

**A LEVEL SUBJECT CHOICE IN ENGLAND:
PATTERNS OF UPTAKE
AND
FACTORS AFFECTING SUBJECT PREFERENCES**

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EXECUTIVE SUMMARY

One of the objectives of 'Curriculum 2000' was to increase the breadth of the curriculum followed by 16-19 year olds. This new curriculum has had a major impact upon students' choice of subjects which affects both their futures and the supply of educated and trained people to society. Therefore, it is important to understand these choices and the reasons for them.

Aim of the research

The main aim of this research was to investigate how students made their decisions about subject choices at AS/A level. Some specific aims were:

1. To explore what subjects students choose at AS/A level and to investigate the potential effects of students' characteristics (such as gender, ethnicity and ability) in the choices
2. To study the perceived importance of AS/A level subjects
3. To explore the claim that some students are pushed towards taking vocational qualifications or 'softer' A levels to improve their schools' positions in the league tables
4. To investigate the reasons behind students' choices
5. To investigate the impact of new subjects
6. To look into the advice that is given to students on subject choice and to evaluate its usefulness
7. To explore the effect of social class in subject choice
8. To explore the effect of the type of school in subject choice

Design and methodology

A large scale survey, using self-completion questionnaires was conducted. The first part of the questionnaire gathered factual information about students and their academic background. The second part was aimed to discover factors affecting subject choice at AS/A level, the students' perceptions on their own subjects, the advice received on subject choice and subject combinations and the value given to this advice.

Centres with sixth forms were selected using random stratified sampling by school type (comprehensive schools, grammar schools, independent schools, further education colleges, tertiary colleges and sixth form colleges). All the year 12 and year 13 students in the participant schools were invited to complete the questionnaire. Students were able to complete it in class, in a tutorial session or, in some centres, it was set as homework.

The research took place between January 2006 and October 2006 in 60 sixth forms in England and a total of 6597 students from varying social backgrounds, abilities and interests took part in it.

Key findings

The findings in this report refer to the AS/A level subjects taken by the students that completed the questionnaire, to the students' perceptions of their own subjects and to the reasons behind their own choices.

- Students typically studied four subjects to AS level and three subjects to A level and the pattern of entries tended to follow the traditional gender stereotypes for the subjects. The uptake of traditional academic subjects increased with attainment; this trend was reversed for the newer/vocational subjects. Differences emerged in the choices that 'white' and 'non-white' students made, for example, 'non-white' students seemed more likely to have opted for science or practical subjects.

- The provision of AS/A level subjects in the sixth form centres (that is, whether or not the subjects were offered) influenced the choice. Furthermore, the ways the centres offered subjects, for example through blocks, limited the students' choices.

Sometimes students had to choose subjects not on the basis of their preferred course, but on whether or not the school offered it. In a few cases, students had to compromise on their choices in order to stay on in the same school. In other cases, students changed centres in order to study a particular subject. Around 16% of the students in this research reported that they attended a different centre to have access to their preferred subjects.

- Perception of importance of a subject was a key factor on subject choice. Academic subjects such as Mathematics, Chemistry, Biology or English were seen as important by almost all students who took them and other more applied subjects such as ICT, Art and Design or Drama scored high for importance although they were not expected to. Amongst the academic subjects, sciences received higher ratings than languages. Subjects that were perceived to be of low importance were Sociology, Media Studies, Philosophy or Religious Studies.

The perceived importance of AS/A level subjects varied depending on the students' gender, ethnicity and ability.

- There was evidence of several factors influencing the students' decision-making process:
 - a. Students, in general, chose their AS/A level subjects because they thought they would enjoy or find them interesting.
 - b. Usefulness for the future (career, job or training) featured as an important factor on the students' decisions.
 - c. Students were also very influenced by the perception of their ability in the subject (whether they believed themselves to be good at a subject).
 - d. Perceived level of easiness/difficulty of a subject had little influence on choice.
 - e. Other factors investigated (e.g. school pressure, timetabling, liking of the teacher, influence of friends) had no major influence on AS/A level choice with the majority of the students having a neutral position.

There were some differences as to students' reasons for choosing particular subjects. For example, students tended to choose Mathematics and science subjects in terms of their usefulness for a future job or career. On the other hand, in subjects such as Psychology, Media Studies, Music, History or Design and Technology, reasons relating to interest and enjoyment outnumbered those relating to usefulness for the future.

- Not all the students approached the decision-making in the same ways and their use of advice (and sources of advice) varied according to ability, social background and type of school attended. In general, family and teachers in the secondary schools were the main sources of advice. However, the most valued advice was that received from university admission tutors and from the internet (e.g. university admission requirements). The least valued advice came from school leaflets and other students or friends.

A lot of the current policy focuses on ensuring pupils have the information they need to make their decisions. This research showed that some students perceived they needed more information on subject options and on the alternatives open to them in order to make well-informed choices.

- There was an impact of social class in the choices 16-19 year olds made. In many cases, students chose subjects that corresponded closely to their parents' position in the economic and cultural hierarchy. For example, children from professional backgrounds were more likely to choose science and other academic subjects than

children from other backgrounds. On the other hand, children of higher managers were more oriented towards Accounting, Economics or Business Studies.

Reasons for choices were also influenced by social class. The most important reason for choosing a subject was the perceived interest in it (80% of students). This figure was higher for students from a high social class background and lower for students from a low social class background. Around 78% of the students stated that they chose a subject because they would enjoy it. This figure rose amongst the students from high social class backgrounds. More students from lower social class backgrounds chose a subject because it was new and exciting, because it fitted well in their timetables or because they needed to choose another subject to make up the number of subjects they had decided to study (this will be referred to as 'complete numbers') than students from the higher social class backgrounds.

- Schools made a difference to how students make their decisions. Students attending grammar or independent schools and sixth form colleges were more oriented towards science subjects and students attending comprehensive schools were more inclined to have a mixture of subjects. Students attending further education and tertiary colleges were more likely to take subjects in the Arts and Socio/Humanities fields.

