group therefore restricted themselves to high quality studies that reached minimum quality criteria. For the intervention studies, this meant that only those studies which employed a control or comparison group (that is, randomised controlled trials or quasi-experiments), with details of the interventions, processes and outcomes, sufficient data for quantitative analysis and at least 32 participants (sufficient to find an effect size of one standard deviation) were included. This was in order that a reliable causal relationship between intervention(s) and outcome(s) could be derived.

1.2 Definitional and conceptual issues

Participation: 'Participation' in the context of this review only was taken to mean continuation of formal education fulltime after reaching the school-leaving age of 16. This includes attendance at schools, sixth-form college or further education (FE) or community college post-16 and higher education (HE) post-18. Courses could be of any type, lead to a qualification or not, and need not be completed by the learner. Participation here excluded self-directed learning, distance learning unrelated to a UK institution, such as school or sixth-form college, FE or community college, work-based training and apprenticeships.

Minority ethnic groups: Fishman (1968, 1972) classically distinguished between a 'nationality' and an 'ethnic group' as two ends of a continuum. While both were socio-cultural groups, a nationality was 'a group of people who think of themselves as a social unit different from other groups, but not just on a purely local scale' (Fasold, 1984, p 2), whereas an ethnic group was 'simpler, smaller, more particularistic, more localistic' (Fishman, 1972, p 3). Combining this with Fishman's (1972) idea of a nation as not subject to external control, but a state as possibly being so, we get the two concepts of a multinational state, where sociocultural groups may 'feel they are themselves a nationality who merely live under someone else's governing control' (Fasold, 1984, p 3) and the more stable concept of a multiethnic nation, where the groups feel they are citizens of the country concerned. A third concept, the multiethnic nation, involves groups where all but the controlling nationality had no interest whatsoever in the country, either 'as its citizens or as an oppressor to be resisted' (Fasold, 1984, p 3). With the rise of short-term immigration (from EC countries, including Poland), the UK currently has all three types of sociocultural group and all three will thus be allowed as possible groups within this review, with the cover label 'ethnic group'. By the definitions of Fishman and Fasold, Welsh and Scots Gaelic speakers within Scotland and Wales would count as nationalities, and the Welsh in particular would, by Fishman's definition, count effectively as a dominant nationality within Wales.

Pragmatically, the Registrar General's definition of 'ethnic minority' is used for the UK context. This is adapted for use by the DfES as follows: ethnicity is self-defined. It could be based on common ancestry, memories of a shared past, a shared cultural identity which might include kinship, religion, language, shared territory, nationality or physical appearance. The term 'minority ethnic' 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) (http://www.statistics.gov.uk/about/ethnic_group_statistics/). The categories largely reflect twentieth-century immigration patterns to the UK. For national reporting, the DfES adopted two additional categories under the 'White' ethnic group which did not appear in the national Census. These are the 'Gypsy/Roma' and 'Traveller of Irish Heritage' categories which were introduced in order to support the Department's work to raise the attainment of Traveller children (http://www.standards.dfes.gov.uk/ethnicminorities/collecting/763919/811067/).

1.3 Policy and practice background

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 education or training in the year after compulsory schooling, and 76% two years after the end of compulsory schooling (full and part-time) (DfES, 2007).

However, inequalities in participation in all forms of post-compulsory education have endured over the past fifty years in the UK with significant minorities routinely excluded (for example, Beinart and Smith, 1998). Individuals participating in adult education are heavily patterned by 'pre-adult' social factors, such as socioeconomic status, year of birth and type of school attended. Perhaps the foremost development agency concerned with widening post-16 participation in the UK is the National Institute of Adult Continuing Education (NIACE). NIACE run countrywide seminars and programmes of related activities, based on

the assumption that wide adult participation is important for a fulfilled life for individuals, a successful and developing economy, and a genuinely participative democracy. However, much of this very plausible activity is neither evidence-based nor rigorously evaluated (for that is not its purpose) and so it provides little for a review such as this. In research terms, NIACE are best known for their regular large-scale Adults Learning Survey. This reinforces other studies in revealing that a very large proportion of the adult population does not participate in any formal episodes of learning at all after reaching school leaving age. Those individuals who do participate in post-compulsory education are heavily patterned by pre-adult social, geographic and historical factors, such as socioeconomic status, year of birth and type of school attended. These patterns have until recently been most clearly portrayed in the writing, for NIACE, of the now late lamented Naomi Sargant (e.g. Sargant and Aldridge, 2002).

However, the situation for patterns of participation in terms of sex and ethnic background is 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 suggest the reverse. Like 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, 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 (Table 1.1). 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 HE. This applies to 'Asian' individuals, and also to the two main sub-groups of Indian, and Pakistani/Bangladeshi. White individuals are correspondingly more likely to be in employment. When broken down, the figures for all other activities (such as PT job) are small.

The figures for those not in education, training or employment are roughly the same for all groups (around 12%) except Indian (4%). Thus, we may conclude on these figures that all ethnic minority groups, but especially Indian, 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; in all other respects, the conclusions above remain.

Table 1.1 Main activity of 18-year-olds, by ethnic group, England and Wales, 2006

	FT Education	(including HE)	FT/PT job, Govt supported training, out of work, other
White	44	(29)	56
Black	77	(31)	21*
Indian	84	(53)	13*
Pakistani/ Bangladeshi	62	(29)	38
Mixed/other	60	(34)	40

Source: DfES (2006a) * some cells fewer than 5

The situation for qualifications is more mixed, although again it must be stressed that some figures are very small (Table 1.2). 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 HE of those in education at age 18. According to the DfES (2006b), Pakistani/ Bangladeshi and Black pupils have 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 most ethnic groups make greater progress at school (in value-added terms) than White.

Table 1.2 Highest qualification of 18 year olds, by ethnic group, England and Wales, 2006

	Level 3 or higher	Level 2
White	46	27
Black	40	31
Indian	60	30
Pakistani/ Bangladeshi	37	26
Mixed/other	50	29

Source: DfES (2006a

1.4 Research background

In a recent review for HEFCE of the barriers to participation in FE and HE (Gorard et al., 2006) nearly 2,000 research reports were gathered for consideration. A large proportion of research reports contained no evidence, or were inadequately described, and therefore had to be ignored as evidence. Of the remaining research reports, many showed substantial and clear defects, such as making a comparative claim without the use of evidence from a comparator. Much of the remainder did not directly involve a clear analysis based on ethnic minority groups.

The authors of the HEFCE review had difficulty in establishing patterns of participation for ethnic minority groups using the official large-scale data available which depends on a sequence of 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; and an accurate measure of the prevalence of those with higher education experience in the social groups involved

From the results of these five steps, the authors 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, inconsistency between datasets, and other problems, meant that the error components in any analysis tended to over-shadow the small differences between ethnic groups and over time.

A previous systematic review (Taylor et al., 2005) reviewed effective strategies to widen adult participation in learning. Of the six studies that provided evidence on outreach, targeting and engagement, only one (rated by the authors of the review as of medium quality) specifically addressed the issue of participation by ethnic minority groups (Tyers et al., 2003). There were six studies that provided evidence on participation and retention. Of these, only one, rated by the review authors to be of medium quality (Robinson and Hughes, 1999) touched on the enrolment, retention and achievement of indigenous people in Australia. However, this study is not relevant to our present review.

Tyers et al. (2003) found that adult guidance pilots (AGPs) were particularly successful in attracting men, minority ethnic individuals, those not in paid employment and those with low qualifications. A presence within the community was key to attracting clients from minority ethnic groups. Outreach activities and word of mouth were found to be the most common ways to engage new clients. These forms of communication were found to be particularly important with ethnic minority groups, as many were believed to mistrust authority. The study noted that a sound understanding of the needs of the target group(s), what they would respond to and clarity about what the provider can do, could help to pre-empt disengagement.

The main limitations identified by the review were a lack of studies that evaluated the impact of interventions by comparison with a baseline or control group; a lack of testing of recommended practice; a limitation in the extent to which lessons could be transferable to the UK context; and a general weakness in the reporting of methods and evidence.

1.5 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 former DfES who funded the research. They worked in partnership with an Advisory Group, comprising policy colleagues, to ensure relevance of the review to policymakers who might be interested in both the determining factors that might be affected by policy decisions and also interventions that successfully increase both participation and retention. However, they set out to provide information for a wide range of audiences, including practitioners, research funders and educational researchers. Implications for all these audiences have been drawn in the conclusions to the systematic map and the in-depth review.

1.6 Review questions

In summary, the aims of this review are, firstly, to map systematically the values and aspirations literature and the interventions literature; and secondly to investigate the differential effectiveness of interventions to increase participation.

The map of the literature on post-16 participation of ethnic minority groups scopes international intervention studies, UK-based reviews, surveys, qualitative and case study literature in the field, with broad characterisation of all the included studies, summary details and full bibliographic details. In summary, it includes the following

research literature:

- The literature on the values, aspirations and attitudes towards education of those minority ethnic groups that have both high- and low-participation in post-16 education, either absolute or relative to their attainment at age 16. This covers reviews, surveys, qualitative and case study views literature from the UK only.
- The experimental literature on interventions of both high- and low- participation minority ethnic populations, to include international studies, but coverage limited to ethnic groups that are predominant in the UK.

The review question for the systematic map is as follows:

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

The review question for the in-depth review is as follows:

What strategies are effective in encouraging post-16 participation of minority ethnic groups?

CHAPTER TWO

Methods used in the Review

The Advisory Group comprises representatives from key constituencies of policy users including representatives from the Lifelong Learning and Skills Directorate at the former DfES and representatives from Strategic Analysis at the former 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.

2.1 Identifying and describing studies

2.1.1 Defining relevant studies: inclusion and exclusion criteria

At the initial stage of screening, studies were included which met the broad criteria for topic focus (minority ethnic focus and participation focus).

At the second stage of screening, studies were included which

1. focused on minority ethnic pupils' or students' (of any age) views or aspirations about post-16 participation in full-time higher or further education AND were UK-based OR evaluated interventions designed to increase post-16 participation of minority ethnic groups (topic focus)

2. used survey, qualitative, case study or review methods to investigate pupils' or students' views OR used an experimental design to evaluate an intervention (study design)

3. were published or reported in English

4. were published or reported between 1996 and the present

5. were undertaken anywhere with populations of students for whom English was a first or additional language

At the third stage of screening, studies were included which met the following quality criteria:

6. survey, qualitative, case study, reviews and views literature with clearly stated aims and objectives; clear description of samples, including for survey research details of sampling and response rate, and for case study research the number of cases on which the results and conclusions were based, sufficient data to mediate between data and interpretation OR, for intervention evaluations, reported quantitative data on at least one outcome associated with participation or retention, contained an appropriate control or comparison group, sufficient data to calculate an effect size, at least 32 participants, and the drop-out rate. All reviews and background studies were excluded.

For the in-depth review, two further exclusion criteria were used:

7. Not an interventions study with a control or comparison group

8. The study related to a minority ethnic group not predominant in the UK.

Exclusion codes are given in Appendix 2.1. These were trialled and revised during the initial screening, quality-assurance moderation exercise for operational efficacy and consistency of application.

2.1.2 Identification of potential studies: search strategy

Reports were identified from the following sources:

- Bibliographic databases: the main educational

and social science databases, including ASSIA, Australian Education Index, British Education Index, EPPI-Centre database of education research, ERIC, International Bibliography of the Social Sciences, PsycINFO, Social Policy & Practice, Social Science Citation Index, Sociological Abstracts

- Websites were also scanned for relevant documents, including the following:

o Current Educational Research in the UK (http://www.ceruk.ac.uk/ceruk/)

o University of Sussex. Research on Widening Participation (http://www.sussex.ac.uk/Units/socpsy/rwp/index.htm)

o Learning and Skills Development Agency (http://www.lsneducation.org.uk/research/projects/index.asp)

o Action on Access (http://www.actiononaccess.org/index.php)

o University of Staffordshire, Institute for Access Studies (http://www.staffs.ac.uk/institutes/access/)

- Reference lists of key papers identified through the electronic searches

- Reference lists of any located systematic and non-systematic reviews

- Contact (experts in the field)

Searches of these sources were limited to 1996 to the present, so as to identify studies conducted in this specific time period in order to start from a series of influential reports and reviews on participation from that year (Dearing, 1997; Fryer, 1997; Kennedy, 1997). Specific searches were written for each of the electronic databases and websites searched, through discussions between the information consultant (KW), and methods and substantive experts in the Review Group. The principal investigator checked the initial search results for relevance and reliability before all the full electronic searches were run. Indicative search terms are given in Appendix 2.2. A database system was set up to keep track of studies found during the review (EndNote). Titles and abstracts were imported and entered manually into the first of a series of databases.

2.1.3 Screening studies: applying inclusion and exclusion criteria

The EndNote database containing de-duplicated records from all the electronic searches was first screened for broad inclusion. The search was deliberately sensitive but not specific, in order to be as exhaustive and inclusive as possible. This meant that many records were picked up that were not 'on topic', thus enabling a broad initial screening to exclude records that were off topic. This initial screening was undertaken by CJT and BHS in the following way. The database was divided into two and each of the two reviewers screened for exclusion on exclusion criterion 1. Any record definitely not on topic was excluded using this code. All other records were included. The reviewers were inclusive at this stage: that is, if there was any doubt about a record, it was included. The included records from each screening were then incorporated into two libraries (one for each of the reviewers), which were then merged to form a second database.

Inclusion and exclusion criteria were then applied successively to (i) titles and abstracts, and (ii) full reports, using the full set of inclusion criteria. This was done in the following way. CJT and BHS independently double-screened the second database, and then discussed any disagreements. Where a disagreement to include or exclude could not be resolved, a third member of the review team (SG) was involved in the discussions. Full reports were obtained for those studies that appeared to meet the criteria or where there was insufficient information to be sure. These reports were entered into a third database. The inclusion and exclusion criteria were then re-applied to the full reports (again by both CJT and BHS independently) and those that did not meet these initial criteria were excluded.

Any studies located through ancestry searches of key papers and reviews were obtained or sent for through library inter-lending if necessary and then screened in one stage, using the full papers and the inclusion/exclusion criteria 1-6.

A cut-off date of 30 April 2007 was established for receipt of full papers through interlibrary lending and other means. This date was settled on for pragmatic reasons.

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

The aspirations studies remaining after application of the criteria were individually coded by three members of the Review Group (CJT, BHS and GDL), using EPPI-Centre tools and guidelines. The interventions studies were independently double-coded by pairs of reviewers (CJT and BHS; CJT and GDL). The coding categories included bibliographic details, study purpose and method, and for the empirical studies (that is, not reviews or background studies) details about the sample. Additional coding categories, specific to the context of the review, were added to those of the EPPI-Centre. There were two categories: details of ethnicity and the specific participation, retention, attitudes and achievement; issue(s) that the authors of the study were trying to understand or improve - see Appendix 2.3 for all the generic and review-specific coding categories. All the coded

studies were added to the larger EPPI-Centre database, Evidence Library, for others to access via the website.

2.1.5 Identifying and describing studies: quality-assurance process

Quality assurance at the first broad stage of screening was by discussion and agreement on principle to include or exclude. Application of the inclusion and exclusion criteria at the second (titles and abstracts) and third (full papers) stages of screening was conducted by two reviewers (CJT and BHS). They worked independently and then compared their decisions, before coming to a consensus. In addition, at the second and third stages, the two members of the Review Group not involved in screening (SG and GDL) also screened a random 10% sample of the records. Their decisions were compared with the agreed decisions of the reviewers undertaking the screening. In addition, a representative from the EPPI-Centre (KD) also screened the same 10% random sample at the second stage and a different 5% sample at the third stage. Her decisions were then compared with the Review Group's agreed decisions. The coding of all the 12 interventions studies was conducted by members of the Review Group working in pairs independently, and then comparing their decisions before coming to a consensus (CJT and BHS; CJT and GDL; CJT and KD: external QA). Six of the views studies were double-coded by pairs of reviewers (CJT and GDL; BHS and KD; GDL and KD). KD provided external quality assurance by double coding a sample of studies in this way. The coding of all other studies was completed individually by CJT, BHS and GDL.

2.1 In-depth review

2.2.1 Moving from broad characterisation (mapping) to in-depth review

In order to be included in the in-depth review, the Review Group selected a subgroup group of the studies in the interventions area of the map, firstly by searching on the code for purpose of study (code B2) and including all studies coded C3 ('What works?') because studies with this aim are able to address our research question for Review 1. Since the focus was on ethnic groups that are predominant in the UK, the Group searched on review-specific code A1 (ethnicity) and only included those with minority ethnic populations present in the UK. They excluded from the in-depth review any interventions studies which did not meet the intervention quality criterion (6) but had been included because they were also aspiration studies.

2.2.2 Detailed description of studies in the in-depth review

Intervention studies identified as meeting the inclusion criteria were analysed in depth, using the EPPI-Centre's detailed data-extraction software, EPPI-Reviewer. Where available, detailed data were extracted (for example, concerning the settings, participants, interventions and outcomes), and design features relating to the internal validity of the included studies (for example, sample size calculations, methods of allocation, methods of analysis, including statistical methods). In addition, specific detail was added to the review-specific questions about what the interventions were trying to improve in the domains of participation, retention, engagement and achievement.

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

Three components were identified to help in making explicit the process of apportioning different weights to the findings and conclusions of different studies. Such weights of evidence were based on the following:

i) soundness of studies (internal methodological coherence), based upon the study only (weight of evidence (WoE) A)

ii) appropriateness of the research design and analysis used for answering the review question (WoE B)

iii) relevance of the study topic focus (from the sample, measures, scenario, or other indicator of the focus of the study) to the review question (WoE C). Specifically, the Review Group examined the sample for context relevance in terms of whether the minority ethnic group was predominant in the UK: for this reason, Chinese and black African would have some relevance, whereas native American and Hawaiian would not. They also examined the sample for generalisability in terms of the research question: so students with behavioural and learning disabilities, and black athletes would have limited generalisability, whereas mainstream students would have greater generalisability. They examined the context for generalisability to the UK: so some university contexts would have some generalisability, but predominantly black colleges or predominantly white colleges would have limited generalisability. The outcome measures were examined similarly.

iv) an overall weight, taking into account WoE A, WoE B and WoE C (WoE D), and using a pre-

established formula for moving from A, B and C to D. The formula was as follows:

In order to be coded with an overall 'high' weight of evidence, a study had to be judged to be of 'high' internal validity (WoE A), 'high' in terms of appropriateness of research design (WoE B) and at least 'medium' in terms of appropriateness of context sample and measures. In order to be coded overall 'medium' weight of evidence, a study had to be judged to be of 'medium' internal validity and at least 'medium' for both other categories. In order to be judged to be of overall 'low' weight of evidence, a study a study had to be judged to be of 'low' internal validity and low for at least one of the other two categories. Categories between 'high', 'medium' and 'low' were used where both reviewers judged this to be appropriate.

2.2.4 Synthesis of evidence

The data was synthesised to bring together the studies which answered the review questions and which met the quality criteria relating to appropriateness and methodology. The ways in which the conceptual framework informed the synthesis focused particularly on specific notions of participation, retention, academic achievement and minority ethnic groups. The synthesis was undertaken by looking for groups of homogeneous studies (in terms of the educational settings of the studies, and secondly in terms of the interventions evaluated in the studies and the outcomes used to measure effectiveness and thirdly in terms of the design features of the studies). The synthesis was primarily narrative and structured in terms of the strength of evidence. It was not possible to undertake a meta-analysis because there was insufficient homogeneity between the interventions and outcomes.

2.2.5 In-depth review: quality-assurance process

Data-extraction and assessment of the weight of evidence brought by the study to address the review question were conducted by members of the Review Group, working in pairs (CJT and BHS; CJT and GDL) independently, and then comparing their decisions before coming to a consensus. External quality assurance for the process was provided by KD who independently data-extracted two of the included studies and then discussed comparisons with CJT's independent data-extractions.

CHAPTER THREE

Identifying and describing studies: results

3.1 Studies included from searching and screening

3.1.1 Literature searching

The following databases were searched: Australian Education Index, Applied Social Science Index and Abstracts, British Education Index, ERIC, International Bibliography of the Social Sciences, PsycINFO, Sociological Abstracts, Social Science Citation Index, Social Policy & Practice.

The following websites were scanned: CERUK, EPPI-Centre.

Table 3.1 Origin of records by database

Database	Number of records identified	Number of records after de-duplication
Australian Education Index	909	906
Applied Social Science Index and Abstracts	180	163
British Education Index	404	360
ERIC	5,318	5,284
International Bibliography of the Social Sciences	1040	940
PsycINFO	2,943	2,756
Sociological Abstracts	671	545
Social Science Citation Index	3,870	3,218
Social Policy & Practice	2,602	2,397
CERUK	65	65
EPPI-Centre	4	4
Total	18,006	16,638

3.1.2 Initial screening

After de-duplication, 16,638 records were identified from the electronic databases. Four of these were excluded because they were published before the cut-off date (exclude 4), leaving a total of 16,634 records for initial screening. Of the records, 860 were 'anonymous'; these were screened by CJT and all were excluded. The remainder of the database was divided into half and two reviewers screened broadly to exclude all studies immediately irrelevant to topic focus (minority ethnic focus and participation focus). The reviewers were extremely inclusive at this stage: that is, if there was any uncertainty at all, the study was included.

Table 3.2 Records included in initial screening

	Number screened	Number excluded at initial screening because not on topic (Exclude 1)	Number included at initial screening
Anon (CJT)	860	860	0
'a' to 'l' (BHS)	8,819	7,812	1,007
'm' to 'z' (CJT)	6,955	6,284	671
Total	**16,634**	**14,956**	**1,678**

Table 3.3 Records included in screening at second stage

Number screened	Number excluded at second stage screening because they were duplicates (Ex dup)	Number excluded at second stage screening because not on topic (Ex 1)	Number excluded at second stage screening because not research appropriate design (Ex 2)	Number included at second stage screening
1,678	9	1,426	31	212

Table 3.4 Records included in screening at third stage

Number screened	Number excluded at the third stage because duplicate (Ex dup)	Number excluded at the third stage because of date (Ex date)	Number excluded at the third stage because not on topic (Ex 1)	Number excluded at the third stage because of quality of study(Ex 6	Number unobtained or not received	Number included at the third stage
212	4	1	117	15	7	68 records reporting 60 studies

All the records between 'a' and 'l' (inclusive) were screened by BHS. There were 8,819 records, and, after initial screening, 1,007 were included for screening using the pre-established inclusion/ exclusion criteria.

All the records between 'm' and 'z' (inclusive) were screened by CJT. There were 6,955 records, and, after initial screening, 671 were included.

A total of 1,678 records were included after broad initial screening. All 14,956 excluded records were excluded because they did not meet the topic focus inclusion criterion (Exclude 1) (see Table 3.2). A database of all the excluded records is available on request (please contact the Principal Investigator).

3.1.3 Screening of titles and abstracts

At the second stage of screening, a total of 210 records were included. These met all the inclusion criteria after application of exclusion codes 1-5 by agreement between two independent reviewers. A further two records were included as a result of the moderation exercise with two other members of the Review Group, resulting in a total of 212 records included at the second stage (see Table 3.3).

3.1.4 Screening of full papers

At the third stage of screening, full papers of the 212 records included at the third stage were located from electronic or paper journals, or through inter-library lending, or through writing to individual authors, and independently double screened by two reviewers on the basis of the full papers (using exclusion codes 1-6). At this stage, a total of 144 records were excluded, leaving 68 records remaining. These 68 records, reporting 60 studies, were included and entered into the descriptive map (see Table 3.4, the 60 studies, together with the 8 linked studies, were entered onto EPPI-Reviewer). A database of all the 144 excluded records, together with their exclusion codes, is available on request from the Principal Investigator.

Table 3.5 presents the numbers of records included from each database (N=68).

In addition to the studies located from the

Table 3.5 Source of included studies

Database	Number of records identified (N = 68)
Australian Education Index	1
Applied Social Science Index and Abstracts	1
British Education Index	10
ERIC	7
International Bibliography of the Social Sciences	5
PsycINFO	7
Sociological Abstracts	1
Social Science Citation Index	5
Social Policy & Practice	19
CERUK	12
Total	68

electronic searches, five studies were identified and included from ancestry searches of previous studies (four studies) and through contact (one study): Allen 1998; Basit, 1997; Fitzgerald et al, 2000; Kemple and Snipes, 2000; Sinclair et al, 1998.

Figure 3.1 presents the filtering of papers from searching (16,638 records) to the descriptive map (60 studies in 68 records) to the in-depth synthesis (10 studies).

The remainder of this chapter reports on the 65 studies (in 73 reports) included in the descriptive map (60 studies from the electronic searches and 5 studies from the hand searches).

3.2 Characteristics of the included studies (systematic map)

A total of 65 studies were identified for inclusion in the systematic map (see Table 3.6). Twelve of these studies were UK-based reviews (both systematic and non-systematic), and these were first characterised for the map in terms of type of review, minority ethnic focus and topic focus (see section 3.2.2). These reviews reported on previous relevant empirical research in the topic area of post-16 participation of minority ethnic groups. Second, ancestry searches were undertaken on their reference lists (by CJT) to identify any other potentially relevant studies for inclusion in the systematic map. Nothing further was done with these reviews for this review (Review 1). However, they will be critically appraised and their results and conclusions extracted and reported in Review 2. This will be in order to contextualise the results of the synthesis of the UK-based aspirations studies, which will form the focus of this second review, by comparing the results of the review with the results of other previous reviews in the same topic area.

The remaining 53 studies in the systematic map fell into two distinct categories: intervention studies (11 US school and / or university-based studies) and aspirations studies (42 UK-based studies). The 11 intervention studies (section 3.2.3) all evaluated interventions to increase post-16 participation or improve retention of minority ethnic groups, or they evaluated interventions to improve achievement or learner motivation or identity of such groups. A number of UK-based intervention studies were found, but none of these included a control or comparison group. Three of the aspiration studies also included an intervention evaluation and so these studies are included in the map. The aspiration studies (section 3.2.4) all investigated the post-16 views and aspirations of groups of diverse minority ethnic participants. Views studies of both traditionally higher than average and lower than average achieving and participating minority ethnic groups were included in the systematic map. In addition, studies of the post-16 views and aspirations of gifted and talented young people were included for all minority ethnic groups.

Figure 3.1 Filtering of papers from searching to map to synthesis

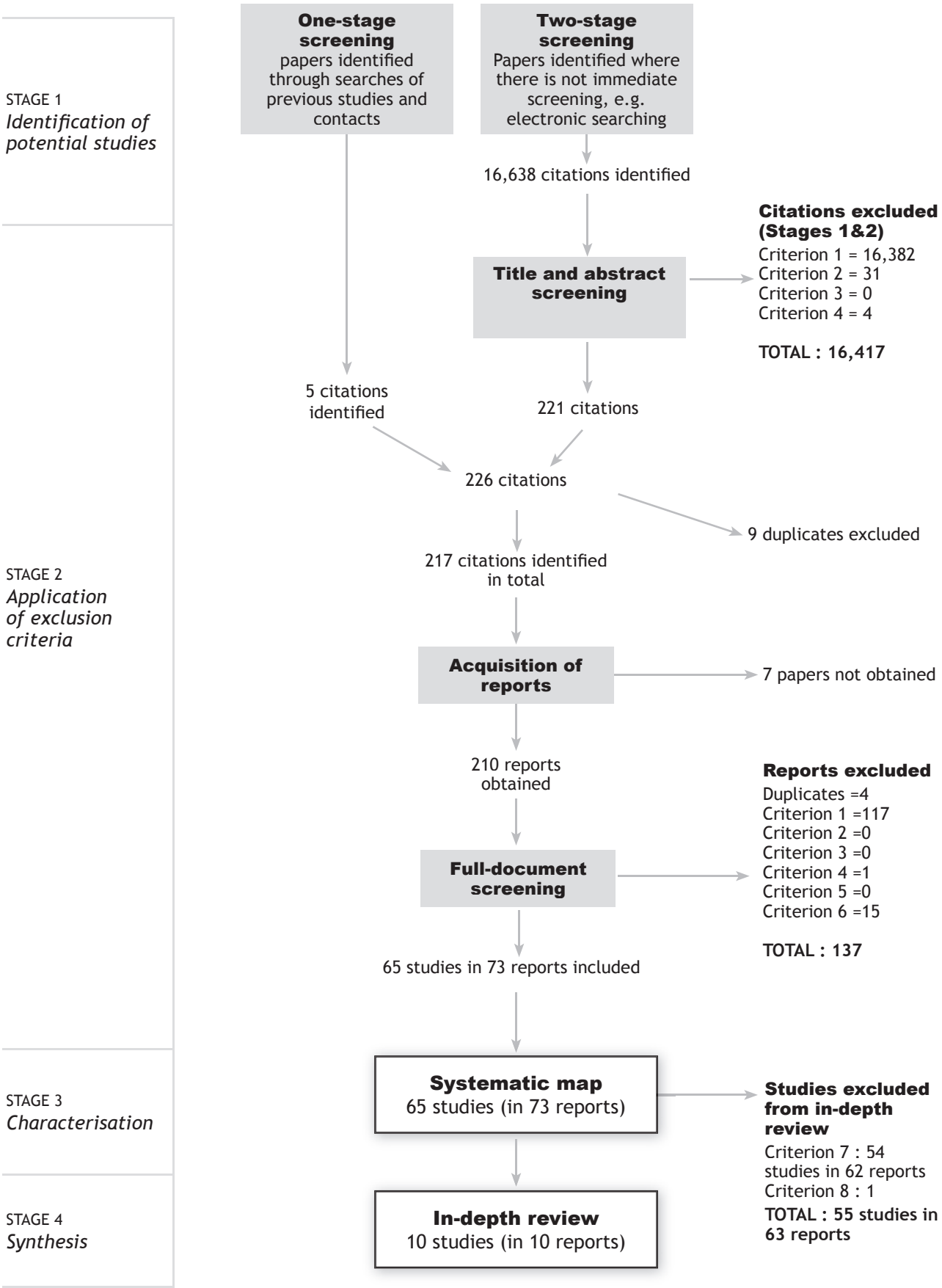

Table 3.6 Types of studies included in map (N = 65, mutually exclusive)

Study method	Number of studies	Country of origin of study
Review	12	UK
Intervention study	11	US
Aspiration study	42	UK

As outlined above, the 65 studies were reviews, intervention or aspiration (views) studies. Self-evidently, the interventions studies were characterised as 'what works?' studies. Some of the aspiration studies were purely descriptive; some explored in more detail the relationships between aspirations and participation, retention, motivation and achievement (Table 3.7).

Table 3.7 Purpose of studies included in the map (N = 65, not mutually exclusive)

Study purpose	Number of studies
Description	28
Exploration of relationships	19
What works?	11
Methods development	1
Reviewing/synthesising research	12

The intervention studies all employed a control or comparison group but they employed a variety of designs, including randomised controlled trials and cohort studies. The aspiration studies were all views studies, but some were also characterised as using as variety of research methods, including ethnographic research (see Table 3.8).

Table 3.8 Method used in the study (N = 65, not mutually exclusive)

Study method	Number of studies
Experiment with random allocation to groups	6
Experiment with non-random allocation to groups	2
Cohort study	3
Case-control study	1
Cross-sectional study	12
Views study	42
Ethnography	4
Systematic review	1
Other review (non-systematic)	11

The minority ethnic focus for the 65 studies was divided into the US-based studies (interventions studies) and the UK-based studies (reviews and aspiration studies) (see tables 3.9 and 3.10). Most of the studies focused on more than one group.

Table 3.9 Ethnicity: USA (N = 11, not mutually exclusive)

Ethnicity: USA	Number of studies
White	7
Mixed heritage	1
African American	10
Asian/Pacific Islander	6
American Indian	4
Other	5
Hispanic	7

Table 3.10 Ethnicity: UK (N = 54, not mutually exclusive)

Ethnicity: USA	Number of studies
White	22
Mixed heritage	12
Indian	22
Pakistani	25
Bangladeshi	29
Black Caribbean	25
Black African	21
Chinese	18
Gypsy/Roma	8
Other	17
Traveller of Irish heritage	7

The topic focus varied by type of study, although most studies had more than one topic focus (see Table 3.11). Self-evidently, all the aspiration studies focused on trying to understand factors influencing aspirations, motivations and learner identity in terms of participation or achievement. The intervention studies focused on evaluating strategies and methods for increasing participation and retention.

Table 3.11 What the authors are trying to understand or improve (N = 65, not mutually exclusive; studies may have more than one focus)

Study focus	Number of studies
Participation	33
Retention	13
Aspirations/ Motivations/ Learner identity	42
Attainment/Achievement	41

3.2.1 Reviews

Tables 3.12, 3.13 and 3.14 characterise the twelve reviews in more detail. Only one of the reviews previously undertaken in the field employed a systematic approach. The minority ethnic focus was

fairly evenly divided, but the topic focus excluded retention as an area of interest, with the main focus on participation and achievement.

Table 3.12 Method used in the study (N = 12, mutually exclusive)

Type of review	Number of studies
Systematic review	1
Other review (non-systematic)	11

Table 3.13 Ethnicity: UK (N = 12, not mutually exclusive)

Ethnicity: UK	Number of studies
White	4
Mixed heritage	3
Indian	7
Pakistani	6
Bangladeshi	7
Black Caribbean	5
Black African	5
Chinese	6
Gypsy/Roma	2
Other	2
Traveller of Irish heritage	1

Table 3.14 What the authors are trying to understand (N = 12, not mutually exclusive)

Study focus	Number of studies
Participation	11
Retention	0
Aspirations / Motivations / Learner identity	6
Attainment/Achievement	10

3.2.2 Interventions

It will be recalled that all the 11 included interventions studies were school and/or university-based. They were all coded as using a 'What works?' study method. Therefore, they all attempted to measure the effectiveness of an intervention or intervention design to improve participation, retention, learner motivation or attainment in ethnic minority participants. All the studies had achieved a quality threshold, which means that they all had to employ a control or comparison group, and include a minimum number of participants as outlined in the inclusion criteria (see Appendix 2.1). Most of the interventions were trialled with ethnic groups with traditionally lower than average participation in post-16 education, and the control or comparison groups comprised participants of the same ethnic minority group who did not receive the intervention.

Tables 3.15, 3.16, 3.17 and 3.18 characterise the 11 interventions studies in more detail. There were six randomised controlled trials, two quasi-experiments using prospective (non-random) allocation, two cohort studies and one case-control study. The minority ethnic focus varied, although, in 10 of the 11 studies, the interventions were evaluated mainly with African-American participants, but the topic focus excluded retention as an area of interest, and the studies focused mainly on retention and attainment as the primary outcomes.

Table 3.15 Method used in the study (N = 11, mutually exclusive)

Study methods/design	Number of studies
Experiment with random allocation to groups	6
Experiment with non-random allocation to groups	2
Cohort study	2
Case-control study	1

Table 3.16 Ethnicity: USA (N = 11, not mutually exclusive)

Ethnicity: USA	Number of studies
White	7
Mixed heritage	1
African American	10
Asian/Pacific Islander	6
American Indian	4
Other	5
Hispanic	7

Table 3.17 What the authors are trying to improve (N = 11, not mutually exclusive)

Study focus	Number of studies
Participation	2
Retention	10
Aspirations / Motivations / Learner identity	4
Attainment / Achievement	11

Table 3.18 gives a little more detail in terms of the numbers of studies focusing on each outcome for each ethnic minority.

Table 3.18 Numbers of studies focusing on each outcome for each ethnic minority

Ethnic minority	Participation	Retention	Aspirations	Achievement
White	1	6	1	7
Mixed heritage	0	0	0	0
African American	2	9	3	10
Asian / Pacific Islander	1	5	2	6
American Indian	1	4	1	4
Other	1	4	1	5
Hispanic	1	6	1	7

3.2.3 Aspiration studies

Tables 3.19, 3.20, 3.21, 3.22 and 3.23 characterise the aspiration studies in more detail. As indicated above, a majority of these studies were descriptive. In these studies, the aim was to describe a state of affairs with regard to young people's views about post-16. However, 18 of the views studies also 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 (for example, parental or cultural influences). These studies considered a variety of variables, including familial attitudes and religious beliefs, in order to help understanding of factors influencing young people's post-16 decisions.

The minority ethnic focus was variable and included both traditionally high-achieving, high participating groups and low-achieving, low-participating groups. Table 3.21 gives the purpose of the study by ethnic minority.

Table 3.19 Purpose of the study (N = 42, not mutually exclusive)

Study purpose	Number of studies
Description	28
Exploration of relationships	18
'What works?'	3

Table 3.20 Ethnicity: UK (N = 42, not mutually exclusive)

Ethnicity: UK	Number of studies
White	18
Mixed heritage	9
Indian	15
Pakistani	19
Bangladeshi	22
Black Caribbean	20
Black African	16
Chinese	12
Gypsy/Roma	5
Other	15
Traveller of Irish heritage	5

Table 3.21 Purpose of aspiration studies by ethnic minority

Ethnicity: UK	Description	Exploration of relationships
White	11	9
Mixed heritage	7	4
Indian	8	9
Pakistani	11	11
Bangladeshi	12	12
Black Caribbean	13	10
Black African	10	8
Chinese	8	6
Gypsy/Roma	4	1
Other	10	8
Traveller of Irish heritage	4	1

Table 3.22 What the authors are trying to understand (N = 42, not mutually exclusive)

Study focus	Number of studies
Participation	20
Retention	3
Aspirations/ Motivations/ Learner identity	32
Attainment/Achievement	20

Table 3.23 Numbers of studies focusing on each outcome for each ethnic minority

Ethnic minority	Participation	Retention	Aspirations	Achievement
White	11	1	13	7
Mixed heritage	3	0	6	6
Indian	7	0	12	7
Pakistani	9	0	15	8
Bangladeshi	9	1	16	11
Black Caribbean	11	0	15	11
Black African	7	0	12	7
Chinese	4	0	10	7
Gypsy/Roma	3	1	4	1
Other	10	1	12	7
Traveller of Irish heritage	2	1	5	1

3.3 Identifying and describing studies: quality-assurance results

3.3.1 Searching: quality-assurance procedures and results

The search strategy for ERIC was developed first using the following quality-assurance procedures.

KW wrote a draft strategy for ERIC on 12 December 2006, in order to check for comprehensiveness and specificity. This included two options: option 1 was a 'broad strategy', which combined one set of terms about participation with a further set of terms about post-secondary education; option 2 was a 'narrow' strategy, which combined two sets of terms with an additional set trying to capture factors that would impact on participation rates. A random sample of 100 records from test searches using each of the two options was screened by CJT. The broad strategy was more sensitive but less specific. The second set of terms was thought possibly to cut out relevant studies. Therefore a second draft search strategy for ERIC was written on 14 December 2006, combining the first and third sets of terms, and leaving out the second set of terms, to test if a greater proportion of records focusing on minority ethnic groups and other types of studies that might be relevant would be added. In addition, the third set of terms was expanded. A larger number of records was retrieved by this test strategy, but all the relevant studies from the first random sample were captured by this strategy. A different random sample of 100 records was screened by CJT. A third draft search was then written, combining terms associated with FACTORS, ETHNIC GROUPS and PARTICIPATION in order to remove the problem of participation being just one of the outcome measures of interest.

Finally four strategies were written and tested. These used comprehensive sets of terms associated with the following broad categories:

1. PARTICIPATION and MINORITY and FACTORS (too broad)
2. PARTICIPATION and MINORITY (too narrow)
3. PARTICIPATION and MINORITY or FACTORS
4. PARTICIPATION or EDUCATION and MINORITY or FACTORS (too broad)

A further random sample was screened and it was decided to settle on option 3.

The ERIC search was 'converted' for all the other databases.

(Note: All the terms associated with each of the broad categories are available from the principal investigator on request, as are the test searches.)

3.3.2 Screening: quality-assurance results

Second stage

At the second stage of screening, a total of 1,678 records from the broad initial screening were screened independently by two members of the Review Group. These two reviewers initially agreed on 1,543 records. Of these 1,543 records, 190 records were included and 1,353 records were excluded. The reviewers initially disagreed on 135 records. 25 records had been included by CJT and excluded by BHS. 110 records had been excluded by CJT and included by BHS. After detailed consideration of each of these records the two reviewers agreed to include a further 20 records in the following way:

25 records (CJT included / BHS excluded): agreement to include 13 and exclude 12

110 records (CJT excluded / BHS included): agreement to include 7 and exclude 103

Therefore, at the second stage of screening, a total of 210 records were included. These were included by each reviewer in the following way:

CJT: 227 included; 7 further included after discussion, 24 excluded after discussion (N= 210 records)

BHS: 303 included; 10 further included after discussion; 103 excluded after discussion (N= 210 records)

The reviewers agreed that there were two reasons for initial disagreement on 135 records. Firstly, one reviewer had more experience of screening and was able to identify US-based studies not using an experimental design from the titles, abstracts and keywords more easily than the second reviewer, who was consistently more inclusive. Secondly, there were a few records that were difficult to screen and these required detailed scrutiny by two reviewers in order to come to a confident decision to include or exclude at this stage.

At the second stage, the other two members of the Review Group and an EPPI-Centre representative screened a 10% random sample (a total of 167 records). Each team member's results were then compared with the agreed decisions of CJT and BHS. CJT and BHS included a total of 30 records from the moderating sample. SG included 29 of these studies, but also included two US-based trials to check for inclusion and a further 13 were queried. GDL included 20 of the 30 studies agreed by CJT and BHS, and queried a further 10. KD included 11 of the 30 studies agreed by CJT and BHS, and queried a further 5 studies. After discussion, it was agreed that SG and GDL had been over-inclusive due to screening solely on the basis of titles and abstracts, whereas in the case of difficult-to-screen papers CJT and BHS had used online links to locate the full paper for checking for inclusion. In addition, they used keywords and other indicators in the abstracts to determine geographical location of the studies. It was decided to include the two US-based trials included by SG and GDL, but otherwise not to take the moderation exercise any further.

Third stage

At the third stage of screening, full electronic or paper versions of all records were independently screened by two reviewers (CJT and BHS), who then met to resolve any disagreements. Agreement was extremely high with no disagreement on any paper. Where the two reviewers were unable to make a decision about inclusion, a third member of the Review Group was consulted (SG). In two cases where this happened, the paper was included. As mentioned above, at the third stage of screening, SG and GDL double-screened a 10% random sample of the studies. Their decisions on these 21 papers were compared with the agreed decisions between CJT and BHS.

SG: With the exception of the two studies mentioned above, where CJT and BHS found it difficult to make a definitive decision and one other paper (which SG excluded, but which CJT and BHS included), there were no disagreements.

GDL: He also excluded the paper that SG excluded, but other than this there was agreement with CJT and BHS.

In addition, KD (EPPI-Centre) double-screened a separate 5% sample of full papers at the third stage. After discussion, agreement was good, with disagreement on only one paper.

The Review Group decided that there was no need to take the quality assurance further as the team had confidence in the decisions being made to include and exclude at the third stage by CJT and BHS.

Fourth stage

A few studies were excluded during coding due to not meeting criteria for inclusion. In these few cases, studies were only excluded if two reviewers agreed to exclude.

Coding

As outlined in the methods chapter, the coding of the interventions studies was conducted by pairs of Review Group members working independently, and then comparing their decisions before coming to a consensus (CJT and BHS; CJT and GDL). The results of this process were as follows:

CJT and BHS (four studies): There were no disagreements.

CJT and GDL (one study): There was disagreement on the study method only, resolved through discussion.

As mentioned in the methods chapter, six of the views studies were double-coded by pairs of reviewers (CJT and GDL; BHS and KD; GDL and KD). The coding of all other studies was completed individually by CJT, BHS and GDL. The results of this process were as follows:

CJT and GDL (two studies) agreed to exclude one study from the map and agreed on all coding categories for the other study.

BHS and KD (three studies) agreed on coding for all categories, except coding for purpose of study in one study (C2), where statistical survey was added to views study.

GDL and KD (one study) agreed on all categories except the purpose of study (C2). After discussion, KD agreed with GDL that the study was a 'description' rather than an 'exploration of relationships' study.