The majority of the students in sixth form colleges and FE/Tertiary colleges chose their subjects because of the value they attached to them regarding future jobs or careers. Figures were lower for the grammar and independent schools. Around 78% of the students stated that they chose a subject because they would enjoy or it would interest them. This figure decreased amongst students attending comprehensive schools and sixth form colleges. The highest percentage was found among students attending FE/Tertiary colleges. Smaller percentages of students in grammar or independent schools chose a subject because it was new and exciting, because it fitted well in their timetables or because they needed another subject to 'complete numbers' than students in colleges or comprehensive schools. Around 34% of students attending grammar schools chose a subject because their friends had chosen it. This compared with percentages of around 10% in other types of schools. It is worth noting that this might be a size effect since grammar schools have usually fewer students than other types of schools and they offer a smaller number of subjects.

- Results from this research reveal that there does not seem to be an impact from the points system and that schools were not leading their students to take certain subjects in an attempt to maximise point scores and scale positions in league tables.
- The impact of new subjects seemed greater in colleges than in independent or grammar schools where fewer of the newer/vocational subjects were offered.
- For the majority of the students, the major motive for staying in education after age 16 was the wish to go to University. This percentage varied by social class, being higher for children of the higher professionals and the children of the higher managers and lower for the children of the intermediate workers and the routine and manual workers. The majority of the students intending to leave school for employment were planning to get a job with training (or an apprenticeship). Around 16% of students had not made their minds yet. There were no other popular options.

1. INTRODUCTION

A new curriculum and assessment structure, '*Curriculum 2000*', for students staying in education after age 16 was introduced in 2000. One of its objectives was to increase the breadth of the curriculum followed by 16-19 year olds and to increase student participation rates after compulsory schooling. This new curriculum had a major impact upon students' choice of subjects and their achievements (see, for example, Bell *et al.* 2005).

Recent policy developments in England, such as the development and introduction of the national diplomas, provide a basis for renewed interest in the factors affecting the probability of a pupil choosing one subject rather than another in the later years of secondary schooling. Therefore, the purpose of this research is to find out how students aged 16-19 make their decisions about subject choices.

1.1 A levels

The main academic qualification available to 16-19 year olds is the A level. A levels are two year study courses normally taken in schools and colleges after completing the General Certificate of Secondary Education (GCSE) examinations. Over 80 subjects are offered at A level by the three main awarding bodies in England. It is not always necessary, however, to have taken the subject at GCSE or equivalent to be able to take the A level course. The A level is regarded as the main route to employment and/or higher education.

An A level consists of six modules, three of which are typically taken in the first year. After taking three modules, students can choose either to continue studying the subject to obtain an A level or to 'cash in' the first three modules for an AS level. As well as reducing the numbers who drop out after one year of study with nothing to show for their efforts, the continuous feedback and support from the teachers offered at AS level has also enable more students than ever to continue and meet the standard required by the full A level.

The programmes of study in the second year of the full A level are called A2. A2 modules do not make up a qualification in their own right but when taken together with the AS units they comprise a full A level.

Students can decide how many A levels they wish to study, depending on their career choices, ability, provision at their school or college and advice given to them by teachers and careers services. Students aiming for University entry typically study three or four subjects to A level and an additional subject to AS level.

1.2 Choice at age 16

The choices that students make about what to study at AS/A level are of interest. Their choices affect both their futures and the supply of educated and trained people to society. It is therefore helpful to understand the students' choices and the reasons for those choices in order to see what implications they would have for sixth formers and in future provision and developments (e.g. the implementation of the national diplomas).

Choices at age 16 are the outcome of many factors. Individual abilities and preferences are just part of the picture. Also relevant are the students' experience at school, the influence of parents and friends, family income, the information and guidance provided by teachers and career advisers or the curriculum on offer. Some students choose their AS/A level subjects gathering information about alternatives and weighting up the 'pros' and 'cons' in a deliberate way. Others may act on the basis of long-standing assumptions about what they will do, without considering any alternatives. In addition, the students' gender, ethnicity and social class may have an influence in the choice and they cannot be ignored.

Much research has already been undertaken to examine the factors that seem to influence students' subject choice and career decisions, particularly at the end of Key Stage 4. For example, Stables (1996) investigated students' approaches to A level choice and Payne (2003) summarised the impact of student attainment, background characteristics (such as gender and ethnicity), home circumstances or guidance on the choices that students made at

16. McCrone *et al.* (2005) concurred that both individual factors and school provision and context play a part in the decision making process at age 14. Some factors, such as the enjoyment of a subject or the value given to particular subjects, appeared to have been subject to only a limited amount of research to date. Also, a large part of the existing research into the issue of subject choice has been conducted using relatively small samples and has focussed on A level subjects within the Mathematics, Science and Language curricula.

Although all students are free to consider the full range of subjects that can be taken at 16, in practice, for some, choices are restricted.

Sixth forms offer a wide range of A levels, see Vidal Rodeiro (2005) for a comprehensive report on the provision of A level subjects, and, in theory, many subject combinations are possible. In a paper by Bell *et al.* (2005), where the changing pattern of the A level uptake in England is studied, it is said that there is considerable diversity in the uptake of A levels, with nearly 21000 different combinations of A levels being present in the 2002 A level results. The most common combinations are those involving the traditional science subjects. These are almost certainly influenced by the entry requirements to science-based degrees at University. This means that some students' options may be restricted, causing them to specialise out of necessity rather than through choice. Some people argue that the options available to students are restricted in some centres and that can affect students' futures. In fact, some students have reported that they had compromised their subject choices by tailoring their options to what the centres could make available.

2. THE RESEARCH

2.1 Aim of the research

A large scale survey, using self-completion questionnaires designed to collect information on the students' subject choices at AS/A level, was conducted. The big sample size will allow the establishment of statistical associations between the choices and other factors likely to influence the choices, such as gender, school, social class or prior attainment.