3.4 Summary of results of map

A total of 65 studies were identified for inclusion in the systematic map. Of these, 12 were UK-based reviews. These reviews reported on previous relevant empirical research in the topic area of post-16 participation of minority ethnic groups. The remaining 53 studies in the systematic map fell into two distinct categories: intervention studies (11 US-based studies) and aspiration studies (42 UK-based studies). The 11 intervention studies evaluated interventions to increase post-16 participation or improve retention of minority ethnic groups, or they evaluated interventions to improve achievement or learner motivation or identity of such groups. The 42 aspiration studies all investigated the post-16 views and aspirations of groups of diverse minority ethnic participants.

CHAPTER FOUR

In depth review: results

4.1 Selecting studies for the in-depth review

The research question for the in-depth review, agreed in consultation with the Advisory Group, was as follows:

What strategies are effective in encouraging post-16 participation of minority ethnic groups?

As outlined in Chapter Two, studies that can address an effectiveness question such as this require a control or comparison group design. Therefore, the 65 studies included in the map were filtered for inclusion into the in-depth review using the coding for 'study method'; and only those studies coded as 'What works?' studies were included. Studies with any other coding for this question were excluded using Exclude 6 (not an intervention with comparison or control group). The intervention studies remaining were then screened according to minority ethnic groups studied; and any studies focusing wholly on minority ethnic groups not predominant in the UK were excluded using Exclude 8 (minority ethnic group not predominant in the UK). One study was excluded from the In-depth Review because the participants were all native Hawaiian students (Barnard, 2005) (Exclude 8), which left 10 studies to be included in the In-depth Review (Figure 3.1).

4.2 Further details of studies included in the in-depth review

As stated above, a total of 10 intervention studies were identified and included in the in-depth review. Eight of these studies were identified from the original electronic searches and two were identified through an ancestry search of previous studies. There were a total of six randomised controlled trials, one cohort study, one case control study and two non-randomised experiments. All the studies were undertaken in the US. The sample sizes of the studies were medium to large, ranging from a total sample size of 80 (smallest study) to a total sample size of 4,849 (largest study). The ethnicity of the populations making up the intervention and control groups was diverse, with African-American populations making up the majority, followed by Hispanic populations. Six studies were undertaken in school settings, and four were undertaken in university settings.

Of the six studies undertaken in school settings, two evaluated the effectiveness of financial incentives and sanctions on post-16 retention outcomes (Jones et al., 2002; Spencer et al., 2005), two evaluated the effectiveness of a school engagement programme on measures of school engagement (Sinclair et al., 1998; Sinclair et al., 2005); one evaluated a supportive personalised learning environment intervention in high schools (Kemple and Snipes, 2000); and one study evaluated the impact of a work-based learning experience intervention programme on school performance, college enrolment and college retention (Goldberger, 2000).

Of the four studies undertaken in university settings, three evaluated faculty/student mentoring interventions (Campbell and Campbell, 1997; Nagda et al., 1998; Thomas, 2006), and one evaluated an academic and social support programme (Padgett and Reid, 2002).

Tables 4.1 and 4.2 give details about each of the studies, including minority ethnic groups studied, study method and sample, interventions and outcomes. Table 4.1 includes the studies set in schools and Table 4.2 the studies set in HEIs.

Table 4.1 Characteristics of intervention studies: post-16 school setting

Author(s), date, country	Ethnic minority group(s)	Study method and sample	Intervention	Outcomes	Results
Goldberger (2000) US	African American (53%), Latino (30%), Asian and White	Quasi-experiment. Total participants (age 17 and over): 2,283 (490 ProTech; 1,791 no ProTech) For the post-secondary impact measures total participants: 219 (106 intervention; 117 comparison)	Paid work-based-learning experience intervention ('ProTech' program) provided students with an opportunity to learn a well-defined set of general and occupation-specific skills; integrated academic and vocational instruction and classroom and worksite learning.	Achievement: school performance Participation: college enrolment Retention: college retention	For the four district high schools, ProTech was positively associated with grades and GPA in year 1, but negatively associated with grades and GPA in year 2. At the vocational school, the positive association continued. There was no impact on college enrolment or dropping out from high school. ProTech students showed a greater decline in mathematics test scores than comparison students. Both ProTech and comparison groups showed similarly high levels of enrolment in post-secondary education or training the Autumn after graduating from high school (77% and 73%, p 187). The case was similar for retention. 81% of the ProTech and 86% of the comparison group were either currently enrolled on, or had completed, a degree or certificate at the time of the survey.
Jones et al. (2002), US	White, African American (about one third), Hispanic (about one quarter), Asian	Quasi-experiment 'At risk' students (age 17 and over) Total sample: 2,744 Intervention group: 1,807 students; average age: 17.09 Control group: 937 students; average age: 17.1	School attendance intervention (School Attendance Demonstration Project - SADP): comprised various features, including financial sanctions for low attendance, social services to assist with attendance	Retention: school attendance rates, school completion rates (age 18)	The experimental group met the 80% attendance rule, whereas the control group did not. There was no significant difference between experimental and control groups: 57.5% of the experimental group graduated and 55.4% of the control group graduated. The Hispanics were less likely to meet the 80% rule than other ethnic subgroups.
Kemple and Snipes (2000), US	African American, White, Hispanic, Asian or American Indian	Randomised controlled trial Total sample: 1,764 (959 in programme group and 805 in control group) Age of participants: 13-17	Supportive personalised environment intervention career Academies provided a supportive environment through a school-within-a-school structure. The curricula combined academic and occupation-related course requirements that aimed to promote learning and satisfy college entrance requirements.	Retention Attainment	The hypothesis on increasing school attendance was supported by the data. Data show that, in any month after baseline, 3% to 9% more experimental group students met the attendance rule than did students in the control group. The hypothesis on increasing graduations was not supported by study data.

Author(s), date, country	Ethnic minority group(s)	Study method and sample	Intervention	Outcomes	Results
Sinclair et al. (1998), US	African American, other (not stated)	Randomised controlled trial Total sample: 94 (intervention: 47; control: 47) Students with learning and behavioural difficulties (ages: 13-16)	School engagement intervention ('check and connect'): provided a mechanism for systematically and regularly monitoring observable student performance (i.e. 'check') and providing individualised interventions in a timely fashion ('connect'). The strategies relied heavily on establishing a trusting relationship between a programme staff (monitor) and student.	Participation: school engagement Retention Aspirations Attainment	Students in the treatment group were significantly more likely to be engaged in school than students in control group. Students who received intervention through 9th grade were significantly more engaged in school. Treatment students were more likely to be enrolled in school at the end of the year than were students in the control group. Treatment students were more likely to persist in school during 9th grade compared with control students. Treatment students were more likely to complete their assignments than were control students. Treatment students earned more credits during the first year of high school than control students. Treatment students were more likely to be on track to graduate in five years than students in the control group. Special education teachers rated treatment students as more academically competent. General education teachers rated treatment students as demonstrating fewer behavioural problems.
Sinclair et al. (2005), US	White, African-American, other (not stated)	Randomised controlled trial Total sample: 144 (intervention: 74; control: 73) Students with learning and behavioural difficulties (age 13-16)	School engagement intervention ('check and connect'); see Sinclair (1998, pp 470-472) for a detailed description. Model originally developed to prevent dropout and to promote student engagement among urban middle school students with disabilities. The check component refers to timely and individualised intervention focused on the student's educational progress, guided by check indicators, and provided by programme staff in partnership with school personnel, family members and community workers.	Participation: school engagement Retention Attainment	Check and connect is an 'efficacious procedure for keeping secondary students with learning and behavioral disabilities engaged at school' (p 17) As both groups received the intervention in 7th and 8th grades, the findings cast doubts on the effectiveness of having the dropout prevention strategy for a limited time. To be effective it needs to be sustained. The findings suggest that intervening in Grade 9 (transition between middle and high school) is important, as high school is the point at which students start earning credits toward graduation. The scores in 9th grade for both treatment and control groups show the students as low to moderately engaged in school. This suggests that the procedure is not sufficient to substantially improve student performance. The use of a dropout prevention procedure alone is not sufficient to improve students' skill levels. It needs to be used in conjunction with a comprehensive programme aimed at increasing school completion for all students.

Author(s), date, country	Ethnic minority group(s)	Study method and sample	Intervention	Outcomes	Results
Spencer et al. (2005), US	White, African-American, Hispanic, Asian Pacific Islander, other (not stated)	Randomised controlled trial Total sample: 541 (age of participants: 14-18)	Monetary incentives intervention: An existing programme sponsored by a private foundation. Students who meet the academic and financial criteria receive a monthly stipend (amount contingent on grade level) as long as the student continues to meet the Foundation's academic criteria for eligibility: students must have As and Bs in major subjects (only one C in a major subject which must be offset by an A in another subject).	Retention Aspirations Attainment	Treatment assignment emerged as a significant predictor of good academic standing after one year. Students in the Stipend group had a programme retention rate (i.e. good standing) that was 10% higher at the end of the year than the rate for those in the Delayed Stipend group who did not receive monetary incentives. There was some variation in one-year academic good standing, with Asian students having the highest rate, although ethnicity was not a statistically significant independent predictor of outcome.

Table 4.2 Intervention studies: post-16 HE/FE setting

Author(s), date, country	Ethnic minority group(s)	Study method and sample	Intervention	Outcomes	Results
Campbell and Campbell (1997) US	Hispanic, African American, Native American	Cohort study Total sample: 678 (399 intervention students matched with 399 control students) Age: 17 and over	Faculty/student mentor intervention: intervention comprised facilitation of personal contacts between faculty and students.	Retention Academic performance	Consistent differences in GPA, favouring the mentored students. Only one of the two measures of retention revealed effects for mentoring: the dropout rate among mentees was about half of that for students in control group. There was no difference between the two groups on rate of graduation. Subgroup analysis: Ethnicity or ethnicity matching, with no significant differences between mentees' ethnic groups on academic achievement or retention; no differences of ethnicity matching on GPA and retention.
Nagda et al (1998), US	White, African American, Hispanic	Randomised controlled trial Total sample: 1,280 Age of participants: 17 and over	Intellectual faculty/ student relationship intervention	Retention: drop-out rates Academic achievement: grade point average (GPA)	The hypothesis that the university mentoring programme would result in more units completed per semester and higher grades (as measured by GPA) was supported. The hypothesis that mentees would have lower dropout rate than their matched controls was also supported. The findings provide good support for the conclusion that the programme being evaluated did indeed cause the reported gains.
Padgett and Reid (2002), US	White, African American, Hispanic, other (Turk, Asian)	Case control study Total sample: 473 Age of participants: 17 and over	Academic and social support intervention	Retention Achievement (GPA)	Graduation rates: Overall graduation rate across the SDP cohorts was 46.2%. Overall graduation rate across the comparison groups was 23.5% (p= 0.005 GPA). GPA of SDP students was 2.36 (sd 0.37). GPA of comparison students was 2.28 (sd 0.30, p = 0.11). The 39 students who entered the SDP in 1994 and 1995 graduated at twice the rate of comparable students matched on sex, ethnicity, age, transfer status, entering GPA and date of enrolment. There was no statistically significant difference between the two groups, although the average final GPA in the SDP appeared slightly higher than that of the comparison students.

Author(s), date, country	Ethnic minority group(s)	Study method and sample	Intervention	Outcomes	Results
Thomas, 2006, US	African American	Randomised controlled trial N = 80 African students (intervention: 50; control: 30) Age of participants: 17 and over	Ethnically-based mentoring intervention (The African American Student Mentoring Program), a year-long mentoring programme which used African-American student mentors to support African American college freshmen.' The purpose of this study was to evaluate the influence of an ethnic-based mentoring model and the factors (i.e. racial identity, social support, psychological support, academic support, sense of belonging, leadership development) that influenced African-American student college adjustment, GPA, and retention in an African-American based student mentoring programme at a primarily white institution (PWI).	Participation: college adjustment Achievement: GPA Retention	No differences between the mentored group on college adjustment, GPA or retention. The experimental group did not report significantly higher mean scores on two proximal outcomes (racial identity and academic support) compared with the control group. The mentoring programme had no measurable impact across the time of the experiment on academic performance. The mentoring did lead to an increase in racial identity.

Table 4.3 Weights of evidence of studies included in the in-depth review

Study	Internal validity (WoE A)	Appropriateness of study method (WoE B)	Appropriateness of samples, context and measures (WoE C)	Overall weight of evidence (WoE D)
Nagda et al. (1998)	High	High	Medium	High to medium
Spencer et al. (2005)	High	High	Medium	High to medium
Goldberger (2000)	High	Medium	Medium	Medium to high
Kemple and Snipes (2000)	Medium	High	Medium	Medium to high
Campbell and Campbell (1997)	Medium	Medium	Medium	Medium
Jones et al. (2002)	Medium	Medium	Medium to low	Medium to low
Padgett and Reid (2002	Medium to low	Medium	Low	Medium to low
Sinclair et al. (1998)	Medium	Medium	Low	Medium to low
Sinclair et al. (2005)	Medium	Medium	Low	Medium to low
Thomas (2006)	Medium to low	Medium	Low	Medium to low

4.3 Synthesis of evidence

As noted in Chapters 2, 3 and 4, a very rigorous process was followed to reduce the initial research base of 1,678 studies to ten studies in the in-depth review. The 1,678 studies were located after the initial screening and all met the criterion of broad relevance to the topic, based on scrutiny of their titles and abstracts. A further two stages distilled the 1,678 papers, first to 212 on the basis of careful re-screening, and secondly to 65 on the basis of reading the full versions of the 212 studies. The 65 studies in the systematic map were then further reduced to ten studies that could be used to address the in-depth review question.

The ten studies included in the in-depth review were all valid, in the sense that they met certain quality criteria, in terms of rigour of design, sample size, etc. However, the ten studies varied with respect to the weight of evidence the reviewers judged should be ascribed to each of them in synthesising the evidence. Judgements about overall weights of evidence for each study were made using four categories. Overall weight of evidence (D) judgements, took into account decisions made about the individual studies in terms of internal validity (A), appropriateness of study method for research question (B), and appropriateness of sample, context and measures for generalisation to the UK context (C); quality varied from 'high to medium' to 'low to medium' (see Table 4.3). These judgements should be seen in light of the rigorous process described above: that is, all contributed to answering the research question, but greater weight was given to those of the highest methodological quality and greatest generalisability.

Two narrative syntheses were undertaken: one of studies in post-16 school settings, the other of studies in post-16 higher education (HE) / further education (FE) settings. In both, evidence for the effectiveness of broadly homogeneous categories of interventions/strategies designed to increase post-16 achievement and/or participation and/or retention of minority ethnic groups of relevance to the UK context, was examined using the following hierarchy:

Consistent high quality evidence of positive effects: At least one large study rated 'high' or 'high to medium' weight of evidence for internal validity and appropriateness of research design and with significant positive effects for all outcomes; or at least two small studies both rated 'high' or 'high to medium' weight of evidence for internal validity and appropriateness of research design with significant positive effects for all outcomes

Consistent medium quality evidence of positive effects: At least one large study rated 'medium to high' or 'medium' weight of evidence for internal validity and appropriateness of research design with significant positive effects for all outcomes; or at least two small studies both rated 'medium to high' or 'medium' weight of evidence for internal validity and appropriateness of research design with significant positive effects for all outcomes.

Partial evidence of positive effects: At least one large study, or at least two small studies, rated at least 'medium', with contradictory findings

Inconclusive evidence of positive effects: One or more studies with the weight of evidence for internal validity ranging from 'medium to low' to 'low'

(See Appendix 4.2 for a full list of possible categories.)

4.3.1 Synthesis of intervention studies: post-16 school settings

Monetary incentives/sanctions interventions

Consistent high quality evidence of positive effects: One high quality randomised evaluation of a monetary incentive intervention to improve academic achievement found significant positive effects

Spencer et al. (2005) evaluated the effectiveness of an intervention to give high-achieving students of diverse 'racial' and 'ethnic' backgrounds from poor families monetary incentives to maintain their academic standing. Students in the intervention group received a monthly stipend (amount contingent on grade level) as long as they continued to meet the academic criteria for eligibility.

Treatment assignment emerged as a significant predictor of good academic standing after one year. Students in the stipend group had a programme retention rate (i.e. good standing) that was 10% higher at the end of the year than the rate for those in the delayed stipend group who did not receive monetary incentives. Although the overall effect was statistically significant, there seemed to be a lower benefit among Grade 11 students. However, it is unlikely there would be a negative interaction between grade and effect (i.e. the stipend for students in Grade 11 being significantly less effective than for other grades). There was some variation in one-year academic good standing, with Asian students having the highest rate, although ethnicity was not a statistically significant independent predictor of outcome. The authors concluded that 'monetary stipends can be effective incentives to promote ongoing academic achievement among high-achieving high school students from low-resource, urban backgrounds' (p 215).

This was a large randomised controlled trial with high internal validity and significant positive effects with some generalisability to the UK context. The evaluation used a waiting list design ('Stipend' group and 'delayed stipend' group).

The internal validity of the trial was high. Siblings were included in the same allocated group and this was taken into account in the analysis using hierarchical linear modelling. The trial sample size was large, and attrition was low. At randomisation, there were 330 in the intervention group and 211 in the control group; seven dropped out. The randomisation method in the study was unusual in that unequal allocation to intervention and control groups was used for ethical reasons in order that as many eligible students as possible should be assigned to the monetary incentives group. There was a detailed description of the intervention and the assessment of outcome was undertaken 'blind' to group allocation.

Partial evidence of positive effects: One medium quality quasi-experimental study evaluating a paid work-based learning intervention to improve education and employment outcomes, and one large medium quality quasi-experimental study evaluating a school attendance intervention to improve school attendance rates, both with mixed results.

Goldberger (2000) examined the effectiveness of a school-to-career intervention as a strategy for improving education and employment outcomes for urban youth (Boston's ProTech program) using a quasi-experimental design. The study examined the ProTech results on four cohorts of students across five high schools in the same city, in programmes focused on business services, health care, financial services, and utilities and communications. It also examined the post-school situation of students in three cohorts. Features of the ProTech program included a progression of paid work-based-learning experiences which provided students with an opportunity to learn a well-defined set of general and occupation-specific skills; integration of academic and vocational instruction and classroom and worksite learning, so that students had the opportunity to master academic and technical skills in the context of real-world applications; and a formal connection between high school and post-secondary learning.

The results of the evaluation were mixed. Both ProTech and comparison groups showed similarly high levels of enrolment in post-secondary education or training the autumn after graduating from high school (77% and 73%). The results were similar for retention: 81% of the ProTech group and 86% of the comparison group were either currently enrolled or had completed a degree or certificate at the time of the survey. Ethnically, African Americans showed significantly high levels of enrolment in the following autumn and of having a qualification (or being in college) at the time of the survey. Asian students also did well, with all of them enrolling. All ethnic groups from the ProTech group who were in work earned higher wages than students in the comparison group, but the sample size was too small to test for significance within groups.

The study had high internal validity, and was judged to be of overall medium to high weight of evidence for the research question. However, the author concluded that the factors underlying the success of urban school-to-career projects were 'complex'.

Jones et al. (2002) examined the School Attendance Demonstration Project aimed at improving the school attendance rates of 16-18 year-olds receiving public assistance using a quasi-experiment design. The intervention was aimed at improving the school attendance rates of 16-18 year-olds receiving public assistance. 16-18 year-old dependent children received a financial incentive conditional on attending school on a fulltime basis. In addition to the financial incentive, participants in the experimental group were subject to a sanction if they did not attend school at least 80% of the time.

They were also eligible to receive social services to assist them with school. All students in experimental and control groups were eligible to receive school services, but only the experimental group was eligible to receive social services from the SADP services unit.

The study had medium internal validity, and was judged to be medium to low weight of evidence for the research question. The findings were mixed in that the intervention was effective in improving attendance, but not in improving school completion rates.

School engagement intervention

Consistent medium quality evidence of positive effects: Two medium quality randomised evaluations (undertaken by the same group of researchers) of a school engagement intervention to improve participation and retention rates and academic achievement, both of which demonstrated positive results

Sinclair et al. (1998) examined the efficacy of a sustained dropout prevention intervention ('check and connect' procedure) on predominantly African-American students with learning or emotional/behavioural disabilities that incorporated monitoring and school engagement strategies, using a randomised experimental design. The connect component refers to 'timely and individualised intervention focused on students' educational progress, guided by check indicators, and provided by programme staff in partnership with school personnel, family members and community workers' (Sinclair et al., 2005, p 466) Students in the treatment group were significantly more likely to be engaged in school, more likely to be enrolled in school at the end of the year, and more likely to be on track to graduate in five years than students in the control group.

The study had medium internal validity but medium to low overall weight of evidence, because the study evaluated the intervention using a very specific group of participants, which means that generalisability beyond both the US context and the specific population of participants is limited.

Sinclair et al. (2005) investigated the effectiveness of the same school engagement intervention ('check and connect' procedure) aimed at promoting school completion and reducing dropout among urban high-school students with emotional or behavioural difficulties using a randomised experimental design with slightly larger sample size than the previous study. The authors concluded that 'check and connect' was an 'efficacious procedure for keeping secondary students with learning and behavioural disabilities engaged at school' (p17).

As both groups received the intervention in 7th and 8th grades, the findings cast doubts on the effectiveness of having the dropout prevention strategy for a limited time, and concluded that, to be effective, it needs to be sustained. The findings suggest that intervening in Grade 9 (transition between middle and high school) is important, as high school is the point at which students start earning credits toward graduation.

The study had medium internal validity, but medium to low overall weight of evidence manly because of the specific nature of the participants involved in the study.

Supportive personalised environment intervention

Partial evidence of positive effects: One high quality large randomised evaluation of a supportive personalised environment intervention to improve participation and academic outcomes with mixed results

Kemple and Snipes (2000) used a large-scale multi-site random assignment research design to determine the effect of career academies (supportive personalised environments) on student outcomes. The intervention provided a supportive environment through a school-within-a-school structure. The curricula combined academic and occupation-related course requirements that aimed to promote learning and satisfy college entrance requirements.

The study had medium internal validity and medium to high overall weight of evidence, but the findings were mixed; the hypothesis of increasing school attendance was supported by the data. Data show that, in any month after baseline, 3% to 9% more experimental group students met the attendance rule than did students in the control group. However, the hypothesis of increasing graduations was not supported.