The main aim of this research is to learn how and why students choose their subjects at AS/A level, how they combine them, what advice is given to them on subject choice and subject combinations and if this is leading to a decline in the selection of certain subjects. Some specific aims are:

- To explore the subjects students choose at AS/A level and to investigate the potential effects of students' characteristics, such as gender, ethnicity and ability, in their choices
- To study the perceived importance of AS/A level subjects
- To investigate the reasons behind students' choices
- To investigate the impact of new subjects
- To investigate if there are subjects chosen to 'make up' the numbers
- To explore the claim that some students are pushed towards taking vocational qualifications or 'softer' A levels to improve their schools' positions in the league tables
- To explore how and why students combine the AS/A level subjects
- To look into the advice that is given to students on subject choice and subject combinations and to evaluate its usefulness
- To explore the effect of social class in subject choice
- To explore the effect of type of school in subject choice

The research took place between January 2006 and October 2006 in selected centres with sixth forms in England.

2.2 Selection of sixth form centres and AS/A level students

Due to factors of expense, time and accessibility, it was not possible or practical to obtain responses from the whole population of AS/A level students in England. Information was therefore collected from a smaller group (a sample) in such a way that the gained knowledge would be representative of the total population under survey. In this research, the sample had 16678 students from different types of institutions with sixth forms across England (comprehensive schools, grammar schools, independent schools, sixth form colleges, further education colleges and tertiary colleges). The correct sample size depends upon the purpose of the study and the nature of the population under study. It was thought that the sample size selected in this research was a reasonable number to be representative of each type of institution allowing for non-response. The aims of this study were to gain an understanding of the process involved in making A level choices and not to estimate population figures.

The procedure to select the students had two stages: the first stage was the selection of centres and the second stage was the selection of the students within the centres. Appendix A details the sampling procedures.

2.3 Distribution of the questionnaires

Copies of the questionnaire (see Appendix B for information about the design of the questionnaire and to see a copy of its final version) were sent to the participant centres together with stamped envelopes for the replies. The centres distributed the questionnaires among their year 12 and year 13 students. Students were able to complete the questionnaire in class, in a tutorial session, or in some centres it was set as homework.

3. CHARACTERISTICS OF THE SCHOOLS AND STUDENTS IN THE STUDY

6597 students within 60 schools¹ took part in the survey. The response rate was 40%, which is very good in this type of studies. Sections 3.1 and 3.2 describe the characteristics of schools and students, respectively.

3.1 Characteristics of the schools in the study

The centres participating, their type and the numbers of sixth formers completing the questionnaire are shown in Table 1.

3.2 Characteristics of the students in the study

3.2.1 Gender

The total numbers of girls and boys completing the questionnaire were 3812 (58%) and 2752 (42%), respectively. In June 2005, the proportions of girls and boys among those that sat AS/A level examinations in England were 55% and 45%, respectively. Therefore, although the number of girls completing the questionnaire was higher, the proportion of boys and girls in the survey was near to the AS/A population as a whole.

3.2.2 Year of school

The total numbers of year 12 and year 13 students completing the questionnaire were 4125 (63%) and 2472 (37%), respectively.

¹ Note that in this report, unless qualified by an indication of type (e.g. independent school) the term school includes colleges.

Table 1: Centre type and number of students

Centre type	Number of schools	Year 12 students	Year 13 students	Total number of students
Comprehensive schools	34	2133	1365	3498
Further education colleges	9	927	360	1287
Grammar schools	4	331	293	624
Independent schools	7	440	318	758
Sixth form colleges	5	259	111	370
Tertiary colleges	1	35	25	60
Centre gender				
Boys	2	159	54	213
Girls	9	462	382	844
Mixed	49	3504	2036	5540

3.2.3 GCSE examination results

Sixth formers were asked about their prior qualifications and the grades achieved in them. Although some of them reported to have entry level certificates, BTEC² diplomas, nationals or GNVQs³, the majority of the sixth formers obtained several GCSEs. Therefore, the prior attainment measure used in this research was based on the mean of the GCSE results. To compute this mean, the GCSE grades were converted into points following the tariff shown in Table 2.

Table 2: GCSE grades and points

Grade	Points
A*	8
A	7
B	6
C	5
D	4
E	3
F	2
G	1
U	0

The graph in Figure 1 shows the cumulative distribution of the mean GCSE score for the general AS/A level population in 2005 and for the students in the sample. Students that completed the survey had higher mean GCSE scores when compared to the population of 17 year-old AS/A level students.

Based on their mean GCSE scores, students were grouped into three approximately equally sized attainment/ability groups: low, medium and high. The cut-off scores used for this were 5.36 and 6.33. Note that mean GCSE is a measure of general attainment and it is possible that a candidate could be in the low attainment category but has obtained A* in the subjects he/she is taking at AS and A level. Table 3 shows the percentages of male and female students in each category of attainment.