4.3.2 Synthesis of intervention studies: post-16 higher education (HE) / further education (FE) settings

Faculty/student mentoring interventions

Consistent high quality evidence of positive effects: Two large high quality studies (a randomised controlled trial and a cohort study) evaluated the effect of faculty/student mentoring interventions on retention and academic performance, both of which had positive effects for ethnic minority populations.

Nagda et al. (1998) investigated the impact of the Undergraduate Research Opportunity Program (UROP) on student retention, and particularly in minority ethnic groups under-represented in the university: Hispanic and African-American students. The interventions comprised research partnerships between faculty members and undergraduates, involving individual meetings with sponsors and team meetings with other project collaborators to enable students to co-operate in various aspects of the faculty members' research. Their

duties included conducting bibliographic research and literature reviews, formulating research questions and hypotheses, and conducting studies and analyses. Some UROP students co-authored presentations and journal articles. Altogether there were seven components in the intervention: student recruitment, peer advising, peer research interest groups, faculty recruitment, faculty-student matching, research presentations, and academic credit and assessment. There was a non-significant difference in attrition rates of UROP participant and control groups: low-GPA students in UROP and high-GPA students in UROP showed a lower attrition than those in the control group, but the difference was not significant. UROP participation impacted most positively on the retention of low-achieving African-American students. More specifically, the programme appeared to benefit African- American students whose academic performance was below the median for the ethnic group. There were also positive trends for Hispanic and White students who participated in UROP during their sophomore year.

The intervention was evaluated using an individually randomised trial. The total number of participants was 1,280: an experimental group of 613 students who participated in UROP and a control group of 667 students who did not participate in UROP. The randomisation was achieved through matching on ethnicity, SAT scores and first-year college grades or high school grades, and then one of each pair was randomly assigned to the intervention group and the other was assigned to the control group. The two groups (UROP and non-UROP) were then compared after four years on retention rates. The study was judged to be of high internal validity.

Campbell and Campbell (1997) evaluated the effects of a 'faculty/student' mentor intervention on academic performance and retention, using a cohort design with a total of 678 students: 339 intervention students matched with 339 control students. Mentored students were matched on a number of demographic and academic variables with students who were not mentored. The mentoring programme evaluated in the study aimed to improve retention at an American university. Its goal was to facilitate personal contacts between faculty and students. The target population (students from ethnic groups under-represented at the university: Hispanic, African American and Native American) were invited to participate, and faculty participants were matched with students based on shared academic interests. Mentors and students were encouraged to meet regularly and mentors kept a log documenting the meetings. Other activities were organised to encourage mentors and students to spend time together. During the academic year, six workshops provided training on various subjects, and there were social events and small grants to encourage students and mentors to initiate research projects or to attend meetings together. Mentored students were matched on a number of demographic and academic variables with students who were not mentored. Consistent differences in GPA favouring the mentored students were found. The greatest impact occurred in the first semester, but the pattern of differences continued into the second semester and was found to be cumulative. The results showed a higher grade point average (GPA) for mentored students (2.45 v 2.29), more units completed per semester (9.33 v 8.49) and a lower dropout rate (14.5% v 26.3%). A subgroup analysis, using ethnicity or ethnicity matching, found no significant differences between mentees' ethnic groups on academic achievement or retention, and no differences of ethnicity matching on GPA and retention. The findings provide good support for the conclusion that the programme being evaluated did indeed cause the reported gains for all the ethnic minority groups in the study.

Partial evidence of positive effects: One case control study evaluated the effects of an academic and social support intervention on retention and academic achievement and found mixed results.

Padgett and Reid (2002) evaluated the Student Diversity Program (SDP) (a retention programme comprising both academic and social support) on retention rates of Black student athletes and other students at risk of disqualification. The intervention was a multilevel retention programme, including features such as the development of action plans and programmes to address academic, social and cultural needs; maintaining a complex early assessment and reporting system to integrate students into university life; psychological counselling; faculty mentoring; group counselling; peer mentoring, and multi-cultural training. It was all aimed at increasing self-efficacy, self-esteem, mastery, commitment, coping skills, and cultural awareness. Participants were provided with role models, mentors and advisors.

Padgett and Reid found that the 39 students who entered the SDP in 1994 and 1995 graduated at twice the rate of comparable students matched on sex, ethnicity, age, transfer status, entering GPA and date of enrolment. The overall graduation rate across the SDP cohorts was 46.2% and the overall graduation rate across the comparison groups was 23.5% (p=0.005). However, there was no statistically significant difference between the two groups in terms of GPA, although the average final GPA in the SDP appeared slightly higher than that of the comparison (the GPA of SDP students was 2.36 (sd 0.37) and the GPA of comparison students was 2.28 (sd 0.30, p=0.11). The weight of evidence for internal validity for the study was judged to be 'medium to low'.

Inconclusive evidence of no effects: A medium-sized randomised study evaluated the effects of a mentoring intervention on academic achievement and retention, and found no differences between the mentored group and the control group on college adjustment, GPA, or retention.

Thomas (2005) evaluated an ethnically-based

mentoring intervention, the African American Student Mentoring Program, a year-long mentoring programme which used African-American student mentors to support African-American college freshmen. The mentoring programme had no measurable impact across the time of the experiment on academic performance. However, this intervention was different from the interventions evaluated by Campbell and Campbell (1997) and Nagda et al. (1998), in that student mentors were used rather than faculty members. Also, this study was relatively small and judged by the reviewers to be of 'medium to low' weight of evidence in terms of internal validity.

4.4 In-depth review: quality-assurance results

Data extraction for in-depth review

As outlined in Chapter 2 on methods, data-extraction and assessment of the weight of evidence brought by the study to address the review question were conducted by pairs of Review Group members (CJT and BHS; CJT and GDL) working independently and then comparing their decisions, before coming to a consensus. External quality assurance for the process was provided by KD who independently data extracted two of the included studies.

CJT and BHS independently data extracted six studies; CJT and GDL independently data extracted two studies; and CJT and KD independently data extracted two studies. Disagreement in most categories was low. Some disagreement occurred in categories for study method and study design summary. This was thought to be due to the difficulty of categorising quasi- experiments as either experiments with non-random allocation, or cohort studies or case control studies. Some disagreement also occurred on analysis. All disagreements were resolved through discussion. Particular emphasis was placed on discussions surrounding the WoE judgements in all categories.

4.5 Summary of results of synthesis

In a post-16 school setting, consistent high quality evidence was found for positive effect of a monetary incentives intervention in helping high achieving ethnically diverse students to maintain their academic good standing.

In a post-16 school setting, consistent medium quality evidence for effectiveness was found for a school engagement intervention. There were two medium-sized randomised controlled trials undertaken by the same group of researchers, both of which demonstrated positive results for the intervention. However, the study populations were similar in both trials and of limited generalisability to the UK context.

In post-16 higher education settings, consistent high quality evidence was found for the effectiveness of faculty/student mentoring strategies in improving academic performance and retention.

CHAPTER FIVE

Implications

5.1 Strengths and limitations of this systematic review

The main strength of this systematic review lies in its rigorous design in terms of the exhaustive nature of the electronic searching for the systematic map (supplemented with ancestry searches of all known previously existing reviews); the rigorous quality assurance procedures adopted for all stages of the review (including for the systematic map and the in-depth review); and the embedded use of extensive quality appraisal judgements in the in-depth synthesis. All these features mean that the results and conclusions of the review can be relied upon by users of the review.

A further strength of the review is the broad and inclusive nature of the systematic map, which can be used for a number of further in-depth reviews at a later time. The Review Group included all the UK-based aspiration studies investigating the views of participants of both traditionally high- and low-achieving minority ethnic groups, and all international intervention studies, using a control or comparison group design.

There are two limitations to the in-depth review. Firstly, all the post-school-based studies involved universities and higher education; there were no studies based on, say, community colleges. The second is that there were no UK-based intervention studies at all which satisfied the inclusion criteria; this is a limitation of the existing research in the field. The Review Group searched for such research, but found that it had not been undertaken (see below). A final caveat of the review is that the minority ethnic groups predominant in the studies synthesised are of limited relevance to the UK context.

5.2 Implications

5.2.1 Policy and practice

Monetary incentives/sanctions interventions

In post-16 school settings, evidence was found for positive effects of monetary incentives and sanctions interventions. Consistent evidence was found for positive effects of a monetary incentives intervention in helping high-achieving ethnically diverse students to maintain their academic good standing. Partial evidence of positive effects was found for a paid work-based learning intervention to improve education and employment outcomes, and for a school attendance intervention to improve school attendance rates.

School engagement intervention

In a post-16 school setting, consistent evidence for positive effects was found for a school engagement intervention.

Faculty/student mentoring interventions

In post-16 HE settings, consistent evidence was found for positive effects of faculty/student mentoring strategies in improving academic performance and retention. Partial evidence of positive effects was found for an academic and social support intervention in improving retention and academic achievement.

Where current policy and practice coincide with the application of interventions similar to those described above, it is recommended that these should continue, with the proviso that future UK-based researchers would be advised to confirm the promising findings found in the US-based literature. Key features of the interventions evaluated in the studies in the in-depth review for which there was evidence of positive effects included a degree of complexity, cross-checking mechanisms, continued

training, and the involvement of numerous bodies in summary a large commitment and meaningful activities.

5.2.2 Research

The Review Group encountered a number of US-based interventions of high quality, and this is partly to do with the scale and funding of US research. Many of these studies are of limited value to the UK because the specific mix of ethnic minorities, their immigration patterns and history, and economic position are so different from the UK context. Ethnic participation studies are one of the areas (unlike perhaps research on curriculum areas and pedagogy) in which UK resources could most usefully be spent on 'parochial' research in the future. In particular, where interventions tested out in US-based evaluations of rigorous design and execution were found to be effective, these could be tested out in the UK using rigorously designed and executed evaluations: for example, in post-16 school settings monetary incentives/sanction interventions and in post-16 HE settings faculty / student mentoring strategies.

The fact that some of the most effective interventions are equally effective, where it is possible to assess them, for all or most ethnic groups, brings to the fore the question, whether ethnicity is a useful analytic category. To some extent, a good intervention works for all students at a specific target level (of attainment, or income perhaps). To some extent, the label of ethnicity is thus being used as a proxy for other variables, such as income, prior attainment, English language ability, geography, and perhaps family support.

The intention of this review was to uncover examples of successful interventions that increase the post-16 participation of minority ethnic groups in the UK context. As might be expected, the majority of these interventions were primarily concerned with the lowest attaining and lowest participating ethnic groups. Very little work has been conducted with an explicit focus on increasing the attainment of highest performing ethnic groups, such as students of Indian and Chinese origin. No work has been uncovered that has identified a plausible reason why Indian and Chinese students appear to perform well in education, and then develop a testable intervention to increase the participation of other ethnic groups. A further lacuna stems from the elapsed time between intervention and subsequent participation. Much work, and the funding that accompanies it, is too short-term to develop and implement a school-level intervention and then wait to see its impact on post-16 participation and retention.

As in many fields of education research, the Review Group encountered plausible interventions either not funded or not tested at the level required for likely success and the generation of rigorous evidence of impact (for example, Bhopal et al, 2000; Demie, 2005; Millat-e-Mustafa and Begum, 2005). These were non-naïve interventions badly tested, or simply untested (and 'illustrated' through case study). The Review Group also encountered naïve interventions, ill-thought out or not yet mature, that were unlikely to be successful however well they were tested. The pattern is part of a more general one, in which UK education researchers seem unwilling to put their ideas for improvement to any kind of formal test, with appropriate controls and comparators. The DCSF and DIUS could take a lead in dealing with all of these issues, by providing the long, thin funding needed for participation studies, and insisting on a definitive test of ideas before implementation.

A second in-depth review is underway which will look at the views, attitudes and aspirations of high achieving minority ethnic groups in the UK. This will be published as a separate report early in 2008.

CHAPTER SIX

References

6.1 Studies included in map and synthesis

Abbas T (2005) The home and the school in the educational achievements of South Asians. *Race Ethnicity and Education* 5: 291-316.

Allen A (1998) What are ethnic minorities looking for? In: Modood T, Acland T (eds) *Race and Higher Education*. London: Policy Studies Institute.

Ahmad F (2001) Modern traditions? British Muslim women and academic achievement. *Gender and Education* 13: 137-152.

Amer F, Murray, L, Azad MAK. Absenteeism amongst Bangladeshi Pupils in Westminster. Dissertation

Archer L, Hutchings M (2002) Bettering yourself? Discourses of risk, cost and benefit in ethnically diverse, young working-class non-participants' constructions of higher education. *British Journal of Sociology of Education* 21: 555-574.

Archer L, Yamashita H (2003) Knowing their limits? Identities, inequalities and inner city school leavers' post-16 aspirations. *Journal of Educational Policy* 18: 53-69.

Barnard BJ (2005) The effects of a culturally sensitive high school intervention program for native Hawaiians on student alienation, academic achievement, and dropping out. *Dissertation Abstracts International Section A: Humanities and Social Sciences* 65 (10-A).

Basit TN (1997) Eastern Values: Western Milieu. Aldershot: Ashgate.

Beck V, Fuller A, Unwin L (2006) Safety in stereotypes? The impact of gender and 'race' on young people's perceptions of their post-compulsory education and labour market opportunities. *British Educational Research Journal* 32: 667-686.

Bhattacharyya G, Ison L, Blair M (2003) *Minority Ethnic Attainment and Participation in Education and Training: the Evidence*. Research Topic Paper, RTP01-03. Nottingham: Department for Education and Skills.

Bhopal K, Gundara J, Jones C, Owen C (2000) *Working Towards Inclusive Education: Aspects of Good Practice for Gypsy Traveller Pupils*. Research Report RR238. London: DEE/HMSO.

Bowers J (2004) *Prejudice and Pride: the Experience of Young Travellers*. Ormiston Children and Families Trust.

Bowl M (2001) Experiencing the barriers: non-traditional students entering higher education. *Research Papers in Education: Policy & Practice* 16: 141-160.

Brooks R (2002) Edinburgh, Exeter, East London - or employment? A review of research on young peoples higher education choices. *Educational Research* 44: 217-227.

*Campbell TA, Campbell DE (1997) Faculty/student mentor program: effects on academic performance and retention. *Research in Higher Education* 38: 727-742.

Clayden J, Stein M (2002) *The Way It Is: Young People on Race, School Exclusion and Leaving Care*. London: The Prince's Trust.

Cline T, de Abreu G, Fihosy C, Gray H, Lambert H, Neale J (2002) *Minority Ethnic Pupils in Mainly White Schools*. DfES Research Report 365. London: DfES/HMSO.

Connolly P, Keenan M (2000) *Opportunities for All: Minority Ethnic People's Experiences of Education, Training and Employment in Northern Ireland*. Report 2. Belfast: Northern Ireland Statistics and Research Agency.

Connor H, Tyers C, Modood T, Hillage J (2004) Why the Difference? *A Closer Look at Higher Education Minority Ethnic Students and Graduates*. DfES Research Report 552. Nottingham: Department for Education and Skills.

Crozier G, Davies J, Khatun S, Booth D (2005) *Parents, Children and the School Experience: Asian Families' Perspectives*. Swindon: ESRC.

Dale A, Shaheen N, Kalra V, Fieldhouse E (2000) Routes into education and employment for young pakistani and bangladeshi women in the UK. *Ethnic and Racial Studies* 25: 942-968.

Demie F (2001) Ethnic and gender differences in educational achievement and implications for school improvement strategies. *Educational Research* 43: 91-106.

Demie F (2005) Achievement of Black Caribbean pupils: good practice in Lambeth schools. *British Educational Research Journal* 31: 481-508.

Derrington C, Kendall S (2003) Gypsy traveller pupils in English secondary schools: a longitudinal study. England. Paper presented at the *European Conference on Educational Research*, University of Hamburg, 17-20 September 2003.

Education Commission (2004) *The Educational Experiences and Achievements of Black Boys in London Schools 2000-2003*. London: London Development Agency.

English as an Additional Language Association of Wales (2003) *Achievement of Ethnic Minority Pupils in Wales*. Cardiff: EALAW.

Fitzgerald R, Finch S, Nove A (2000) *Black Caribbean Young Men's Experiences of Education and Employment*. DfES Research Report 186. Nottingham: Department for Education and Skills.

Francis B, Archer L (2004) *British-Chinese Pupils' Constructions of Education, Gender and Post-16 Pathways*. Swindon: ESRC.

Gayle V, Berridge D, Davies R (2002) Young people's entry into higher education: quantifying influential factors. *Oxford Review of Education* 28: 5-20.

Ghuman P (2002) South-Asian adolescents in British schools: a review. *Educational Studies* 28: 47-59.

Gillborn D (1997) Ethnicity and educational performance in the United Kingdom: racism, ethnicity, and variability in achievement. *Anthropology & Education Quarterly* 28: 375-393.

Gillborn D, Gipps C (1996) *Recent Research on the Achievement of Ethnic Minority Pupils*. London: HMSO.

*Goldberger SA (2000) School-to-career as a strategy to improve education and employment outcomes for urban youth: an impact evaluation of the ProTech Program. *Dissertation Abstracts International A.: The Humanities and Social Sciences* 61: 2059-A.

Gorard S, Fevre R, Rees G, Furlong, J (1997) *Space, Mobility and the Education of Minority Groups in Wales: the Survey Results. Patterns of Participation in Adult Education and Training*. Working Paper 10. Lancaster: Economic and Social Research Council.

Hagell A, Shaw C (1996) *Opportunity and Disadvantage at Age 16*. London: Policy Studies Institute.

Haque Z (2000) The ethnic minority underachieving group? Investigating the claims of underachievement amongst Bangladeshi pupils in British secondary schools. *Race* 3: 145-168.

*Jones LP, Harris R, Finnegan D (2002) School attendance demonstration project: an evaluation of a programme to motivate public assistance teens to attend and complete school in an urban school district. *Research on Social Work Practice* 12: 222-237.

Joseph Rowntree Foundation (2006) A comparison of how young people from different ethnic groups experience leaving school. *Findings*, Issue 0426, July.

*Kemple JJ, Snipes JC (2000) *Career Academies: Impacts on Students' Engagement and Performance in High School*. New York: Manpower Demonstration Research Corporation.

Kendall L, Rutt, S, Schagen, I (2005) *Minority Ethnic Pupils and Excellence in Cities: Final Report*. DfES Research Report RR703. Nottingham: Department for Education and Skills.

Levinson M, Sparkes AC (2006) Conflicting value systems: gypsy females and the home-school interface. *Research Papers in Education* 21: 79-97.

Mac an Ghaill M, Haywood C, Hussain, I (2005) *Young Bangladeshi People's Experience of Transition to Adulthood: A Study of Ethnic Invisibility*. York: Joseph Rowntree Foundation.

Maughan, B (2005) Educational attainments: ethnic differences in the United Kingdom. In: Rutter, M, Tienda, M (eds) Ethnicity and Causal Mechanisms (pp. 80-106). Cambridge: Cambridge University Press.

Middleton S, Rennison J, Cebulla A, Perren K De-Beaman S (2005) *Young people from Ethnic Minority Backgrounds: Evidence from the Education Maintenance Allowance Database*. DfES Research report RR627. Nottingham: Department for Education and Skills.

Millat-e-Mustafa M, Begum S (2005) *Raising Achievement among Key Stage 2 Bangladeshi*

Children in Small Heath: An Action Research Project. London: CfBT.

Modood T (2004) Capitals, ethnic identity and education qualifications. *Cultural Trends* 13: 87-105.

*Nagda BA, Gregerman SR, Jonides J, von Hippel W, Lerner JS (1998) Undergraduate Student-Faculty Research Partnerships Affect Student Retention. *Review of Higher Education* 22: 55-72.

Osler A, Street C, Vincent K, Lall M (2002) *Not a Problem? Girls and Exclusion from School*. London: National Children's Bureau.

Padfield P (2005) Inclusive educational approaches for gypsy/traveller pupils and their families: an urgent need for progress? *Scottish Educational Review* 37: 127-144.

*Padgett VR, Reid JF (2002) Five year evaluation of the Student Diversity Program: a retrospective quasi-experiment. *Journal of College Student Retention* 4: 135-145.

Parker-Jenkins M, Hewitt D, Brownhill S, Sanders T (2004) What strategies can be used by initial teacher training providers, trainees and newly qualified teachers to raise the attainment of pupils from culturally diverse backgrounds? In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Pathak S (2000) *Race Research for the Future: Ethnicity in Education, Training and the Labour Market*. DfEE Research Topic Paper, RTP01. Nottingham: Department for Education and Employment.

Payne J (2003) *Choice at the End of Compulsory Schooling: A Research Review*. DfES Research Report 414. Nottingham: Department for Education and Skills.

Rhamie J, Hallam S (2002) An investigation into African-Caribbean academic success in the UK. *Race Ethnicity and Education* 5: 151-170.

Shiner M, Modood T (2002) Help or hindrance? Higher education and the route to ethnic equality. *British Journal of Sociology of Education* 23: 209-232.

*Sinclair MF, Christenson SL, Evelo DL, Hurley CM (1998) Dropout prevention for youth with disabilities: efficacy of a sustained school engagement procedure. *Exceptional Children* 65: 7-21.

*Sinclair MF, Christenson SL, Thurlow ML (2005) Promoting school completion of urban secondary youth with emotional or behavioral disabilities. *Exceptional Children* 71: 465-482.

Singh Raud H (1997) Educating Sita: the education of British Asian girls. Paper presented at the *British Educational Research Association Conference*, 11 September 1997, York.

Smith T (1997) Recognising difference: the Romani 'Gypsy' child socialisation and education process. *British Journal of Sociology of Education* 18:243-256.

*Spencer MB, Noll E, Cassidy E (2005) Monetary incentives in support of academic achievement: results of a randomized field trial involving high-achieving, low-resource, ethnically diverse urban adolescents. *Evaluation Review* 29: 199-222.

*Thomas EN (2005) The effects of an ethnic-based mentoring model on college adjustment, grade point average, and retention among first year African American college students attending a predominately white institution. *Dissertation Abstracts International: Section B: The Sciences and Engineering* 66 (9-B).

Tikly L, Caballero C, Haynes J, Hill J (2004) *Understanding the Educational Needs of Mixed Heritage Pupils*. DfES Research Report RR549. Nottingham: Department for Education and Skills.

Tikly L, Haynes J, Caballero C, Hill J, Gillborn D (2006) *Evaluation of Aiming High: African-Caribbean Achievement Project*. DfES Research Report RR801. Nottingham: Department for Education and Skills.

Watts M, Bridges D (2006) The value of non-participation in higher education. *Journal of Education Policy* 21: 267-290.

Woodrow D, Sham S (2001) Chinese pupils and their learning preferences. *Race Ethnicity and Education* 4: 377-394.

6.2 Other references used in the text of the technical report

Beinhart S, Smith, P (1998) *National Adult Learning Survey 1997*. Sudbury: Department for Education and Employment.

Butler L (1993) Unpaid work in the home and accreditation. In: Thorpe M, Edwards R, Hanson A (eds) *Culture and Processes of Adult Learning: A Reader* (pages 66-86). London and New York: Routledge.

Dearing R (1997) Higher Education in the Learning Society: *Report of the Committee under the Chairmanship of Sir Ron Dearing*. London: Stationery Office.

DfEE (1995) *Training Statistics*, 1995. London: HMSO.

DfES (2005a) *Youth Cohort Study: The Activities and Experiences of 17 year olds: England and Wales 2005*. SFR 48/2005. Newport: Office for National Statistics.

DfES (2005b) Youth Cohort Study: *The Activities and Experiences of 19 year olds: England and Wales 2005*. SFR 49/2005. Newport: Office for National Statistics.

DfES (2006a) Youth Cohort Study: *The Activities and Experiences of 18 year olds: England and Wales 2006*. SFR 47/2006. Newport: Office for National Statistics.

DfES (2006b) *Ethnicity and Education: The Evidence on Minority Ethnic Pupils Aged 5-16*. 0208-2006DOM-EN. Nottingham: Department for Education and Skills.

DfES (2007) Raising Expectations: Staying in Education and Training Post-16 (Green Paper).

Fasold R (1984) *The Sociolinguistics of Society*. Oxford: Blackwell.

Fishman J (1968) Nationality-Nationalism And Nation-Nationism. In: Fishman J, Ferguson C, Das Gupta J (eds) *Language Problems of Developing Nations* (pages 39-52). New York: John Wiley.

Fishman J (1972) *Language and Nationalism: Two Integrative Essays*. Rowley MA: Newbury House.

Fryer R (1997) *Learning for the Twenty-First Century*. London: Department of Education and Employment.

Gorard S, Rees G (2002) Creating a Learning Society? Bristol: The Policy Press.

Gorard S, Smith E, Thomas L, May H, Adnett N, Slack K (2006) *Review of Widening Participation Research: Addressing the Barriers to Participation in Higher Education*. (Available from www.hefce.ac.uk/pubs/rdreports/2006/rd13_06/)

Green F (1994) The Determinants of Training of Male and Female Employees, and some Measures of Discrimination. In: McNabb R, Whitfield K (eds) *The Market for Training* (page 242). Aldershot: Avebury,

Kennedy H (1997) *Learning Works: Widening Participation in Further Education*. Coventry: Further Education Funding Council

Leslie D, Drinkwater S (1999) Staying on in full-time education: reasons for higher participation rates among ethnic minority males and females. *Economica* 66: 63-77.

Robinson C, Hughes P (1999) *Creating a Sense Of Place: Indigenous Peoples in Vocational Education and Training*. Adelaide: National Centre for Vocational Educational Research. (Available from: http://www/ncver.edu.au/publications/382.html)

Selwyn N, Gorard S, Furlong J (2005) *Adult Learning in the Digital Age*. London: Routledge Falmer.

Sargant, N and Aldridge,F (2002) Adult Learning and Social Division: a Persistent Pattern (Leicester, NIACE).

Taylor S, MacLeod D, Houghton N, Zwart R, Sachdev D (2005) A systematic review of effective strategies to widen adult participation in learning. In *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Tremlett N, Park A, Dundon-Smith D (1995) *Individual Commitment to Learning. Further Findings from the Individuals Survey.* Sheffield: Employment Department.

Tyers C, Aston J, Barkworth R, Willison R, Taylor J (2003) *Evaluation of Adult Guidance Pilots*. London: Department for Education and Skills Development Agency. (Available from: www.dfes.gov.uk/research/data/uploadfiles/RR491.pdf)

Appendix 1.1: Authorship of this report

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

The authors of this report are:

Carole Torgerson (University of York)
Beng Huat See (University of York)
Graham Low (University of York)
Kath Wright (University of York)
Stephen Gorard (University of Birmingham)

For further information, including access to electronic databases of all the excluded studies, together with the reasons for their exclusion, please contact the Principal Investigator, Dr Carole J Torgerson (email: cjt3@york.ac.uk)

For further information about the work of the EPPI-Centre, please contact:

EPPI-Centre
Social Science Research Unit
Institute of Education, University of London
18 Woburn Square

Tel: +44 (0)20 7612 6397
Fax: +44 (0)20 7612 6800
E-mail: EPPIAdmin@ioe.ac.uk

Review group

The authors were the Review Group for this report.

Advisory group membership

Kathy Murphy, Lifelong Learning and Skills Directorate, DfES (now DCSF)
Deborah Wilson, Strategic Analysis, DfES (now DCSF)
Stephen Witt, Strategic Analysis, DfES (now DCSF)
Rachel Youngs, Lifelong Learning and Skills Directorate, DfES (now DCSF)

Conflict of interest

There were no conflicts of interest for any members of the Review Group.

Acknowledgements

The authors acknowledge and thank all the members of the Advisory Group for their help and advice, Kelly Dickson, Mark Newman and the EPPI-Centre for their advice and quality assurance, the former DfES for partially funding the review, and the University of York, which provided HEFCE-funded time to enable Dr Graham Low and Professor Stephen Gorard to make their contributions to the review. The authors also acknowledge Alison Robinson, for running the mapping tables and compiling the data-extraction tables for the ten studies in the in-depth review, and for proofreading the document.

Appendix 2.1: Inclusion and exclusion criteria

Topic focus

Exclude 1: The study does not focus on pupils' or students' (of any age) views, attitudes or aspirations about post-16 participation in full-time education AND is UK-based AND does not evaluate interventions designed to increase post-16 participation of minority ethnic groups.

Study design

Exclude 2: The study does not use review, survey, qualitative or case study methods to investigate pupils' or students' views AND does not use an experimental design to evaluate an intervention.

Exclude 3: The study is not published or reported in English.

Exclude 4: The study is not published or reported between 1996 and the present.

Exclude 5: The studies are not undertaken with populations of students for whom English is a first or additional language.

Third-stage screening

Quality criteria

Exclude 6: The study does not meet the following quality criteria: for review, survey, qualitative and case study literature clearly stated aims and objectives; clear description of samples, including for survey research details of sampling and response rate, and for case study research the number of cases on which the results and conclusions are based, sufficient data to mediate between data and interpretation OR, for intervention evaluations, reported quantitative data on at least one outcome associated with participation, contained a control or comparison group, sufficient data to calculate an effect size, at least 32 participants, and the drop-out rate.

In-depth review

Exclude 7: It is not an intervention study with a control or comparison group.

Exclude 8: The study related to a minority ethnic group not predominant in the UK.

Appendix 2.2: Search strategy for electronic databases

ASSIA

Via CSA Illumina

Search date: 17 December 2006

Records retrieved: 180

((((DE=”ethnic groups” or “minority groups” or “disadvantaged” or “lower class” or “low income groups” or “working class” or “blacks” or “black americans” or “black muslims” or “black family” or “race” or “indigenous populations” or “latin American cultural groups” or “migrants” or “multiraciality” or “religious cultural groups” or “rural population” or “urban population” or “whites” or “asian cultural groups” or “Sikhs” or “hindus” or “muslims” or “gypsies” or “west Indians” or “African cultural groups”) or (KW=(bangladeshi or chinese or indian or travellers or roma or gypsy or black or (afro caribbean) or caribbean or afrocaribbean))) or (DE=(“motivation” or “culture” or “income” or “beliefs” or “values” or “social attitudes” or “social background” or “social behavior” or “social bias” or “social capital” or “social environment” or “social influences” or “social integration” or “social isolation” or “social mobility” or “social networks” or “social status” or “social stratification” or “social values” or “socioeconomic class” or “socioeconomic factors” or “socioeconomic status” or “economic factors” or “parental influence” or “peer influence” or “race” or “social background” or “opportunities” or “beliefs” or “attitudes” or “employer attitudes” or “parent attitudes” or “student attitudes” or “teacher attitudes” or “work attitudes” or “parent child relations” or “family background” or “family environment” or “family income” or “family structure” or “family size” or “family stability” or “black community”) or (KW=(social characteristic*) or (social difference*) or (social experience*) or (community influence*) or (cultural influence*) or (family influence*) or (family characteristics) or (family finance*) or (family health) or (family history) or (family involvement) or (family life) or (family mobility) or (family needs) or (family problem*) or (family role*) or (family within 3 relations*) or (family size) or (family status) or (family structure*) or (family support) or (black culture)))) and (KW=((barrier* within 3 school*) or (access within 3 school*) or (participat* within 3 school*)) or KW=((barrier* within 3 educat*) or (access within 3 educat*) or (participat* within 3 educat*)) or KW=((barrier* within 3 college*) or (access within 3 college*) or (participat* within 3 college*)) or KW=((barrier* within 3 universit*) or (access within 3 universit*) or (participat* within 3 universit*)))) or ((((DE=”ethnic groups” or “minority groups” or “disadvantaged” or “lower class” or “low income groups” or “working class” or “blacks” or “black americans” or “black muslims” or “black family” or “race” or “indigenous populations” or “latin American cultural groups” or “migrants” or “multiraciality” or “religious cultural groups” or “rural population” or “urban population” or “whites” or “asian cultural groups” or “Sikhs” or “hindus” or “muslims” or “gypsies” or “west Indians” or “African cultural groups”) or (KW=(bangladeshi or chinese or indian or travellers or roma or gypsy or black or (afro caribbean) or caribbean or afrocaribbean))) or (DE=(“motivation” or “culture” or “income” or “beliefs” or “values” or “social attitudes” or “social background” or “social behavior” or “social bias” or “social capital” or “social environment” or “social influences” or “social integration” or “social isolation” or “social mobility” or “social networks” or “social status” or “social stratification” or “social values” or “socioeconomic class” or “socioeconomic factors” or “socioeconomic status” or “economic factors” or “parental influence” or “peer influence” or “race” or “social background” or “opportunities” or “beliefs” or “attitudes” or “employer attitudes” or “parent attitudes” or “student attitudes” or “teacher attitudes” or “work attitudes” or

"parent child relations" or "family background" or "family environment" or "family income" or "family structure" or "family size" or "family stability" or "black community") or (KW=(social characteristic*) or (social difference*) or (social experience*) or (community influence*) or (cultural influence*) or (family influence*) or (family characteristics) or (family finance*) or (family health) or (family history) or (family involvement) or (family life) or (family mobility) or (family needs) or (family problem*) or (family role*) or (family within 3 relations*) or (family size) or (family status) or (family structure*) or (family support) or (black culture)))) and (((DE="enrollment") or KW=(barrier* within 3 enrollment) or (broaden within 3 enrollment) or (drivers within 3 enrollment) or (encourage within 3 enrollment) or (enhance within 3 enrollment) or (enlarge within 3 enrollment) or (expand within 3 enrollment) or (extend within 3 enrollment) or (facilitat* within 3 enrollment) or (greater within 3 enrollment) or (improve within 3 enrollment) or (increase within 3 enrollment) or (policies within 3 enrollment) or (policy within 3 enrollment) or (promot* within 3 enrollment) or (rate* within 3 enrollment) or (trend* within 3 enrollment) or (widen within 3 enrollment) or (wider within 3 enrollment)) or ((DE=("adult education" or "universities" or "colleges" or "secondary schools" or "higher education" or "rural education" or "secondary education" or "urban education" or "vocational education")) and ((DE="participation") or (KW=(barrier* within 3 participat*) or (broaden within 3 participat*) or (drivers within 3 participat*) or (encourage within 3 participat*) or (enhance within 3 participat*) or (enlarge within 3 participat*) or (expand within 3 participat*) or (extend within 3 participat*) or (facilitat* within 3 participat*) or (greater within 3 participat*) or (improve within 3 participat*) or (increase within 3 participat*) or (policies within 3 participat*) or (policy within 3 participat*) or (promot* within 3 participat*) or (widen within 3 participat*) or (wider within 3 participat*) or (high participation) or (low participation) or (lack within 2 participation) or (non participation) or nonparticipation or (under participation) or (participation within 3 rate*) or (participation within 3 trend*) or (barrier* within 3 access) or (broaden within 3 access) or (drivers within 3 access) or (encourage within 3 access) or (enhance within 3 access) or (enlarge within 3 access) or (expand within 3 access) or (extend within 3 access) or (facilitat* within 3 access) or (greater within 3 access) or (improve within 3 access) or (increase within 3 access) or (policies within 3 access) or (policy within 3 access) or (promot* within 3 access) or (rate* within 3 access) or (trend* within 3 access) or (widen within 3 access) or (wider within 3 access) or (access path*) or (access pathway*) or (access rate*) or (access route*) or (access trajector*) or (access trend*))))))

Australian Education Index

Via DialogDatastar

Search date: 17 December 2006

Records retrieved: 909

British Education Index

Via DialogDatastar

Search date: 17 December 2006

Records retrieved: 404

Strategy for both databases above

1. MINORITY-GROUPS#.DE. OR ETHNIC-GROUPS#.DE. OR ETHNICITY#.W..DE.

2. Blacks#.W..DE.

3. Ethnic-Groups#.DE. OR Afro-Caribbean-Youth.DE. OR American-Indians.DE. OR Canada-Natives.DE. OR Maori-People.DE. OR Sikhs.W..DE. OR Yoruba-People.DE.

4. Asians#.W..DE. OR Bangladeshis.W..DE. OR Chinese.W..DE. OR Indians.W..DE. OR Japanese-People.DE. OR Malaysians.W..DE. OR Pakistanis.W..DE. OR Palestinian-Arabs.DE. OR Vietnamese.W..DE.

5. Africans#.W..DE.

6. IMMIGRANTS.W..DE. OR GYPSIES.W..DE. OR INDIGENOUS-POPULATIONS.DE. OR ROMANI-PEOPLE.DE.

7. (black ADJ youth$ OR black ADJ child$ OR black ADJ teenager$ OR black ADJ adolescen$).TI,AB.

8. (urban ADJ youth$ OR urban ADJ child$ OR urban ADJ teenager$ OR urban ADJ adolescen$).TI,AB.

9. (rural ADJ youth$ OR rural ADJ child$ OR rural ADJ teenager$ OR rural ADJ adolescen$).TI,AB.

10. Whites.W..DE.

11. MUSLIMS#.W..DE. OR PUNJABI#.W..DE. OR HINDUISM#.W..DE.

12. (WEST ADJ INDIAN$ OR CARIBBEAN$ OR AFRO-CARIBBEAN$).TI,AB.

13. 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12

14. ((STAY$ OR REMAIN$ OR RETENTION OR PERSIST$ OR CONTINU$ OR COMPLET$) WITH (SCHOOL$ OR EDUCAT$ OR COLLEGE$ OR UNIVERSIT$ OR LEARN$)).TI,AB.

15. 13 AND 14

16. ((BARRIER$ OR BROADEN$ OR DRIVER$ OR ENCOURAG$ OR ENHANC$ OR ENLARG$ OR EXPAND$ OR EXPANSION OR EXTEND$ OR EXTENSION OR FACILITAT$ OR GREATER OR IMPROV$ OR INCREAS$ OR POLICIES OR POLICY OR PROMOT$ OR WIDEN$ OR WIDER OR LOW OR HIGH OR UNDER OR LACK OR LITTLE OR RATE$ OR TREND$) WITH PARTICIPAT$ WITH (EDUCAT$ OR SCHOOL$ OR LEARN$ OR COLLEGE$ OR UNIVERSIT$)). TI,AB.

17. 13 AND 16

18. ((BARRIER$ OR BROADEN$ OR DRIVER$ OR ENCOURAG$ OR ENHANC$ OR ENLARG$ OR EXPAND$ OR EXPANSION OR EXTEND$ OR EXTENSION OR FACILITAT$ OR GREATER OR IMPROV$ OR INCREAS$ OR POLICIES OR POLICY OR PROMOT$ OR WIDEN$ OR WIDER OR LOW OR HIGH OR UNDER OR LACK OR LITTLE OR RATE$ OR TREND$) WITH ACCESS WITH (EDUCAT$ OR SCHOOL$ OR LEARN$ OR COLLEGE$ OR UNIVERSIT$)).TI,AB.

19. 13 AND 18

20. ((BARRIER$ OR BROADEN$ OR DRIVER$ OR ENCOURAG$ OR ENHANC$ OR ENLARG$ OR EXPAND$ OR EXPANSION OR EXTEND$ OR EXTENSION OR FACILITAT$ OR GREATER OR IMPROV$ OR INCREAS$ OR POLICIES OR POLICY OR PROMOT$ OR WIDEN$ OR WIDER OR LOW OR HIGH OR UNDER OR LACK OR LITTLE OR RATE$ OR TREND$) WITH ENROL$ WITH (EDUCAT$ OR SCHOOL$ OR LEARN$ OR COLLEGE$ OR UNIVERSIT$)).TI,AB.

21. 13 AND 20

22. RACIAL-DIFFERENCES#.DE. OR CULTURAL-DIFFERENCES#.DE.

23. Academic-Achievement.DE. OR Educational-Attainment.DE. OR High-Achievement.DE. OR Low-Achievement.DE. OR Overachievement.W..DE. OR Underachievement.W..DE.

24. 22 AND 23

25. 13 AND 23

26. POSTCOMPULSORY-EDUCATION#.DE. OR FURTHER-EDUCATION#.DE. OR SIXTEEN-TO-NINETEEN-EDUCATION#.DE. OR HIGHER-EDUCATION#.DE. OR SECONDARY-EDUCATION#.DE. OR VOCATIONAL-EDUCATION#.DE. OR ADULT-EDUCATION#.DE. OR SIXTH-FORM-EDUCATION#.DE.

27. GRAMMAR-SCHOOLS#.DE. OR COMPREHENSIVE-SCHOOLS#.DE. OR SIXTH-FORM-EDUCATION#.DE. OR SECONDARY-MODERN-SCHOOLS#.DE. OR COLLEGES-OF-FURTHER-EDUCATION.DE. OR UNIVERSITIES.W..DE.

28. UNDERGRADUATE-STUDENTS#.DE. OR FURTHER-EDUCATION-STUDENTS#.DE. OR SECONDARY-SCHOOL-PUPILS#.DE.

29. 26 AND 22

30. 27 AND 22

31. 28 AND 22

32. Participation#.W..DE. OR Community-Involvement.DE. OR Family-Involvement.DE. OR Parent-Participation.DE. OR Pupil-Participation.DE. OR Student-Participation.DE.

33.32 AND 22

34.32 AND 13

35.ACCESS-TO-EDUCATION#.DE.

36.35 AND 22

37.35 AND 13

38.Enrolment#.W..DE. OR Enrolment-Trends#.DE.

39.38 AND 22

40.38 AND 13

41.15 OR 17 OR 19 OR 21 OR 24 OR 25 OR 29 OR 30 OR 31 OR 33 OR 34 OR 36 OR 37 OR 39 OR 40

42.LG=ENGLISH

43.YEAR=2006 OR YEAR=2005 OR YEAR=2004 OR YEAR=2003 OR YEAR=2002 OR YEAR=2001 OR YEAR=2000 OR YEAR=1999 OR YEAR=1998 OR YEAR=1997 OR YEAR=1996

44.41 AND 42 AND 43

ERIC

Via CSA Illumina

Search date: 15 December 2006

Records retrieved:

Journals: 2,638

Peer-reviewed journals: 1,644

Reports: 2,247

Conference: 672

Books: 283

Dissertations: 72

((DE="motivation" or "culture" or "income" or "beliefs" or "values" or "social attitudes" or "social background" or "social behavior" or "social bias" or "social capital" or "social characteristics" or "social differences" or "social environment" or "social experience" or "social influences" or "social integration" or "social isolation" or "social mobility" or "social networks" or "social status" or "social stratification" or "social values" or "socioeconomic background" or "socioeconomic influences" or "socioeconomic status" or "community influence" or "cultural influences" or "economic factors" or "family influence" or "parent influence" or "peer influence" or "racial factors" or "religious factors" or "background" or "opportunities" or "adolescent attitudes" or "beliefs" or "black attitudes" or "childhood attitudes" or "community attitudes" or "dropout attitudes" or "educational attitudes" or "employer attitudes" or "negative attitudes" or "parent attitudes" or "racial attitudes" or "student attitudes" or "teacher attitudes" or "work attitudes" or "world views" or "parent background" or "parent child relationship" or "parent education" or "family attitudes" or "family characteristics" or "family environment" or "family financial resources" or "family health" or "family history" or "family income" or "family involvement" or "family life" or "family mobility" or "family needs" or "family problems" or "family relationship" or "family role" or "family school relationship" or "family size" or "family status" or "family structure" or "family support" or "black achievement" or "black community" or "black culture") or ((DE="ethnic groups" or "minority groups" or "nontraditional students" or "foreign countries" or "disadvantaged youth" or "economically disadvantaged" or "educationally disadvantaged" or "gifted disadvantaged" or "advantaged" or "lower class" or "low income groups" or "low income" or "working class" or "blacks" or "black students" or "black youth" or "black community" or "black culture" or "black education" or "black family" or "race" or "indigenous

populations" or "latin americans" or "migrants" or "multiracial persons" or "religious cultural groups" or "rural population" or "urban population" or "whites") or (KW=(asian or bangladeshi or chinese or indian or sikh or hindu or muslim or travellers or roma or gypsy or gypsies or black or (west indian) or (afro caribbean) or caribbean or afrocaribbean or african)))) and ((DE="student participation") or (KW=((barrier* within 3 participat*) or (broaden within 3 participat*) or (drivers within 3 participat*)) or KW=((encourage within 3 participat*) or (enhance within 3 participat*) or (enlarge within 3 participat*)) or KW=((expand within 3 participat*) or (extend within 3 participat*) or (facilitat* within 3 participat*)) or KW=((greater within 3 participat*) or (improve within 3 participat*) or (increase within 3 participat*)) or KW=((policies within 3 participat*) or (policy within 3 participat*) or (promot* within 3 participat*)) or KW=((widen within 3 participat*) or (wider within 3 participat*))) or (KW=((high participation) or (low participation) or (lack within 2 participation)) or KW=((non participation) or nonparticipation or (under participation)) or KW=((participation within 3 rate*) or (participation within 3 trend*))) or (KW=((barrier* within 3 access) or (broaden within 3 access) or (drivers within 3 access)) or KW=((encourage within 3 access) or (enhance within 3 access) or (enlarge within 3 access)) or KW=((expand within 3 access) or (extend within 3 access) or (facilitat* within 3 access)) or KW=((greater within 3 access) or (improve within 3 access) or (increase within 3 access)) or KW=((policies within 3 access) or (policy within 3 access) or (promot* within 3 access) or (rate* within 3 access) or (trend* within 3 access)) or KW=((widen within 3 access) or (wider within 3 access))) or (KW=((barrier* within 3 enrollment) or (broaden within 3 enrollment) or (drivers within 3 enrollment)) or KW=((encourage within 3 enrollment) or (enhance within 3 enrollment) or (enlarge within 3 enrollment)) or KW=((expand within 3 enrollment) or (extend within 3 enrollment) or (facilitat* within 3 enrollment)) or KW=((greater within 3 enrollment) or (improve within 3 enrollment) or (increase within 3 enrollment)) or KW=((policies within 3 enrollment) or (policy within 3 enrollment) or (promot* within 3 enrollment)) or KW=((rate* within 3 enrollment) or (trend* within 3 enrollment) or (widen within 3 enrollment) or (wider within 3 enrollment))) or (KW=((access path*) or (access pathway*) or (access rate*)) or KW=((access route*) or (access trajector*) or (access trend*))) or (DE=((academic persistence) or (school holding power)) or KW=((continuation behavior) or (continuation behaviour) or aimhigher)) or (DE=("enrollment rates" or "enrollment trends")))

International Bibliography of the Social Sciences

Via OvidWeb

Search date: 16 December 2006

Records retrieved: 1,040

1. (minority or racial or race or ethnic$ or arab$ or asian$ or black or blacks or gypsy or gypsies or hispanic$ or indigenous or inuit$ or jew$ or japanese or korean$ or vietnamese or african$ or disadvantaged or lower class or lower income or black youth$ or black teenager$ or black child$ or black adolescen$ or urban youth$ or urban teenager$ or urban child$ or urban adolescen$ or rural youth$ or rural teenager$ or rural child$ or rural adolescen$ or whites or sikh$ or muslim$ or hindu$ or bangladeshi$ or chinese or west indian$ or caribbean$ or afro-caribbean$ or roma or traveller$ or working class$).ti,ab,sh.