Table 3: Percentages of male and female students in each ability group

Ability	Male	Female
Low	49.9	50.1
Medium	43.6	56.4
High	33.3	66.7

² Business and Technology Education Council

³ General National Vocational Qualification

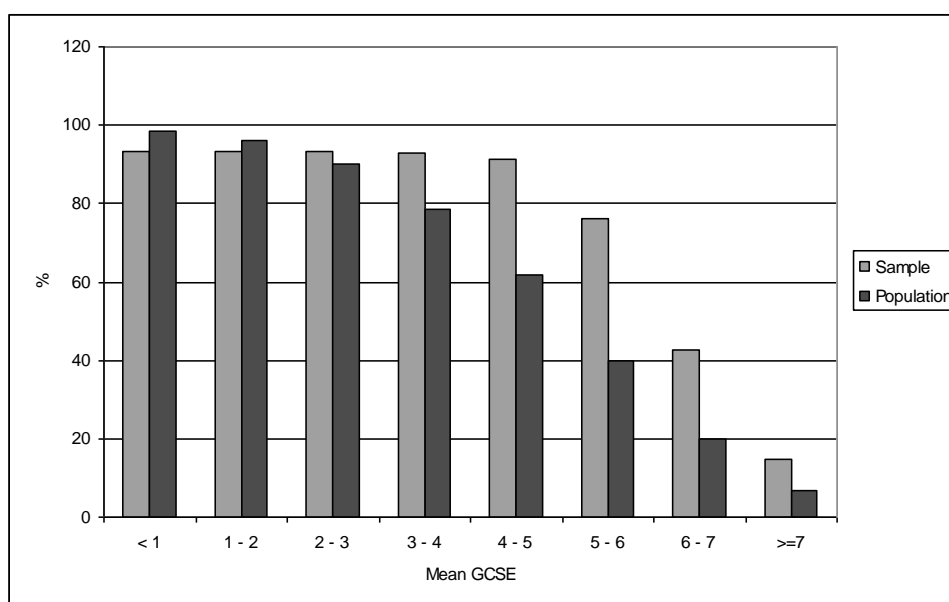


Figure 1: Cumulative distribution of mean GCSE scores for the AS/A level population in 2005 and the survey sample

3.2.4. Parental qualifications and occupation

Students were asked to give details of their parents' qualifications and occupations in order that the analyses could include a social class component.

Table 4 gives a breakdown of the parents' highest qualifications.

Table 4: Parents' highest qualifications

Type of qualification	Fathers %	Mothers %
GCSEs / O levels / CSEs / School certificate	20.5	23.4
A levels / AS levels / Higher school certificate	8.2	10.6
First university degree (e.g. BA BSc)	14.3	14.1
Higher university degree (e.g. MA, PhD, PGCE)	11.0	7.7
Foundation GNVQ, NVQ Level 1	0.2	0.3
Intermediate GNVQ, NVQ Level 2	0.3	0.9
Advance GNVQ, NVQ Level 3	0.6	1.6
High National Certificate/Diploma, NVQ Levels 4-5	1.6	1.8
Other qualifications	3.7	3.9
No qualifications	4.2	3.9
Do not know	35.4	31.9

Students were asked about the employment status of their parents and to write down the full title of their main job. If any parent was retired, students were asked to provide the title of his/her previous job. The responses were coded, by a Cambridge Assessment researcher, according to the National Statistics Socio-Economic Classification (Rose and Pevalin 2005). The scale, shown in Appendix C, replaces the Registrar General's Classification of occupations.

The categories of the National Statistics Socio-Economic Classification can be aggregated to produce an approximated social class based on occupation.

Figure 2 shows the distribution of the students according to their social class (in this particular case following the UCAS⁴ classification) and it compares it to the social class of those students that applied for a course at University in 2005. This figure suggests that in this survey there was a higher proportion of sixth formers whose parents were in the higher managerial and professional occupations than in the population of students that applied for a course at University.

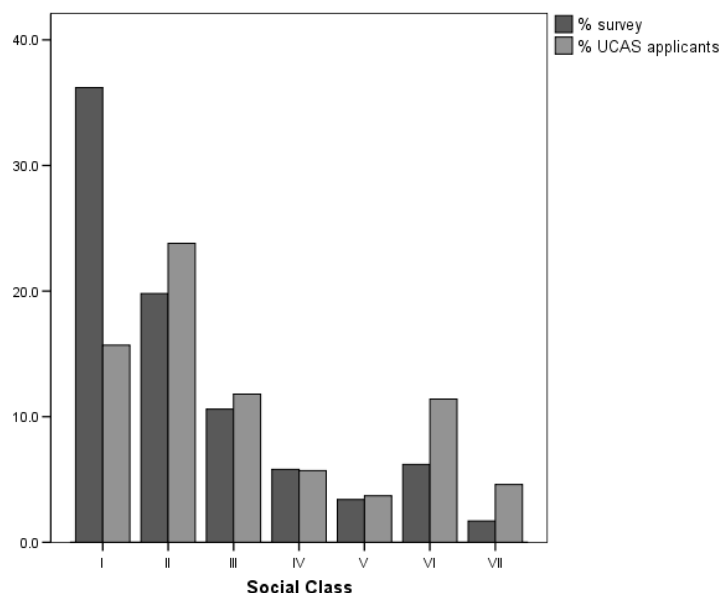


Figure 2: Percentage of students in each social class group (survey students and UCAS applicants in 2005).

For the remaining of this research, the social class classification will be as follows:

- Higher managerial
- Higher professional
- Lower managerial and professional
- Intermediate
- Routine and manual
- Unemployed

Figure 3 displays the mean GCSE by social class group. Ability is clearly related to social class: children of the higher professionals have, on average, higher educational attainment than their counterparts from lower social class groups. They are followed, in terms of their attainment, by the children of higher managers. In general, the pattern in Figure 3 shows that the educational attainment, measured by the mean GCSE, decreases with the decrease in social class. However, it is worth noting that there is a considerable overlapping between the groups and a lot of variation within the social classes; there are students with very low attainment in the highest group and students with very high attainment in the lowest group.

⁴ The social class defined by UCAS (University and College Admissions Service) is as follows:

- I – Higher Managerial and professional occupations
- II – Lower managerial and professional occupations
- III – Intermediate occupations
- IV – Small employers and own account workers
- V – Lower supervisory and technical occupations
- VI – Semi-routine occupations
- VII – Routine occupations

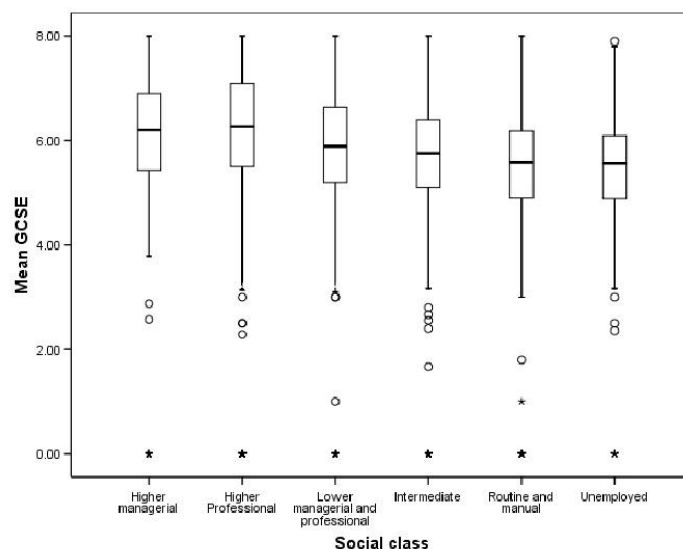


Figure 3: Mean GCSE by social class group

Table 5 displays the number of students in each social class group by type of school. From this table, it is clear that independent and grammar schools have more children from the high social class groups but it would be wrong to assume that these types of schools have no students from the lower social classes. On the other hand, sixth form and FE/Tertiary colleges have more children from lower social class groups. There are no big differences in comprehensive schools.