2. ((barrier$ or broaden$ or driver$ or encourage$ or enhance$ or enlarge$ or expand$ or expansion or extend$ or extension or faciltiat$ or greater or improv$ or increas$ or policies or policy or promot$ or widen$ or wider or low or high or lack or little or rate$ or trend$) adj3 participat$ adj10 (educat$ or school$ or college$ or universit$)).ti,sh,ab.

3. 1 and 2

4. ((barrier$ or broaden$ or driver$ or encourage$ or enhance$ or enlarge$ or expand$ or expansion or extend$ or extension or faciltiat$ or greater or improv$ or increas$ or policies or policy or promot$ or widen$ or wider or low or high or lack or little or rate$ or trend$) adj3 access adj10 (educat$ or school$ or college$ or universit$)).ti,ab,sh.

5. 1 and 4

6. ((barrier$ or broaden$ or driver$ or encourage$ or enhance$ or enlarge$ or expand$ or expansion or extend$ or extension or faciltiat$ or greater or improv$ or increas$ or policies or policy or promot$ or widen$ or wider or low or high or lack or little or rate$ or trend$) adj3 enrol$ adj10 (educat$ or school$ or college$ or universit$)).ti,ab,sh.

7. 1 and 6

8. 3 or 5 or 7

9. ((stay$ or remain$ or retention or persist$ or continu$ or complet$ or drop$) adj3 (school$ or educat$ or college$ or universit or learn$)).ti,ab,sh.

10. 1 and 9

11. ((race or racial or ethnic or cultural or religious) adj3 (differen$ or disparit$ or variation$)).ti,ab,sh.

12. ((achieve$ or aspir$ or motivat$ or fail$ or ambition$ or aptitude$ or attain$ or expect$ or attitude$) adj3 (educat$ or school$ or college$ or universit$ or learn$)).ti,ab,sh.

13. 11 and 12

14. (educat$ or school$ or college$ or universit$ or learn$ or student$ or pupli$).ti.

15. 14 and 11

16. 1 and 12

17. ((race or racial or ethnic or cultural or religious or black) adj3 (belief$ or values or attitude$ or class$ or parent$ or family or families or factor$ or involvement or motivation or expectation$ or occupation$)).ti,ab,sh.

18. 17 and 14

19. 8 or 10 or 13 or 15 or 16 or 18

20. english.lg.

21. 19 and 20

22. limit 21 to yr="1996 - 2007"

PsycINFO

Via OVID web

Search date: 16 December 2006

Records retrieved: 2,943

1. exp minority groups/ or exp "racial and ethnic groups"/

2. alaska natives/ or american indians/ or arabs/ or exp asians/ or blacks/ or gypsies/ or hawaii natives/ or exp hispanics/ or exp indigenous populations/ or inuit/ or jews/ or exp pacific islanders/ or asians/ or chinese cultural groups/ or japanese cultural groups/ or korean cultural groups/ or south asian cultural groups/ or exp southeast asian cultural groups/ or vietnamese cultural groups/ or exp african cultural groups/

3. exp disadvantaged/ or exp lower class/ or exp lower income level/

4. (black youth$ or black teenager$ or black child$ or black adolescen$).ti,ab.

5. (urban youth$ or urban teenager$ or urban child$ or urban adolescen$).ti,ab.

6. (rural youth$ or rural teenager$ or rural child$ or rural adolescen$).ti,ab.

7. exp whites/ or exp sikhs/ or exp muslims/ or exp hindus/ or exp gypsies/

8. (bangladeshi$ or chinese or west indian$ or caribbean$ or afrocaribbean$ or roma or gypsy or traveller$ or working class$).ti,ab.

9. or/1-8

10. ((barrier$ or broaden$ or driver$ or encourage$ or enhance$ or enlarge$ or expand$ or expansion or extend$ or extension or facilitat$ or greater or improv$ or increas$ or policies or policy or promot$

or widen$ or wider or low or high or under or lack or little or rate$ or trend$) adj3 participat$ adj10 (educat$ or school$ or college$ or universit$)).ti,ab.

11. 9 and 10

12. ((barrier$ or broaden$ or driver$ or encourage$ or enhance$ or enlarge$ or expand$ or expansion or extend$ or extension or facilitat$ or greater or improv$ or increas$ or policies or policy or promot$ or widen$ or wider or low or high or under or lack or little or rate$ or trend$) adj3 access$ adj10 (educat$ or school$ or college$ or universit$)).ti,ab.

13. 9 and 12

14. ((barrier$ or broaden$ or driver$ or encourage$ or enhance$ or enlarge$ or expand$ or expansion or extend$ or extension or facilitat$ or greater or improv$ or increas$ or policies or policy or promot$ or widen$ or wider or low or high or under or lack or little or rate$ or trend$) adj3 enrol$ adj10 (educat$ or school$ or college$ or universit$)).ti,ab.

15. 9 and 14

16. 11 or 13 or 15

17. ((stay$ or remain$ or retention or persist$ or continu$ or complet$) adj3 (school$ or educat$ or college$ or universit or learn$)).ti,ab.

18. 17 and 9

19. exp “Racial and Ethnic Differences”/ or exp Cross Cultural Differences/

20. exp academic achievement/ or academic achievement motivation/ or academic achievement prediction/ or academic aptitude/ or academic failure/ or academic self concept/ or educational attainment level/ or school transition/

21. exp adult education/ or high school education/ or exp higher education/ or secondary education/ or exp colleges/ or graduate schools/ or high schools/ or junior high schools/ or technical colleges/

22. students/ or exp college students/ or graduate students/ or high school students/ or junior high school students/ or postgraduate students/ or reentry students/ or transfer students/ or vocational school students/

23. 19 and 20 and 21

24. 19 and 20 and 22

25. 19 and 20 and 9

26. 23 or 24 or 25

27. income level/ or lower income level/ or middle income level/ or upper income level/

28. religious beliefs/ or values/ or ethnic values/ or personal values/ or social values/

29. adolescent attitudes/ or adult attitudes/ or child attitudes/ or community attitudes/ or female attitudes/ or male attitudes/ or occupational attitudes/ or exp parental attitudes/ or exp “racial and ethnic attitudes”/ or exp socioeconomic class attitudes/ or student attitudes/ or “work (attitudes toward)”/

30. exp social acceptance/ or exp social adjustment/ or exp social behavior/ or exp social capital/ or exp social class/ or exp social deprivation/ or exp social identity/ or exp social influences/ or exp social integration/ or exp social interaction/ or exp social isolation/ or exp social issues/ or exp social norms/ or exp social structure/ or exp social values/ or exp sociocultural factors/ or exp socioeconomic class attitudes/ or exp socioeconomic status/

31. exp family relations/ or exp family structure/ or exp family background/ or exp family size/ or exp family socioeconomic level/

32. exp parent child relations/ or exp parent educational background/ or exp parent school relationship/ or exp parental absence/ or exp parental attitudes/ or parental expectations/ or exp parental investment/ or exp parental role/ or exp parental involvement/ or exp parental occupation/

33. or/27-32

34. 9 and 33 and 21

35. 9 and 33 and 22

36. 34 or 35

37. 16 or 18 or 26 or 37

39. limit 37 to (english language and yr="1996 - 2007")

Social Policy and Practice

Via WebSpirs

Search date: 18 December 2006

Records retrieved: 2,602

#1 minority group* or ethnic group* or ethnic minorit* or racial group*

#2 black near (youth* or child* or teen* or adolescen*)

#3 asian* or chinese or punjabi*or pakistani* or bangladeshi or indian*

#4 african* or blacks or (west indian*) or caribbean or afrocaribbean*

#5 sikh* or muslim* or hindu* or jew*

#6 whites or (working class*) or (low* class*) or (low income group*) or disadvantaged

#7 urban near (youth* or child* or teen* or adolescen*)

#8 rural near (youth* or child* or teen* or adolescen*)

#9 gypsy or gypsies or roma or romany or romanies or romani or traveller*

#10 (sikh* or muslim* or hindu* or jew*) or (african* or blacks or (west indian*) or caribbean or afrocaribbean*) or (asian* or chinese or punjabi*or pakistani* or bangladeshi or indian*) or (black near (youth* or child* or teen* or adolescen*)) or (minority group* or ethnic group* or ethnic minorit* or racial group*) or (gypsy or gypsies or roma or romany or romanies or romani or traveller*) or (rural near (youth* or child* or teen* or adolescen*)) or (urban near (youth* or child* or teen* or adolescen*)) or (whites or (working class*) or (low* class*) or (low income group*) or disadvantaged)

#11 (barrier* or broaden* or driver* or encourag* or enhanc* or enlarg* or exand* or expansion or extend* or extension or facilitat* or greater or improv* or increas* or policies or policy or promot* or widen* or wider or low or high or lack or little or rate* or trend*) near participat* near (educat* or school* or college* or universit* or learn*)

#12 #10 and #11

#13 (barrier* or broaden* or driver* or encourag* or enhanc* or enlarg* or exand* or expansion or extend* or extension or facilitat* or greater or improv* or increas* or policies or policy or promot* or widen* or wider or low or high or lack or little or rate* or trend*) near access near (educat* or school* or college* or universit* or learn*)

#14 #10 and #13

#15 (barrier* or broaden* or driver* or encourag* or enhanc* or enlarg* or exand* or expansion or extend* or extension or facilitat* or greater or improv* or increas* or policies or policy or promot* or widen* or

wider or low or high or lack or little or rate* or trend*) near enrol* near (educat* or school* or college* or universit* or learn*)

#16 #10 and #15

#17 #12 or #14 or #16

#18 (stay* or persist* or remain* or retain* or retention or continu* or complet*) near (school* or educat* or college* or learn* or universit*)

#19 #10 and #18

#20 (racial or ethnic or cultur* or race) near (differ* or disparit*)

#21 school* or educat* or college* or learn* or universit*

#22 #20 and #21

#23 (academic or education*) near (achiev* or attain* or fail* or underachiev* or motivat*)

#24 #20 and #23

#25 #23 and #10

#26 #17 or #19 or #22 or #24 or #25

#27 income or belief* or values or attitude* or class or influenc* or status

#28 (family size) or (family structure) or (family relations*) or (family background*) or (family socioeconomic level)

#29 (parent child relations*) or (parent* educational background) or (parent* background) or (parent* absence) or (parent* expectation*) or (parent* investment) or (parent* involve*) or (parent* occupation*)

#30 (social capital) or socioeconomic or sociocultural

#31 #27 or #28 or #29 or #30

#32 #31 and #21 and #10

#33 #31 and #20

#34 #26 or #32 or #33

#35 (#26 or #32 or #33) and (PY:1M = 1996-2007)

Sociological Abstracts

Via CSA Illumina

Search date: 15 December 2006

Records retrieved: 1,09

Journals: 490

Peer-reviewed journals: 421

Conferences: 51

Books: 4

Chapters/Essays: 27

Dissertations: 99

((((DE="ethnic groups" or "minority groups" or "disadvantaged" or "lower class" or "low income groups" or "working class" or "blacks" or "black americans" or "black muslims" or "black family" or "race" or "indigenous populations" or "latin American cultural groups" or "migrants" or "multiraciality" or "religious cultural groups" or "rural population" or "urban population" or "whites" or "asian cultural groups" or "Sikhs" or "hindus" or "muslims" or "gypsies" or "west Indians" or "African cultural groups") or (KW=(bangladeshi or chinese or indian or travellers or roma or gypsy or black or (afro caribbean) or caribbean or afrocaribbean))) or (DE=("motivation" or "culture" or "income" or "beliefs" or "values" or "social attitudes" or "social background" or "social behavior" or "social bias" or "social capital" or "social environment" or "social influences" or "social integration" or "social isolation" or "social mobility" or "social networks" or "social status" or "social stratification" or "social values" or "socioeconomic class" or "socioeconomic factors" or "socioeconomic status" or "economic factors" or "parental influence" or "peer influence" or "race" or "social background" or "opportunities" or "beliefs" or "attitudes" or "employer attitudes" or "parent attitudes" or "student attitudes" or "teacher attitudes" or "work attitudes" or "parent child relations" or "family background" or "family environment" or "family income" or "family structure" or "family size" or "family stability" or "black community") or (KW=(social characteristic*) or (social difference*) or (social experience*) or (community influence*) or (cultural influence*) or (family influence*) or (family characteristics) or (family finance*) or (family health) or (family history) or (family involvement) or (family life) or (family mobility) or (family needs) or (family problem*) or (family role*) or (family within 3 relations*) or (family size) or (family status) or (family structure*) or (family support) or (black culture)))) and (KW=((barrier* within 3 school*) or (access within 3 school*) or (participat* within 3 school*)) or KW=((barrier* within 3 educat*) or (access within 3 educat*) or (participat* within 3 educat*)) or KW=((barrier* within 3 college*) or (access within 3 college*) or (participat* within 3 college*)) or KW=((barrier* within 3 universit*) or (access within 3 universit*) or (participat* within 3 universit*)))) or ((((DE="ethnic groups" or "minority groups" or "disadvantaged" or "lower class" or "low income groups" or "working class" or "blacks" or "black americans" or "black muslims" or "black family" or "race" or "indigenous populations" or "latin American cultural groups" or "migrants" or "multiraciality" or "religious cultural groups" or "rural population" or "urban population" or "whites" or "asian cultural groups" or "Sikhs" or "hindus" or "muslims" or "gypsies" or "west Indians" or "African cultural groups") or (KW=(bangladeshi or chinese or indian or travellers or roma or gypsy or black or (afro caribbean) or caribbean or afrocaribbean))) or (DE=("motivation" or "culture" or "income" or "beliefs" or "values" or "social attitudes" or "social background" or "social behavior" or "social bias" or "social capital" or "social environment" or "social influences" or "social integration" or "social isolation" or "social mobility" or "social networks" or "social status" or "social stratification" or "social values" or "socioeconomic class" or "socioeconomic factors" or "socioeconomic status" or "economic factors" or "parental influence" or "peer influence" or "race" or "social background" or "opportunities" or "beliefs" or "attitudes" or "employer attitudes" or "parent attitudes" or "student attitudes" or "teacher attitudes" or "work attitudes" or "parent child relations" or "family background" or "family environment" or "family income" or "family structure" or "family size" or "family stability" or "black community") or (KW=(social characteristic*) or (social difference*) or (social experience*) or (community influence*) or (cultural influence*) or (family influence*) or (family characteristics) or (family finance*) or (family health) or (family history) or (family involvement) or (family life) or (family mobility) or (family needs) or (family problem*) or (family role*) or (family within 3 relations*) or (family size) or (family status) or (family structure*) or (family support) or (black culture)))) and (((DE="enrollment") or KW=(barrier* within 3 enrollment) or (broaden within 3 enrollment) or (drivers within 3 enrollment) or (encourage within 3 enrollment) or (enhance within 3 enrollment) or (enlarge within 3 enrollment) or (expand within 3 enrollment) or (extend within 3 enrollment) or (facilitat* within 3 enrollment) or (greater within 3 enrollment) or (improve within 3 enrollment) or (increase within 3 enrollment) or (policies within 3 enrollment) or (policy within 3 enrollment) or (promot* within 3 enrollment) or (rate* within 3 enrollment) or (trend* within 3 enrollment) or (widen within 3 enrollment) or (wider within 3 enrollment)) or ((DE=("adult education" or "universities" or "colleges" or "secondary schools" or "higher education" or "rural education" or "secondary education" or "urban education" or "vocational education")) and ((DE="participation") or (KW=(barrier* within 3 participat*) or (broaden within 3 participat*) or (drivers within 3 participat*) or (encourage within 3 participat*) or (enhance within 3 participat*) or (enlarge within 3 participat*) or (expand within 3 participat*) or (extend within 3 participat*) or (facilitat* within 3 participat*) or (greater within 3 participat*) or (improve within 3 participat*) or (increase within 3 participat*) or (policies within 3 participat*) or (policy within 3 participat*) or (promot* within 3 participat*) or (widen within 3 participat*) or (wider within 3 participat*) or (high participation) or (low participation) or (lack within 2 participation) or (non participation) or nonparticipation or (under participation) or (participation within 3 rate*) or (participation within 3 trend*) or (barrier* within 3 access) or (broaden within 3 access) or (drivers within 3 access) or (encourage within 3 access) or (enhance within 3 access) or (enlarge within 3 access) or (expand within 3 access) or (extend within 3 access) or (facilitat* within 3 access) or (greater within 3 access) or (improve within 3 access) or (increase within 3 access) or (policies within 3 access) or (policy within 3 access) or (promot* within 3 access) or (rate* within 3 access) or (trend* within 3 access) or (widen within 3 access) or (wider within 3 access) or (access path*) or (access pathway*) or (access rate*) or (access route*) or (access trajector*) or (access trend*))))))

Social Science Citation Index

Via Web of Science

Search date: 17 December 2006

Records retrieved: 3,870

#1 TS=MINORITY GROUP*

#2 TS=(ETHNIC GROUP*)

#3 TS=(RACE OR RACIAL OR ETHNICITY)

#4 TS=(BLACKS OR AFROCARIBBEAN* OR CARIBBEAN* OR (WEST INDIAN*) OR INDIAN* OR SIKH* OR MUSLIM* OR HINDU* OR BANGLADESHI* OR ASIAN* OR CHINESE OR PAKISTANI* OR AFRICAN* OR IMMIGRANT* OR GYPSIES OR GYPSY OR ROMANI OR ROMA OR TRAVELLER* OR PUNJABI* OR WHITES)

#5 TS=(BLACK SAME YOUTH*) OR TS=(BLACK SAME CHILD*) OR TS=(BLACK SAME TEENAGER*) OR TS=(BLACK SAME ADOLESCEN*)

#6 TS=(URBAN SAME YOUTH*) OR TS=(URBAN SAME CHILD*) OR TS=(URBAN SAME TEENAGER*) OR TS=(URBAN SAME ADOLESCEN*)

#7 TS=(RURAL SAME YOUTH*) OR TS=(RURAL SAME CHILD*) OR TS=(RURAL SAME TEENAGER*) OR TS=(RURAL SAME ADOLESCEN*)

#8 #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1

#9 TS=((STAY* OR REMAIN* OR RETENTION OR RETAIN* OR PERSIST* OR CONTINU* OR COMPLET*) SAME (SCHOOL* OR EDUCAT* OR COLLEGE* OR UNIVERSIT* OR LEARN*))

#10 #9 and #8

#11 TS=(((BARRIER* OR BROADEN* OR DRIVER* OR ENCOURAG* OR ENHANC* OR ENLARG* OR EXPAND* OR EXPANSION OR EXTEND* OR EXTENSION OR FACILITAT* OR GREATER OR IMPROV* OR INCREAS* OR POLICIES OR POLICY OR PROMOT* OR WIDEN* OR WIDER OR LOW OR HIGH OR UNDER OR LACK OR LITTLE OR RATE* OR TREND*) SAME (PARTICIPAT*)) SAME (EDUCAT* OR SCHOOL* OR COLLEGE* OR UNIVERSIT* OR LEARN*))

#12 #11 and #8

#13 TS=(((BARRIER* OR BROADEN* OR DRIVER* OR ENCOURAG* OR ENHANC* OR ENLARG* OR EXPAND* OR EXPANSION OR EXTEND* OR EXTENSION OR FACILITAT* OR GREATER OR IMPROV* OR INCREAS* OR POLICIES OR POLICY OR PROMOT* OR WIDEN* OR WIDER OR LOW OR HIGH OR UNDER OR LACK OR LITTLE OR RATE* OR TREND*) SAME (ACCESS)) SAME (EDUCAT* OR SCHOOL* OR COLLEGE* OR UNIVERSIT* OR LEARN*))

#14 #13 AND #8

#15 TS=(((BARRIER* OR BROADEN* OR DRIVER* OR ENCOURAG* OR ENHANC* OR ENLARG* OR EXPAND* OR EXPANSION OR EXTEND* OR EXTENSION OR FACILITAT* OR GREATER OR IMPROV* OR INCREAS* OR POLICIES OR POLICY OR PROMOT* OR WIDEN* OR WIDER OR LOW OR HIGH OR UNDER OR LACK OR LITTLE OR RATE* OR TREND*) SAME (ENROL*)) SAME (EDUCAT* OR SCHOOL* OR COLLEGE* OR UNIVERSIT* OR LEARN*))

#16 #15 AND #8

#17 TS=((RACE OR RACIAL OR CULTURAL) SAME (DIFFER* OR DISPARIT*))

#18 TS=((ACADEMIC SAME ACHIEV*) OR (EDUCATION* SAME ATTAIN*) OR (HIGH SAME ACHIEV*) OR (HIGH SAME ATTAIN*) OR (LOW SAME ACHIEV*) OR (LOW SAME ATTAIN*) OR (OVERACHIEV*) OR (OVERATTAIN*) OR (UNDERATTAIN*) OR (UNDERACHIEV*))

#19 (#18 AND #17) OR (#18 AND #8)

#20 #19 OR #16 OR #14 OR #12 OR #10

APPENDIX 2.3 EPPI-Centre keyword sheet, including review-specific keywords

A1. Identification of report
Citation
Contact
Handsearch
Unknown
Electronic database (please specify)
. . . . . .

A2. Status
Published
In press
Unpublished

A3. Linked reports
Is this report linked to one or more other reports in such a way that they also report the same study?
Not linked
Linked (please provide bibliographical details and/or unique identifier)
. . . . . .
. . . . . .
. . . . . .
. . . . . .

A4. Language (please specify)
. . . . . .

A5. In which country/countries was the study carried out? (please specify)
. . . . . .
. . . . . .
. . . . . .

A6. What is/are the topic focus/foci of the study?
Assessment
Classroom management
Curriculum*
Equal opportunities
Methodology
Organisation and management
Policy
Teacher careers
Teaching and learning
Other (please specify) . . . . . .

A7. Curriculum
Art
Business studies
Citizenship
Cross-curricular
Design and technology
Environment
General
Geography
Hidden
History
ICT
Literacy - first language
Literacy further languages
Literature
Maths
Music
PSE
Physical education
Religious education
Science
Vocational
Other (please specify) . . . . . .

A8. Programme name (please specify)
. . . . . .

A9. What is/are the population focus/foci of the study?
Learners
Senior management
Teaching staff
Non-teaching staff
Other education practitioners
Government
Local education authority officers
Parents
Governors
Other (please specify) . . . . . .

A10. Age of learners (years)
0-4
5-10
11-16
17-20
21 and over

A11. Sex of learners
Female only
Male only
Mixed sex . . . . . .

A12. What is/are the educational setting(s) of the study?
Community centre
Correctional institution
Government department
Higher education institution
Home
Independent school
Local education authority
Nursery school
Post-compulsory education institution
Primary school
Pupil referral unit
Residential school
Secondary school
Special needs school
Workplace
Other educational setting (please specify)
. . . . . .

A13. Which type(s) of study does this report describe?
A. Description
B. Exploration of relationships
C. Evaluation
   a. naturally-occurring
   b. researcher-manipulated
D. Development of methodology
E. Review
   a. Systematic review
   b. Other review

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

Review specific keywords

A.1 Ethnicity: UK	A.1.1 White (Please specify.)
	A.1.2 Mixed heritage (Please specify.)
	A.1.3 Indian
	A.1.4 Pakistani
	A.1.5 Bangladeshi
	A.1.6 Black Caribbean
	A.1.7 Black African
	A.1.8 Chinese
	A.1.9 Gypsy/Roma
	A.1.10 Traveller of Irish heritage
	A.1.11 Other (Please specify.)
A.2 Ethnicity: US	A.2.1 White
	A.2.2 Mixed heritage (Please specify.)
	A.2.3 African American
	A.2.4 Hispanic
	A.2.5 Asian/Pacific Islander
	A.2.6 American Indian
	A.2.7 Other (Please specify.)
A.3 What are the authors trying to understand (aspirations literature) or improve (interventions literature)?	A.3.1 Participation
	A.3.2 Retention
	A.3.3 Aspirations / Motivations / Learner identity
	A.3.4 Attainment/Achievement

APPENDIX 4.1 Details of studies included in the in-depth review

Campbell TA, Campbell DE (1997) *Faculty/Student Mentor Program: Effects on Academic Performance and Retention*

Aims of study	To evaluate the effects of a university faculty/student mentor program on academic performance and retention
Study rationale	Previous research on mentoring had tended to use weak designs, relying on self-report measures in retrospective, correlational designs with the data gathered at a single point in time. Often the data was subjective and reported without adequate evidence of reliability and validity, and weak statistical analyses were not uncommon. Retention and enhanced academic success (outcome measures) were often not included in the published reports.
Study research questions and/or hypotheses	Hypothesis 1: Students in the mentoring program will achieve a higher level of academic performance as measured by grade point average (GPA) and will complete more units of credit. Hypothesis 2: Mentored students will have a higher retention rate at the university and will graduate at a higher rate. Hypothesis 3: Academic performance and retention will be unrelated to gender of mentor or protégé, or to the match in gender between the two. Hypothesis 4: Academic performance and retention will be unrelated to ethnicity of mentor or protégé, or to the match in ethnicity between the two. Hypothesis 5: The number and duration of mentor-protégé contacts will be positively correlated with GPA and negatively correlated with retention rate (p 730)
Specific phenomena, factors, services or interventions with which the study is concerned	The mentoring program evaluated in the study aimed to improve retention at an American university. Its goal was to facilitate personal contacts between faculty and students. The target population (students from ethnic groups under-represented at the university) were invited to participate, and faculty participants were matched with students based on shared academic interests. Mentors and students were encouraged to meet regularly and mentors kept a log documenting the meetings. Other activities were organised to encourage mentors and students to spend time together. During the academic year, six workshops provided training on various subjects and there were social events and small grants to encourage students and mentors to initiate research projects, or to attend meetings together (p 731).
Study method	Cohort study
Number of participants	678 students: 339 intervention students matched with 339 control students

Ages of participants	17 and over (reviewer's inference)
Study design summary	This was a cohort study. Mentored students were matched on a number of demographic and academic variables with students who were not mentored. (1) Students and faculty members volunteered to take part. (2) Students were matched with mentors on shared academic interests. (3) Each mentor takes on one to four students for an academic year. (4) Students and mentors meet regularly and mentors keep a log of their contacts with mentees, including date, duration and the general content of their meetings. (5) Each protégé was matched with a control student who matriculated in the same semester and year and was of the same gender, ethnicity, same entering class and had the same entering GPA.
Summary of results	Consistent differences in GPA favouring the mentored students: the greatest impact occurred in first semester, pattern of differences continued into the second semester and was found cumulatively. Only one of the two measures of retention revealed effects for mentoring: the dropout rate among mentees was about half of that for students in control group. There was no difference between the two groups on rate of graduation (although this measure may be premature). Subgroup analysis: gender or gender matching (no effect)(Tables 2 and 3) on GPA and dropout rate Ethnicity or ethnicity matching (Table 5): no significant differences between mentees' ethnic groups on academic achievement or retention; no differences of ethnicity matching (Table 6) on GPA and retention.
Conclusion	The hypothesis that the university mentoring program would result in more units completed per semester and higher grades (as measured by GPA) was supported. The hypothesis that mentees would have lower dropout rate than their matched controls was also supported. The findings provide good support for the conclusion that the program being evaluated did indeed cause the reported gains.
Weight of evidence A (trustworthiness in relation to study questions)	Medium
Weight of evidence B (appropriateness of research design and analysis)	Medium

Weight of evidence C (relevance of focus of study to review)	Medium
Weight of evidence D (overall weight of evidence)	Medium

Goldberger SA (2000) *School-to-Career as a Strategy to Improve Education and Employment Outcomes for Urban Youth: An Impact Evaluation of the ProTech Program*

Aims of study	To evaluate the impact of the ProTech intervention program on school performance, college enrolment and college retention More specifically, (a) to examine 'the effectiveness of school-to-career as a strategy for improving education and employment outcomes for urban youth. It does so through an impact evaluation of Boston's ProTech program', (b) to investigate whether program participation affects post-secondary and education outcomes.
Study rationale	Broadly: A changing labour market. 'Increasing skill demands coupled with diminishing opportunities for on-the-job training, inadequate academic and career preparation, and lack of clearly marked routes to high-skilled jobs make it difficult for young people to secure a good job' (p 7) 'Those students who leave high school without adequate preparation face a difficult and uncertain future' (p 9). Narrowly: At the time, a growing number of communities were developing school-to-career programs, and there was a 'void of information about the effectiveness of this approach to promoting educational and career success'.
Study research questions and/or hypotheses	Overall hypothesis: 'exposure to the school-to-career approach ... will have a positive impact on students across a range of educational and employment outcomes' (p 90) General research questions: 1 Does ProTech improve education and employment outcomes for participating urban youth? 2 Do program effects vary for different groups of students? 3 Do program effects vary by the industry to which the model is applied (e.g. ProTech Health versus ProTech Financial Services)? 4 What program features and other factors appear to best explain the observed outcomes? (p 20)

Specific phenomena, factors, services or interventions with which the study is concerned	The study examines the ProTech results on four cohorts (years 2-5) of students across five high schools in the same city, in programs focused on business services, health care, financial services, and utilities and communications. It also examines the post-school situation of students in three cohorts (years 1-3). Features of the ProTech program (pp 16-20): - a progression of paid work-based-learning experiences which provide students with an opportunity to learn a well-defined set of general and occupation-specific skills - extensive employer involvement in program design, curriculum development, and delivery of instruction at the worksite - integration of academic and vocational instruction and classroom and worksite learning, so that students have the chance to master academic and technical skills in the context of real-world applications - formal connection between high school and post-secondary learning, to promote a smooth transition to advanced study in an occupational area - award of industry-recognised credentials of academic and occupational skill mastery
Study method	Experiment with non-random allocation to groups: Teachers and program staff recruited and selected students to participate in ProTech. Students who had not been selected to participate in the program comprised the comparison group.
Number of participants	2,283 (490* ProTech and 1,793 non-ProTech) Sample for post-secondary impact: 219 (106 ProTech graduates; 113 non-ProTech graduates) *497 but 7 dropped out immediately and were only included in background tables. (p 113)
Ages of participants	17-20 (reviewers' inference)
Study design summary	Multiple regressions (logit where relevant) were used to compare differences between ProTech and comparison groups on measures of academic success and post-high school achievement and retention Matching and regression techniques were used to control for measured differences between the groups; propensity scores were used to create a matched comparison group. The propensity score was the likelihood that a student was selected for the program. A propensity score was calculated for each ProTech and comparison student, and then used to stratify and weight the comparison group. Comparison group members with propensity scores below those of the lowest ProTech students were given a weight of zero and dropped from the analysis. ITT analysis was used. (p 82)
Summary of results	High-school results 1. ProTech students comprised largely the academically 'middle' students intended (70% had GPA C or B). However, the effect on grades and attendance was more marked for those with a GPA below C than for C or B students (p 162).

	2. The program attracted mainly African-American (53%) and Latino (30%) students, with fewer Asians (16%) and Whites (6%). 3. Significant factors predicting completion were: GPA in year 10 (significant at 1%) attendance in year 10. Ethnicity (African-American more likely to complete); Latino students have a high dropout rate: 57%; being an immigrant (= not born in the USA). 'Ethnicity + Gender' gives a mixed picture: Asian and white males are significantly more likely to complete than Asian or white females BUT African-American and Latino females are more likely to complete than African-American and Latino males. 4. African-American males were more likely to be terminated than to quit, while Latino and White females were more likely to quit than be terminated. 5. Low English (where classes were normally in the L1) significantly predicted non-participation in ProTech; students with higher level English were as likely to enrol as their non-bilingual classmates. 6. For the four district high schools, ProTech positively associated with grades and GPA in year 1, negatively in year 2. At the vocational school, the positive association continued. There was no impact on college enrolment or dropping out from high school. ProTech students showed a greater decline in mathematics test scores than comparison students. 7. Ethnically, success correlated with group size: where the group is relatively large, success is greater. 8. Females had no positive results and had negative results for grades and attendance. Males had mixed results. No Ethnicity x Gender results were reported. 9. Students entering with poor attendance (<85%) improved year 1 grades and attendance and reduced the likelihood of dropping out of high school. Post-high school results 1. Both ProTech and comparison groups showed similarly high levels of enrolment in post-secondary education or training the autumn after graduating from high school (77% and 73%, p 187). 2. The case was similar for retention. 81% ProTech and 86% comparison group were either currently enrolled or had completed a degree or certificate at the time of the survey (p 187). 3. Ethnically, African-Americans showed significantly high levels of enrolment in the following Autumn and of having a qualification (or being in college) at the time of the survey (p=0.05 if other ethnic groups are excluded from the equation). Asian students also did well, with all of them enrolling. 4. Gender or type of ProTech program followed (Finance ~ Health) were not significant predictors. 5. All ethnic groups from the ProTech group who were in work earned higher wages than students in the comparison group, but the sample size was too small to test for significance within groups. (p 185). But 'while program participation had a positive impact on earnings, it did not result in significantly higher rates of full-time employment' (p 189). 6. GPA proved to be a significant predictor, implying the importance of skills learned at high school in the workplace.

Conclusions	1. The factors underlying the success of urban school-to-career projects are complex. Of the four variables examined, a small learning community seemed the most important. 2. The imposition of clear inclusion/exclusion criteria by schools did not predict success. Indeed, students who scored below the threshold of GPA C (a) improved on GPA and attendance, and (b) enrolled afterwards on post-secondary programs, even though 2/3 dropped out in year 2. Those who completed appeared to be the group that benefited most. The conclusion is drawn that programs should be more inclusive and that other incentives than 'high standards' should be applied. 3. However, whether students feel they belong to a program or learning group, even a small one, depends on the relative size of their ethnic group within the program: 'Given the power of ethnic identity in US culture, it is not surprising that students from ethnic groups that constitute a distinct minority in a program may not feel a strong sense of membership in that community unless aggressive affirmative steps are taken to overcome existing divisions among students' (p 158). The composition of learning groups thus needs to be manipulated with care. 4. Factors responsible for high level of outcome in the Brighton HS Business Program are hypothesised to include: school-based activities, serving to build group identity; involvement of all students in the activities; student involvement in design of a company; fact of employers visiting school to act as consultants, students not excluded from key workplace activities, or from the program (as a result of poor grades or poor attendance), late implementation of workplace jobs (six months) plus shortage of jobs kept a large proportion of students together in school in year 2; selection for jobs based on performance in the school-based activities, not on grades or attendance; there was some suggestion that mentors of the same ethnic group as the student helped (but the data only related to African Americans). 5. 'One plausible explanation for the more positive program impact on males compared to females, and for weaker students compared to (sic) their higher performing peers, is that these students are less likely to take advantage of available services than their peers' (p 164). 'Another possible reason ... is that these students may benefit more from participation in a program that supports a culture of hard work and perseverance and provides positive role models' (p 164). 'These research findings suggest that changing the peer culture for underachieving students should lead to better school performance' (p 164). 6. The vocational high school (Madison) had better results than the district high schools: 'The Madison Park results support the conclusion reached by several previous evaluations of school-to-career programs that quality of implementation matters, and those programs that most faithfully implement the program model will produce better results' (p 165). 7. On the whole, work experience of 10-15 hours a week did not impact negatively on schoolwork. 8. The much higher rates (than the national averages) for enrolment and retention by both ProTech and comparison groups on most of the post-secondary measures apart from income probably reflects the excellent and widespread local support for students (college counselling and financial, through public and private agencies) (p 188).
Weight of evidence A (trustworthiness in relation to study questions)	High
Weight of evidence B (appropriateness of research design and analysis)	Medium The design allows relationships to be found, but not necessarily explained. Thus the ethnic group by gender findings at high school remain largely unexplained except by supposition that males are overwhelmingly likely to be affected by peer group 'macho' influences.

Weight of evidence C (relevance of focus of study to review)	Medium The amount of information about the impact on different ethnic groups is somewhat limited by the key finding about the importance of relative size of ethnic group within the program.
Weight of evidence D (overall weight of evidence)	Medium to high
Jones LP, Harris R, Finnegan D (2002) *School attendance demonstration project: an evaluation of a programme to motivate public assistance teens to attend and complete school in an urban school district*	
Aims of study	To evaluate the School Attendance Demonstration Project aimed at improving the school attendance rates of 16-18 year-olds receiving public assistance
Study rationale	Changes in the economy in the previous two decades meant that jobs for people not finishing high school virtually eliminated, and, in order to pursue other levels of education, completion of high school was a necessity. Data on high school graduates in terms of participation in labour force, unemployment rates, yearly incomes compared with that of non-graduates. SADP was an effort to encourage high school attendance. Three other programs had been evaluated but, although two of the three evaluations reported an increase in school attendance, none of the studies reported an increase in graduations on an increase in family income. Also, those programs focused on teenagers; the present evaluation focused on older students.
Study research questions and/or hypotheses	Hypothesis 1: Students in the experimental group will attend school according to the SADP attendance rule in greater numbers than students in the control group Hypothesis 2: Students in the experimental group will graduate from secondary school at a higher rate than students in the control group.
Specific phenomena, factors, services or interventions with which the study is concerned	School Attendance Demonstration Project (SADP): an intervention aimed at improving the school attendance rates of 16-18 year-olds receiving public assistance 16-18 year-old Aid for Dependent Children recipients attend school on a fulltime basis as a condition of public assistance. In addition to a financial incentive SADP attempts to help teens and their families reach independence through a multifaceted service delivery approach. The experimental group was subject to a sanction if they did not attend school at least 80% of the time. They were also eligible to receive social services to assist them with school. All students in experimental and control groups were eligible to receive school services but only the experimental group were eligible to receive social services from the SADP services unit.
Study method	Experiment with non-random allocation to groups: Authors described it as a two-group design with random assignment but they used assignment based on last digit of social security number (not random assignment).
Number of participants	Baseline Experimental group: 4,849 Control: 2,398 Last month when data were collected (March 1998) Intervention: 1,807 Control: 937

Ages of participants	16-18 Intervention: average age = 17.09 Control: average age = 17.1
Study design summary	This is a quasi-random experiment with assignment to experimental and control groups, using the last digit of social security number. Huge attrition was not discussed. The authors note that two interventions were effectively being evaluated at the same time, which could have led to confounding.
Summary of results	The experimental group met the 80% attendance rule, whereas the control group did not. There was no significant difference between the experimental and control groups: 57.5% of the experimental group graduated and 55.4% of the control group graduated. The Hispanics were less likely to meet the 80% rule than other ethnic subgroups.
Conclusions	The hypothesis on increasing school attendance was supported by the data. Data show that in any month after baseline 3% to 9% more experimental group students met the attendance rule than students in the control group. The hypothesis on increasing graduations was not supported by study data. The authors concluded that at-risk teens need alternative strategies from sanctions to encourage school attendance.
Weight of evidence A (trustworthiness in relation to study questions)	Medium
Weight of evidence B (appropriateness of research design and analysis)	Medium
Weight of evidence C (relevance of focus of study to review)	Medium to low
Weight of evidence D (overall weight of evidence)	Medium to low
Kemple JJ, Snipes JC (2000) *Career academies: impacts on students' engagement and performance in high school*	
Aims of study	The aim of the study is to use demonstrate the feasibility of using a large-scale multi-site random assignment research design to determine the impact of career academies on student outcomes.
Study rationale	Previous empirical research on academies was 'unable to determine reliably whether differences between academy students' high school experiences and outcomes and those of other students result from the academy itself or from the program's student targeting or its selection practices'. Little was known about relative effectiveness of academies for different groups, or about how different contexts and implementation strategies would influence the effectiveness of the academy approach. (1) The goals and target population of career academies (CAs) have changed from one of dropout prevention and preparation for work among students at risk of failure to one that prepares students for both work and college for a wide range of students including those highly engaged in school.

	(2) Previous studies were unable to determine reliably whether differences in school experiences and outcomes between academy students and other students were the result of the academy itself, student targeting or the selection practices. (3) The influence of the academies on different groups of students is little known. (4) The extent to which different contexts and implementation strategies influence the effectiveness of the academy is also not widely studied.
Study research questions and/or hypotheses	(1) To what extent does the CA approach alter the high school environment in ways that better support students academically and developmentally? (2) To what extent does the CA approach change educational, employment and youth development outcomes for students at greater or lesser risk of school failure? (3) How do the manner and context in which CA programmes are implemented influence their effects on student outcomes?
Specific phenomena, factors, services or interventions with which the study is concerned	The main focus of the evaluation was to assess the extent to which career academies keep students engaged in school: that is, help them progress toward graduation and prepare them for post-secondary education and work. Career academies attempt to create a supportive environment through a school-with-a-school structure. 'Their curricula combine academic and occupation-related course requirements that aim to promote learning and satisfy college entrance requirements.'
Study method	Random experiment with random allocation to groups
Number of participants	1,764: 959 in program group and 805 in control group Table 2.3 Number of students randomly assigned to Career Academy Group = 782
Ages of participants	13-17: 8th grade to 12th grade (reviewers' inference)
Study design summary	This is an individually randomised controlled trial. Students who applied for and were randomly selected to enrol in a career academy were compared with students who also applied but were not selected on school dropout outcome measures.
Summary of results	The career academies in this study increased both the level of interpersonal support students experienced during high school, and their participation in career awareness and work-based learning activities. The career academies substantially improved high school outcomes among students at risk of dropping out. For this group, the academies reduced dropout rates, improved attendance, increased academic course taking, and increased the likelihood of earning enough credits to graduate on time. Among students least likely to drop out of high school, the career academies increased vocational course-taking for these students without reducing their likelihood of completing a basic core academic curriculum. In sites where the academies produced particularly dramatic enhancements in the interpersonal support that students received from teachers and peers, the career academies reduced drop-out rates and improved school engagement for both high-risk and medium-risk subgroups. The career academies did not improve standardised reading and mathematics scores. When the findings were averaged across the diverse groups of students in the full study, the career academies produced only slight reductions in dropout rates and modest increases in other measures.