Table 5: Social class by school type (percentages of students in each social class by school type)

School type	Higher managerial	Higher professional	Lower managerial and professional	Intermediate	Routine and manual	Unemployed
Comprehensive school	48.4	51.2	55.4	57.2	53.6	38.0
Grammar school	11.0	13.4	10.0	6.6	4.2	4.7
Independent school	18.2	16.9	9.3	8.8	6.5	6.2
Sixth form college	1.3	2.7	3.3	5.9	12.1	27.9
FE/Tertiary college ⁵	21.2	15.9	22.0	21.4	23.6	23.3

3.2.5 Ethnic group

Students were asked to indicate the ethnic group to which they considered they belonged. The results of this question are displayed in Table 6. Over 70% of the students completing the questionnaire identified themselves as white. The ethnic minority with the highest proportion in the survey was Indian, followed by Pakistani. Just over 6% of students declined to answer this question.

According to the Statistical First Release report for the academic year 2005/2006 (DfES 2006), 16.8% of the pupils in secondary schools in England are classified as members of minority ethnic groups (other than white British). The percentage in this research is a bit higher (21.5%). It is worth noting that the DfES data, derived from the schools' census, does not give a break down for post-16 candidates only.

⁵ Further education and tertiary colleges have been grouped due to the small number of tertiary colleges in the sample.

Table 6: Ethnic group

Ethnic Group	Students %
White	72.2
Black African	1.9
Black Caribbean	0.8
Black Other	0.2
Chinese	1.5
Mixed	2.7
Indian	6.6
Pakistani	3.8
Bangladeshi	1.8
Any other ethnic group	2.2
No information	6.2

Due to the small number of students belonging to an ethnic minority, the majority of the analyses in this report will not consider ethnicity.

3.2.6 Students' neighbourhood

The questionnaire asked for the students' home postcode. As neighbourhood effects can be indicators of academic performance (see Bell (2003) or Vidal Rodeiro and Bell (2006) for analyses of factors determining examination success), we used the 'All fields postcode directory (AFPD)', provided by the National Office for Statistics, to match neighbourhood data to the students' postcodes. In this research we focussed only on deprivation and a rural/urban indicator.

Deprivation index

As a deprivation index a combined income indicator was used. The indicator was based on adults and children living in families in receipt of the following benefits: income based jobseeker's allowance, income support, working families' tax credit, disabled person's tax credit and asylum support service. The deprivation index ranges from 15 (least deprived areas) to 1480 (most deprived areas).

Based on their deprivation index, areas in England were grouped into five approximately equally sized groups A to E (the less deprived areas are those in group A and the most deprived areas are in Group E). Table 7 shows the numbers and percentages of students in each area and Figure 4 shows the mean GCSE and the deprivation of the students in the sample. As expected, students from socially deprived areas have, on average, lower educational attainment than do their counterparts from more advantaged areas.

Table 7: Numbers and percentages of students in each deprivation area

Deprivation area	Students	Students %
A (least deprived)	1464	26.0
B	1195	21.2
C	1221	21.7
D	881	15.6
E (most deprived)	879	15.6

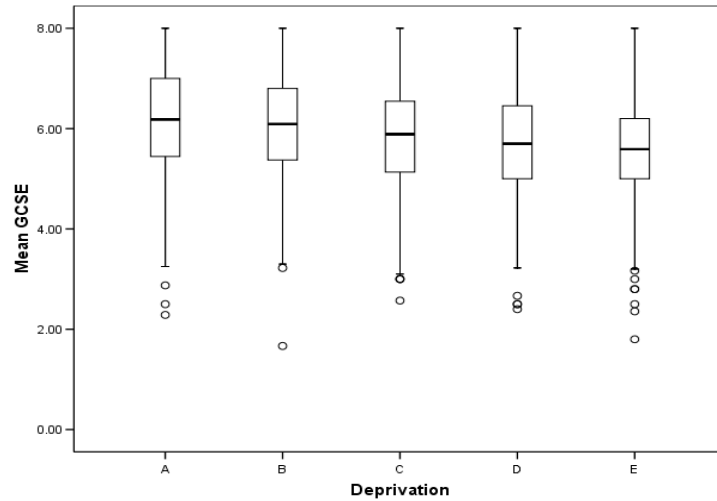


Figure 4: Mean GCSE and deprivation

Urban/rural indicator

The urban/rural indicator used in this research was obtained from the AFPD and it has the following four values:

- Urban \geq 10k (the area where the postcode falls is within urban settlements with a population of 10,000 or more)
- Town and fringe
- Village
- Hamlet and isolated dwelling

Figure 5 shows the percentages of students in the sample living in each type of area.

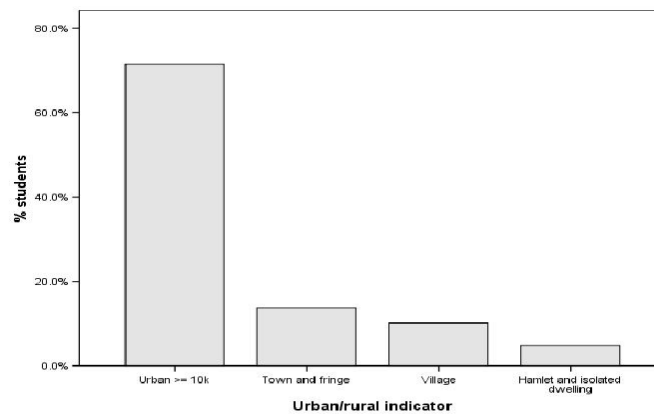


Figure 5: Urban/rural indicator and proportion of students living in each type of area

4. RESULTS

The findings in this report refer to the AS/A level subjects taken by the students that completed the questionnaire, to the students' perceptions of their own subjects and to the reasons behind their own choices.

4.1 Uptake of AS/A level subjects

The questionnaire asked students to give details of the courses they were following in the sixth form. Figures 6 and 7 show the number of AS and A2 subjects that year 12 and year 13 students were taking. Students typically studied three subjects to A level and four subjects to AS level. However, there was a high percentage of students (maybe those aiming to study at University) that were taking four A2 subjects and an additional subject at AS level.

Alongside A levels some students studied for Vocational Certificate of Education (VCE) examinations. These examinations are supposed to have equal status as the A levels but have different assessment styles and are in applied subject areas such as Health and Social Care, Applied Science or Applied ICT.

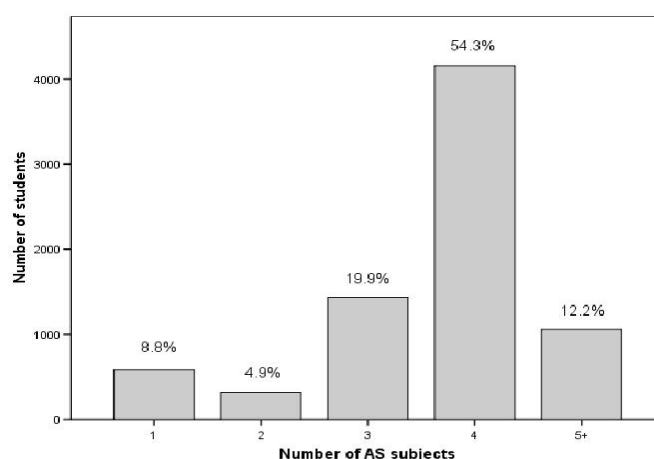


Figure 6: Number of AS subjects taken in the first year of study

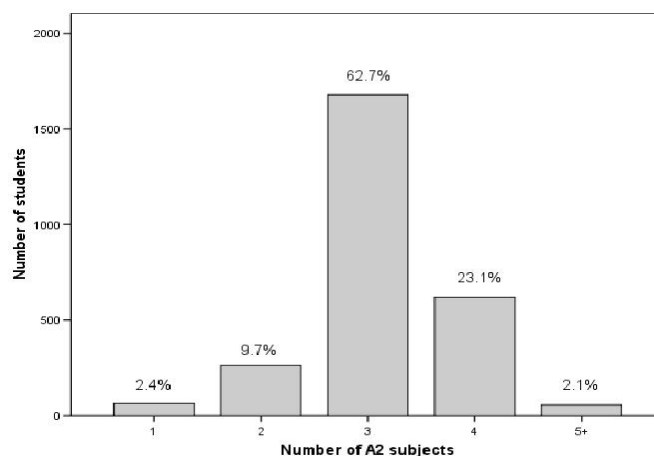


Figure 7: Number of A2 subjects taken in the second year of study

Literature in the field of subject choice indicates that gender and ability biases exist in students' choices of subjects. Although Wikeley and Stables (1999) suggested that gender preconceptions have diminished in recent years, there is still evidence that they are present when students consider which subjects to study.

This research shows that the pattern of AS/A level entries tended to follow the traditional gender stereotypes for the subjects. Boys showed a preference for more practical subjects such as Mathematics, Physics, Computing, ICT, Business Studies or Accounting. Girls, on the

other hand, showed their preference for subjects such as English, Biology, Psychology, Sociology and Modern Foreign Languages, alongside the more practical Art and Design.

Impact of ability on subject choice was also investigated in this research since prior attainment (e.g. GCSE results) is likely to constrain choice, in particular of academic subjects. It is noticeable that the uptake increases by attainment for the traditional academic subjects: Mathematics, English Literature, Biology, Chemistry, History, Geography, Physics, Modern Foreign Languages, Further Mathematics and Music. This trend is reversed for the newer/vocational subjects: Business Studies, Media Studies, Art and Design, Sociology, Psychology or Computing. Note that some subjects (e.g. Psychology) may be described as new although they might have been in existence for many years and it is the level of accessibility that has changed with more schools being able to offer them. Choice of English appears to vary relatively little according to ability.

In Appendix D, tables with the uptake of the commonest AS and A2 level subjects is presented (for all students and by gender and ability). The data in this Appendix refer to the sample only. Detailed analyses of the uptake of GCE A level subjects by gender and ability for the whole population of students in England can be found in Bell *et al.* (2005), Bell *et al.* (2006) and Vidal Rodeiro (2006).

There were 4420 different combinations of AS subjects and 1290 different combinations of A2 subjects among the students that completed the questionnaire. The most popular combinations were those involving the traditional science subjects. See Appendix D for the most popular combinations of AS/A2 subjects made by the students in this survey. This analysis was restricted to students with at least three AS or A2 subjects.

As mentioned in section 3.2.5, the majority of the students in the survey identified themselves as white. In the minority ethnic groups, the numbers of students were very small and therefore, 'white' and 'non-white' categories have been created and used in some analyses. Tables 8 and 9 show the subject uptake for both groups of students. Some small differences emerged in the choices that students in the 'white' and 'non-white' categories had made. 'white' students appeared slightly more likely than 'non-white' students to have chosen to study Art and Design, Drama, PE/Sport, English Language, English Literature, History, Geography or Modern Foreign Languages. On the other hand, 'non-white' students seemed more likely to have opted for science subjects (Biology, Chemistry, Mathematics or Physics) and more practical subjects such as Accounting, Economics, Business Studies or ICT.