	Table 3.1 School dropout before the end of 12th grade: academy group 21.3%; non-academy group 32.2% Table 3.2 Impact on credits earned and course-taking Table 3.3 Impact on mathematics and reading achievement test scores Table 3.4 Impact on youth development experiences Table 3.5 Impact on plans and steps taken toward post-secondary education and work
Conclusions	Career academies provide a well-defined approach to creating more supportive high school environments and increasing students' exposure to career awareness and work-based learning activities. Among students who are most at risk of dropping our of high school, career academies are an effective means of preventing dropout, increasing school engagement, and helping students acquire the credentials they need to graduate and prepare for post-secondary education.
Weight of evidence A (trustworthiness in relation to study questions)	Medium
Weight of evidence B (appropriateness of research design and analysis)	High
Weight of evidence C (relevance of focus of study to review)	Medium
Weight of evidence D (overall weight of evidence)	Medium to high
Nagda BA, Gregerman SR, Jonides J, von Hippel W, Lerner JS (1998) *Undergraduate Student-Faculty Research Partnerships Affect Student Retention*	
Aims of study	To investigate the impact of the Undergraduate Research Opportunity Program (UROP) on student retention
Study rationale	The phenomenon of college attrition is exaggerated in certain under-represented minority groups: Hispanic and African-Americans.
Study research questions and/or hypotheses	How does participating in UROP impact on student retention and academic performance?
Specific phenomena, factors, services or interventions with which the study is concerned	Research partnerships between faculty and undergraduates; individual meetings with sponsors and team meetings with other project collaborators mean that the students are involved in various aspects of the research. Their duties include conducting bibliographic research and literature reviews, formulating research questions and hypotheses, and conducting studies and analyses. Some UROP students co-authored presentations and journal articles. Seven components: student recruitment, peer advising, peer research interest groups, faculty recruitment, faculty-student matching, research presentations, academic credit and assessment (pp 59-60)

Study method	Random experiment with random allocation to groups
Number of participants	Total: 1,280. Experimental group of 613 students who participated in UROP and a control group of 667 students who did not participate in UROP
Ages of participants	17-20
Study design summary	This is an individually randomised trial. The randomisation was achieved through matching on ethnicity, SAT scores and first-year college grades or high-school grades, and then one of each pair was randomly assigned to the intervention group and the other was assigned to the control group. The two groups (UROP and non-UROP) were then compared after four years on retention rates.
Summary of results	Table 2: non-significant difference in attrition rates of UROP participant and control groups Low-GPA students in UROP and high-GPA students in UROP showed a lower attrition than those in the control group, but this was not significant. UROP participation impacted most positively on the retention of low-achieving African American students (statistically significant).
Conclusions	'...participation in the UROP increased retention rates for some students. In general, this effect was strongest for African American students and for sophomores rather than first year students. More specifically, the program appeared to benefit African American students whose academic performance was below the median for the ethnic group. There were also positive trends for Hispanic and white students who participated in UROP during their sophomore year.'
Weight of evidence A (trustworthiness in relation to study questions)	High
Weight of evidence B (appropriateness of research design and analysis)	High
Weight of evidence C (relevance of focus of study to review)	Medium
Weight of evidence D (overall weight of evidence)	High to medium
Padgett VR, Reid JF (2002) *Five year evaluation of the Student Diversity Program: a retrospective quasi-experiment*	
Aims of study	To evaluate the Student Diversity Program (SDP) (academic and social support) to Black student athletes and other students at risk of disqualification
Study rationale	Previous studies evaluated the success of the programme based on persistence (retention). The authors did not think that persistence was an appropriate measure for two reasons: (a) persistence data was not available for the university as a whole; (b) precise definition of 'persistence' was difficult. Hence the study aims to evaluate the impact of the program, based on graduation rates and GPA, data for which are obtainable.

Study research questions and/or hypotheses	Does the Student Diversity Program meet its goals of improving student success? (p 138)
Specific phenomena, factors, services or interventions with which the study is concerned	Multilevel retention program for at-risk students (1) Development of action plans and programs to address academic, social and cultural needs (2) Maintaining a complex early assessment and reporting system to integrate students into university life Important strategies include 'catch-back' planning, psychological counselling, faculty mentoring, group counselling, peer-mentoring, and multicultural training, all aimed at increasing self-efficacy, self-esteem, mastery, commitment, coping skills, and cultural awareness. The SDP provides participants with role models, mentors and advisors.
Study method	Case-control study
Number of participants	40 but one eliminated, leaving 39 in the intervention group and 434 in the comparison group
Ages of participants	17-20
Study design summary	This is a case control study, described by the authors as a 'retrospective quasi experiment'. All SDP students from the first two years of the program were studied. The comparison groups were created by matching each SDP student with a group of comparison students taken from the student record database on seven factors: same enrolment date, same ethnic group, same sex, within two years of the same age, same transfer status, same approximate GPA after one semester, and enrolled in the same classes. Each of the 39 SDP students was matched with several (between 4 and 54) non-SDP students.
Summary of results	Graduation rates Overall graduation rate across the SDP cohorts was 46.2% Overall graduation rate across the comparison groups was 23.5% p=0.005 GPA GPA of SDP students was 2.36 (sd 0.37) GPA of comparison students was 2.28 (sd 0.30) p=0.11
Conclusions	The 39 students who entered the SDP in 1994 and 1995 graduated at twice the rate of comparable students matched on sex, ethnicity, age, transfer status, entering GPA and date of enrolment. There was no statistically significant difference between the two groups, although the average final GPA in the SDP appeared slightly higher than that of the comparison students.
Weight of evidence A (trustworthiness in relation to study questions)	Medium to low The authors acknowledge the limitations of the study; note their comments on selection bias (p 143)

Weight of evidence B (appropriateness of research design and analysis)	Medium
Weight of evidence C (relevance of focus of study to review)	Low
Weight of evidence D (overall weight of evidence)	**Medium to low** Sample, context and measures not transferable to UK context
Sinclair MF, Christenson SL, Evelo DL, Hurley CM (1998) *Dropout prevention for youth with disabilities: efficacy of a sustained school engagement procedure*	
Aims of study	'To examine the efficacy of a sustained dropout prevention procedure that incorporated monitoring and school engagement strategies' (p 7) ('check and connect')
Study rationale	(1) Current educational policies (e.g. moving away from minimum competencies toward high content and performance standards and school disciplines, reflecting society's policies of zero tolerance) have led to increased dropout rates particularly those with learning and behavioural difficulties. (2) Greater expectations are made on 9th and 10th grade students as they make the transition from middle to high school. (3) Current research suggests that dropout efforts should begin early and continue across periods of transition and be sustained over time.
Study research questions and/or hypotheses	What is the 'efficacy of a sustained dropout prevention procedure implemented for urban secondary students with disabilities during middle school and through the transition to high school'? (p 9)
Specific phenomena, factors, services or interventions with which the study is concerned	'Check and connect' procedure provided a mechanism for systematically and regularly monitoring observable student performance (i.e. 'check') and providing individualised interventions in a timely fashion ('connect'). The strategies relied heavily on establishing a trusting relationship between a programme staff (monitor) and student (see Sinclair, 2005, for details).
Study method	Random experiment with random allocation to groups
Number of participants	Total: 94 Intervention: 47 Control: 47
Ages of participants	13-16 Average age at the beginning of the study was 13 years and 4 months

Study design summary	This is an individually randomised trial, using a stratified selection procedure. All participants received the treatment (dropout prevention) in grades 7 and 8. At the end of Grade 8, they were randomly assigned to treatment or control groups, and those assigned to the treatment group continued with the treatment in Grade 9. At the end of Grade 9, the intervention and control groups were compared on school engagement outcome measures.
Summary of results	(1) Students in the treatment group were significantly more likely to be engaged in school than students in control group. (2) Students who received intervention through 9th grade were significantly more engaged in school. Treatment students were more likely to be enrolled in school at the end of the year than were students in the control group. (3) Treatment students were more likely to persist in school during 9th grade compared with control students. (4) Treatment students were more likely to complete their assignments than were control students. (5) Treatment students earned more credits during the first year of high school than control students. (6) Treatment students were more likely to be on track to graduate in five years than students in control group. (7) Special education teachers rated treatment students as more academically competent. (8) General education teachers rated treatment students as demonstrating fewer behavioural problems.
Conclusions	(1) Check and connect is an 'efficacious procedure for keeping secondary students with learning and behavioral disabilities engaged at school' (p 17). (2) As both groups received the intervention in 7th and 8th grades, the findings cast doubts on the effectiveness of having the dropout prevention strategy for a limited time. To be effective, it needs to be sustained. (3) The findings suggest that intervening in Grade 9 (transition between middle and high school) is important as high school is the point at which students start earning credits toward graduation. (4) The scores in 9th grade for both treatment and control groups are low to moderately engaged in school. This suggests that the procedure is not sufficient to substantially improve student performance. (5) The use of the dropout prevention procedure alone is not sufficient to improve students' skill levels. It needs to be used in conjunction with a comprehensive programme aimed at increasing school completion for all students. (pp 15-18)
Weight of evidence A (trustworthiness in relation to study questions)	Medium
Weight of evidence B (appropriateness of research design and analysis)	Medium

Weight of evidence C (relevance of focus of study to review)	Low Limited relevance to UK context
Weight of evidence D (overall weight of evidence)	Medium to low
Sinclair MF, Christenson SL, Thurlow ML (2005) *Promoting school completion of urban secondary youth with emotional or behavioral disabilities*	
Aims of study	'To examine the effectiveness of a targeted, long-term intervention ('check and connect') to promote school completion and reduce dropout among urban high school students with emotional or behavioral difficulties' (p 465)
Study rationale	Replication of empirically supported model to reduce dropout among urban high-school students with emotional or behavioral difficulties. African-American students with emotional or behavioral difficulties: only 28% graduate from high school compared with 42% of all youth with this disability, and 79% of a similar cohort of general education peers. Lack of experimental evidence-based intervention studies that investigated dropout prevention or school completion, particularly those that report outcomes for students with disabilities separately. Therefore more experimental research and evaluation studies were needed on the effectiveness of prevention and intervention strategies directly in relation to the impact on dropout and school completion times. Study compelling for two reasons: 'check and connect' already be shown to be effective; second model conceptually grounded in broad base of research on student engagement and school dropout, resiliency, social competence and home-school collaboration.
Study research questions and/or hypotheses	The authors hypothesised that students with emotional or behavioral disabilities who participated in 'check and connect' would be less likely to drop out of school and more likely to attend with greater persistence, remain in school through mobility, complete school or remain on track toward completion, and more likely to have a developed and individualised education program (IEP) transition plan than their peers receiving typical district services
Specific phenomena, factors, services or interventions with which the study is concerned	'Check and connect' (see Sinclair, 1998): see pages 470-472 for a detailed description. Model originally developed to prevent dropout and to promote student engagement among urban middle-school students with disabilities. The check component refers to timely and individualised intervention focused on the students' educational progress, guided by check indicators, and provided by program staff in partnership with school personnel, family members and community workers.
Study method	Random experiment with random allocation to groups
Number of participants	Total: 144 Intervention: 71 Control: 73
Ages of participants	13-16
Study design summary	This is a longitudinal individually randomised controlled trial with results focusing on program impact. Students were randomly assigned to the treatment or control group using a stratified sampling procedure. Participants were stratified on disability, ethnicity, eligibility for free or reduced lunch program, gender, adult with whom youth resided, and high school. Siblings were randomly assigned to treatment or control as a group. There was large dropout after randomisation (N=206, -N =164).

Summary of results	The high-school students with emotional or behavioural disabilities who participated in check and connect were significantly less likely to drop out of school than similar students in the control group at the end of four years (ES = 0.18, p = 0.030; Table 2). Students who participated in check and connect attended school with grater consistency relative to their peers (Table 3: year 3 ES 0.22 p=0.037; year 4 ES=0.32 p=0.031). At the end of four years, students in the treatment group were more likely to be enrolled in an educational program or have completed high school than similar students in the control group (ES=0.14, p=0.026). Evidence of a transition program was more apparent for students in the treatment group than similar students in the control group (ES 0.26, p=0.020). Subgroup analyses: disability category, gender and ethnicity. Program impact by ethnicity reached levels of statistical significance in outcomes related to mobility, dropout rates, attendance patterns and transition goals, but only for a portion of the subgroup. African-American male treatment students were statistically more likely to remain in one educational setting during year 4 compared with similar students in the control group (ES 0.37, p=0.004).
Conclusions	'…the program yielded promising evidence that schools and communities can make a meaningful difference in the educational careers of urban high school youth with emotional or behavioral disabilities. Student levels of engagement with school were consistently higher among treatment students relative to their peers in the control group.'
Weight of evidence A (trustworthiness in relation to study questions)	Medium
Weight of evidence B (appropriateness of research design and analysis)	Medium
Weight of evidence C (relevance of focus of study to review)	Low Limited relevance of sample
Weight of evidence D (overall weight of evidence)	Medium to low
Spencer MB, Noll E, Cassidy E (2005) *Monetary incentives in support of academic achievement: results of a randomized field trial involving high-achieving, low-resource, ethnically diverse urban adolescents*	
Aims of study	To evaluate the effectiveness of an intervention to give 'high-achieving students of diverse racial and ethnic backgrounds from poor families monetary incentives to maintain their academic standing' (p 199)
Study rationale	Despite huge amounts of spending on education, overall academic proficiency levels for students was relatively stable (especially bleak outlook for minority ethnic students and low SES background students). However, some ethnic minority students from low-SES background excel academically. The researchers wanted to investigate how monetary tools could best be used to help such students in schools.
Study research questions and/or hypotheses	To test a bottom-up approach to promote continued academic success among low-resource urban high school youth
Specific phenomena, factors, services or interventions with which the study is concerned	An existing program sponsored by a private foundation: Students who meet the academic and financial criteria receive a monthly stipend (amount contingent on grade level) as long as the student continues to meet the Foundation's academic criteria for eligibility: students must have As and Bs in major subjects (only one C in a major subject which must be offset by an A in another subject).

Study method	Random experiment with random allocation to groups: waiting list design
Number of participants	Total at randomisation: 541 (intervention: 330; control: 211) Baseline sample: 534 (intervention: 325; control: 209)
Ages of participants	14-16 (grades 9 and 10) 17 to 18 (grades 11 and 12)
Study design summary	This is a two-group individually randomised controlled trial with wait list control. Siblings were included in the same allocated and this was taken into account in the analysis using hierarchical linear modelling. Attrition was low (7). Use of unequal allocation for ethical reasons Blind assessment of outcome Good description of intervention No description of outcome measurement
Summary of results	Treatment assignment emerged as a significant predictor of good academic standing after one year. Students in the stipend group had a program retention rate (i.e. good standing) that was 10% higher at the end of the year than the rate for those in the delayed stipend group, who did not receive monetary incentives. There was some variation in one-year academic good standing with Asian students having the highest rate, although ethnicity was not a statistically significant independent predictor of outcome.
Conclusions	'Monetary stipends can be effective incentives to promote ongoing academic achievement among high-achieving high school students from low-resource, urban backgrounds.'
Weight of evidence A (trustworthiness in relation to study questions)	High
Weight of evidence B (appropriateness of research design and analysis)	High
Weight of evidence C (relevance of focus of study to review)	Medium
Weight of evidence D (overall weight of evidence)	High to medium

Thomas EN (2006) *The effects of an ethnic-based mentoring model on college adjustment, grade point average, and retention among first year African American college students attending a predominately white institution*	
Aims of study	To 'empirically evaluate the effectiveness of an ethnic-based mentoring model that used a randomized pre- post-test design' and the factors that influenced African-American student college adjustment, GPA and retention
Study rationale	Low five-year retention rate of African-American college students. A systematic review located 10 studies none of which included an equivalent control group; there was therefore a need to evaluate mentoring programs using a rigorous evaluation. Context: Black undergraduates were known from earlier research to have lower graduation rates in 'white' universities than other students. People: At the start of the research, the researcher found another group trying to develop a mentoring program at his university and joined forces.
Study research questions and/or hypotheses	Main research question: R1 'Does the Experimental Group report significantly higher scores at time two on proximal outcomes (Racial Identity, Social Support, Psychological Support, Academic Support, Sense of Belonging, Leadership Development) and distal outcomes (College Adjustment, GPA, and Retention) compared to the Control Group?' (p 62) R2-R4 18 sub-questions asked whether the six proximal outcomes served to mediate the relationship between Group and each of the three distal outcomes (adjustment (R2), GPA (R3) and retention (R4)) (p 68).
Specific phenomena, factors, services or interventions with which the study is concerned	The African American Student Mentoring Program, a yearlong mentoring program which used African- American student mentors to support African-American college freshmen. 'The purpose of this study was to evaluate the influence of an ethnic-based mentoring model and the factors (i.e. Racial Identity, Social Support, Psychological Support, Academic Support, Sense of Belonging, Leadership Development) that influenced African American student college adjustment, GPA, and retention in an African American based student mentoring program at a PWI (Primarily White Institution)' (p 58).
Study method	Random experiment with random allocation to groups
Number of participants	Total number of African students: 80 (intervention: 50; control: 30)
Ages of participants	17 and over
Study design summary	This was an individually randomised study with allocation into experimental and control groups: preliminary organisation and establishment of a regulatory board; recruitment and training of mentors; recruitment and allocation of mentees; initial survey; mentoring and mentor training; final survey.
Summary of results	Distal outcomes: '…there were no differences between the mentored group on College adjustment, GPA or Retention' (p 120) Table 1 (Appendix D) (MANCOVA $F(1,78)=0.133$; $p=0.876$)(p 105) Proximal outcomes: The experimental group did not report significantly higher mean scores on two proximal outcomes (racial identity and academic support) compared with the control group. A second MANCOVA showed that the group of six proximal outcomes varied significantly over time ($F1, 78)=0.269$, $p<0.05$) (p 105). A series of follow-up ANCOVAs showed that racial identity ($F(1,78)=5.388$, $p=0.023$) and academic support ($F(1,78)=5.879$, $p=0.018$) varied significantly over time. Mediation analyses showed that two proximal outcomes mediated the relation between racial identity and college adjustment: sense of belonging med. effect=0.17; % mediation=44.7%; leadership development: med. effect 0.098; % mediation=24.3%.

Conclusions	Distal outcomes: There was no significant difference between the experimental and control groups on distal outcomes and it was therefore impossible to examine if the proximal outcomes mediated the relationship between the mentored group and the distal outcomes. Proximal findings: The significant results on racial identity and academic support were the most important in this study. 1. The mentoring program had no measurable impact across the time of the experiment on academic performance. 2. The mentoring did lead to an increase in Racial Identity, which was predicted by earlier research as an important factor leading to academic growth (even if this was not actually found over the two semesters). 3. Previous research has found increased levels of academic support by peers and faculty 'can possibly lead to increased retention and grades', even if such was not found here (p 122). 4. That the mediation analyses suggest that the relation between racial identity and adjustment to college is complex. 5. That the study suffered from a number of limitations and problems.
Weight of evidence A (trustworthiness in relation to study questions)	Medium to low
Weight of evidence B (appropriateness of research design and analysis)	Medium: Had the practical problems not arisen, had the validation work been done on the survey, and had the checks on the statistical analyses been reported, the design had the potential to indicate whether the mentoring program had worked and where its strengths and weaknesses lay.
Weight of evidence C (relevance of focus of study to review)	Low: Context and sample of low relevance to UK The absence of validation measures on the survey, the absence of analyses of whether the requirements of the statistical procedures had been met, plus the various practical limitations indicated by the author do not give the reader a clear idea of whether an ethnic mentoring system, or which parts of it 'work' with respect to participation, achievement or retention.
Weight of evidence D (overall weight of evidence)	Medium to low

Appendix 4.2: Hierarchy of evidence of effect

Consistent high quality evidence of positive effects: At least one large study rated 'high' or 'high to medium' weight of evidence for internal validity and appropriateness of research design and with significant positive effects for all outcomes; or at least two small studies both rated 'high' or 'high to medium' weight of evidence for internal validity and appropriateness of research design with significant positive effects for all outcomes

Consistent medium quality evidence of positive effects: At least one large study rated 'medium to high' or 'medium' weight of evidence for internal validity and appropriateness of research design with significant positive effects for all outcomes; or at least two small studies both rated 'medium to high' or 'medium' weight of evidence for internal validity and appropriateness of research design with significant positive effects for all outcomes

Consistent high quality evidence of negative effects: At least one large study rated 'high' or 'high to medium' weight of evidence for internal validity and appropriateness of research design with significant negative effects for all outcomes; or at least two small studies both rated 'high' or 'high to medium' weight of evidence for internal validity and appropriateness of research design with significant negative effects for all outcomes

Consistent medium quality evidence of negative effects: At least one large study rated 'medium to high' or 'medium' weight of evidence for internal validity and appropriateness of research design with significant negative effects for all outcomes; or at least two small studies both rated 'medium to high' or 'medium' weight of evidence for internal validity and appropriateness of research design with significant negative effects for all outcomes

Partial evidence of positive/negative effects: At least one large study, or at least two small studies, rated at least 'medium', with contradictory findings

Inconclusive evidence of positive/negative effects: One or more studies with the weight of evidence for internal validity ranging from 'medium to low' to 'low'

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/**

First produced in 2007 by:

Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre)
Social Science Research Unit
Institute of Education, University of London
18 Woburn Square
London WC1H 0NR

Tel: +44 (0)20 7612 6367

http://eppi.ioe.ac.uk/
http://www.ioe.ac.uk/ssru/

The **Evidence for Policy and Practice Information and Co-ordinating Centre** (EPPI-Centre) is part of the Social Science Research Unit (SSRU), Institute of Education, University of London.

The EPPI-Centre was established in 1993 to address the need for a systematic approach to the organisation and review of evidence-based work on social interventions. The work and publications of the Centre engage health and education policy makers, practitioners and service users in discussions about how researchers can make their work more relevant and how to use research findings.

Founded in 1990, the Social Science Research Unit (SSRU) is based at the Institute of Education, University of London. Our mission is to engage in and otherwise promote rigorous, ethical and participative social research as well as to support evidence-informed public policy and practice across a range of domains including education, health and welfare, guided by a concern for human rights, social justice and the development of human potential.