In some schools, students were offered AS/A level subjects through options blocks and, therefore, students were able to make a relatively free choice from within specific subject categories (such as humanities, languages, technology, expressive arts, etc.). The aim of this strategy was to encourage students to have a broad mix of subjects thus not closing down their future options. However, students who had a particular interest in a specific area of learning sometimes resented this grouping and there could be implications if this restricted choice results in combinations of subjects that are less attractive to those making decisions about admissions in Higher Education institutions. Some examples of students' feelings with regard to the restricted choices are:

- *Not enough flexibility in the block choices. For example, I wanted to do both PE and Maths but they were in the same block and I had to choose between the two*
- *Most of the lessons that I wanted to do were all in the same block*
- *History and Geography in the same block; wanted to do both*
- *The choices I wanted to take were all in the same block, so I had to take Art in my own time, because it clashed with Drama*
- *The options blocks limited what I wanted to study*
- *Couldn't timetable the choices I wanted*

Table 8: Uptake of individual AS subjects by ethnic group – ‘white’ and ‘non-white’ – (% of students completing the survey)

Subject	White	Non-white	Ratio ⁶
World Development	0.1	1.2	12.0
Accounting	1.0	8.8	8.8
Electronics	0.3	1.0	3.3
Japanese	0.1	0.3	3.0
Economics	5.0	12.2	2.4
Chemistry	17.6	32.9	1.9
IT	1.9	3.2	1.7
Mathematics	26.7	44.8	1.7
ICT	8.7	14.4	1.7
Sociology	10.0	16.1	1.6
Business Studies	15.2	23.7	1.6
Further Maths	3.9	6.0	1.5
Biology	24.0	34.3	1.4
Applied ICT	1.2	1.7	1.4
Computing	2.5	3.2	1.3
Physics	13.4	17.0	1.3
Law	7.2	7.7	1.1
Government & Politics	2.0	2.1	1.1
Applied IT	0.1	0.1	1.0
Classical Civilisation	0.4	0.4	1.0
Environmental Science	0.9	0.9	1.0
Russian	0.1	0.1	1.0
Psychology	27.6	26.9	1.0
D&T	7.8	6.8	0.9
Religious Studies	5.9	4.4	0.7
General Studies	15.6	11.3	0.7
French	7.5	5.2	0.7
English Lit	17.1	11.6	0.7
Citizenship	0.9	0.6	0.7
English Lang	11.2	7.4	0.7
History	23.2	14.7	0.6
Health & Social Care	4.3	2.7	0.6
Critical Thinking	5.1	3.2	0.6
PE/Sport	9.4	5.5	0.6
Business & Economics	0.7	0.4	0.6
Art & Design / Art	17.8	10.0	0.6
Media Studies	13.7	7.6	0.6
Home Economics	0.2	0.1	0.5
Latin	1.2	0.6	0.5
Philosophy	6.2	2.8	0.5
Spanish	3.6	1.6	0.4
German	3.4	1.5	0.4
Performance Studies/Art	1.2	0.5	0.4
Music	3.0	1.2	0.4
Geography	17.9	6.8	0.4
Film Studies	2.4	0.9	0.4
Applied Business	0.8	0.3	0.4
Travel & Tourism	1.4	0.5	0.4

⁶ Ratio of non-white – white for each subject.
For example, non-white students are 1.9 times more likely to study Chemistry than white students.

Table 8
(Continuation)

Subject	White	Non-white	Rata
Drama & Theatre Studies	7.6	2.7	0.4
Italian	0.3	0.1	0.3
Music Technology	1.2	0.4	0.3
Applied Art & Design	0.9	0.3	0.3
English Lang + Lit	4.0	1.3	0.3
Dance	1.0	0.3	0.3
Engineering	0.5	0.1	0.2
Communication Studies	1.1	0.2	0.2
History of Art	1.1	0.2	0.2
Human Biology	0.7	0.1	0.1
Geology	0.9	0.1	0.1
Applied Science	1.2	0.1	0.1
Arabic	0.0	0.1	
Archaeology	0.1	0.0	0.0
Bengali	0.0	0.1	
Chinese	0.0	0.6	
Classical Greek	0.3	0.0	0.0
Dutch	0.0	0.1	
Gujarati	0.0	0.0	0.0
Hebrew	0.0	0.0	0.0
Islamic Studies	0.0	0.1	
Leisure Studies	0.6	0.0	0.0
Modern Greek	0.0	0.0	
Panjabi	0.0	0.2	0.0
Persian	0.0	0.1	
Polish	0.0	0.1	
Portuguese	0.0	0.1	
Turkish	0.0	0.0	0.0
Urdu	0.0	0.1	

Table 9: Uptake of individual A2 subjects by ethnic group – ‘white’ and ‘non-white – (% of year 13 students completing the survey)

Subject	White	Non-white	Rata
Accounting	0.4	8.7	21.8
Economics	4.6	9.5	2.1
Chemistry	14.7	30.1	2.0
Sociology	8.4	17.2	2.0
Russian	0.1	0.2	2.0
Mathematics	21.1	40.5	1.9
Applied ICT	0.7	1.2	1.7
Applied Business	0.6	1.0	1.7
ICT	7.6	12.0	1.6
Biology	19.5	30.3	1.6
Business Studies	15.2	22.4	1.5
IT	1.2	1.7	1.4
Physics	10.4	14.7	1.4
Further Maths	2.8	3.5	1.3
Travel & Tourism	1.3	1.4	1.1
Law	3.8	3.9	1.0
Psychology	22.8	23.0	1.0
Classical Greek	0.2	0.2	1.0
Latin	0.7	0.6	0.9
Religious Studies	6.6	5.6	0.8
Business & Economics	0.5	0.4	0.8
Computing	1.8	1.4	0.8
English Lit	14.3	10.6	0.7
History	22.2	15.4	0.7
French	4.5	3.1	0.7
General Studies	9.9	6.8	0.7
Geology	0.3	0.2	0.7
Italian	0.3	0.2	0.7
English Lang	11.6	7.5	0.6
D&T	7.6	4.8	0.6
Health & Social Care	3.7	2.3	0.6
German	3.1	1.7	0.5
Philosophy	5.5	2.9	0.5
Government & Politics	1.9	1.0	0.5
Classical Civilisation	0.4	0.2	0.5
Communication Studies	0.8	0.4	0.5
Art & Design / Art	16.2	7.9	0.5
Geography	15.4	7.5	0.5
Spanish	2.5	1.2	0.5
Media Studies	12.1	5.6	0.5
Dance	0.9	0.4	0.4
Environmental Science	0.9	0.4	0.4
PE/Sport	8.0	3.3	0.4
Film Studies	2.2	0.8	0.4
History of Art	1.2	0.4	0.3
Leisure Studies	0.6	0.2	0.3
Drama & Theatre Studies	7.6	2.1	0.3
Critical Thinking	0.8	0.2	0.3
Music Technology	0.9	0.2	0.2
English Lang + Lit	3.2	0.6	0.2
Performance Studies/Art	1.2	0.2	0.2

Table 9
(Continuation)

Subject	White	Non-white	Rata
Music	2.6	0.2	0.1
Applied Art & Design	0.7	0.0	0.0
Applied Science	0.6	0.0	0.0
Archaeology	0.1	0.0	0.0
Electronics	0.3	0.0	0.0
Engineering	0.2	0.0	0.0
Hebrew	0.1	0.0	0.0
Human Biology	0.6	0.0	0.0
Applied IT	0.0	0.2	
Arabic	0.0	0.2	
Panjabi	0.0	0.2	
Tamil	0.0	0.2	
Urdu	0.0	0.4	

4.2 Importance of AS/A level subjects

Perception of importance is a key factor in subject choice (see, for example, Reid *et al.* 1974 or Stables 1996). In this research, students were asked to rate their own AS/A2 subjects on a four point scale where 1 was 'Not at all important' and 4 was 'Very important'. A mean score was computed for each subject and subjects were placed in a rank order. Tables 10 and 11 show the mean of the ratings of the AS and A2 level subjects that were taken by at least 50 students. The figures in these tables, and in this whole section, show the students' perceptions on their own subjects and therefore the ratings would be expected to be relatively high.

Mathematics, Chemistry, English and Biology are seen as some of the most important subjects both at AS and at A2.

For year 12 students, the responses showed that academic subjects such as Mathematics, Chemistry or English were seen as important by almost all students who took them and other more applied subjects such as ICT, Art and Design or Drama scored high for importance although they were not expected to. Amongst the academic subjects, sciences received higher ratings by students taking them than languages did. The subjects that were perceived as less important by the year 12 students were Philosophy, Communication Studies, Applied Science, Critical Thinking, Citizenship and General Studies.

The subjects that were considered more important by the year 13 students were: Music, Chemistry, Further Mathematics, Biology, Mathematics and English Language. These subjects are traditional academic subjects. The importance of Music in popular culture and the fact that it might be considered 'of use' in the broadest sense is reflected in its perceived importance as a school subject. Garratt (1985) also found that students placed a lot of importance on this subject. The subjects considered less important by the year 13 students were Sociology, Media Studies, Religious Studies, Philosophy and General Studies.

Table 10: Importance of students' own AS subjects (subjects taken by at least 50 students)

Subject	Number of students	Mean	SD
Chemistry	1428	3.6	0.7
Mathematics	2053	3.6	0.7
Applied ICT	90	3.5	0.7
Further Maths	294	3.5	0.7
Music Technology	64	3.5	0.7
History of Art	60	3.5	0.6
English Lang + Lit	215	3.5	0.7
English Lang	682	3.5	0.7
Biology	1747	3.5	0.8
Spanish	209	3.5	0.7
English Lit	1055	3.5	0.7
Law	482	3.5	0.7
Art & Design / Art	1069	3.5	0.8
Drama & Theatre Studies	421	3.5	0.8
German	202	3.4	0.7
Accounting	181	3.4	0.8
PE/Sport	549	3.4	0.8
Physics	950	3.4	0.8
Latin	82	3.4	0.7
Music	173	3.4	0.8
History	1399	3.4	0.8
Geography	999	3.3	0.8
Computing	173	3.3	0.8
Business Studies	1125	3.3	0.8
D&T	496	3.3	0.8
Economics	428	3.3	0.8
Health & Social Care	247	3.3	0.8
Government & Politics	135	3.3	0.8
ICT	643	3.3	0.8
French	472	3.3	0.8
Performance Studies/Art	68	3.3	0.8
Environmental Science	60	3.3	0.8
Media Studies	801	3.2	0.8
Religious Studies	377	3.2	0.8
IT	107	3.2	0.9
Psychology	1784	3.2	0.8
Sociology	749	3.2	0.8
Film Studies	133	3.2	0.9
Travel & Tourism	77	3.1	0.8
Philosophy	353	3.0	0.9
Communication Studies	56	2.8	0.9
Applied Science	60	2.8	1.0
Critical Thinking	308	2.4	0.9
Citizenship	57	2.2	0.9
General Studies	972	1.9	0.9

Table 11: Importance of students' own A2 subjects (subjects taken by at least 50 students)

Subject	Number of students	Mean	SD
Music	53	3.7	0.5
Chemistry	453	3.7	0.6
Further Maths	73	3.7	0.5
Mathematics	609	3.7	0.6
Biology	535	3.7	0.6
English Lang	259	3.7	0.6
Accounting	54	3.6	0.6
Law	91	3.6	0.6
Art & Design / Art	350	3.6	0.6
English Lit	320	3.6	0.6
PE/Sport	160	3.6	0.7
Drama & Theatre Studies	158	3.6	0.7
Physics	278	3.6	0.6
D&T	166	3.5	0.7
History	495	3.5	0.6
Economics	131	3.5	0.6
Business Studies	402	3.5	0.6
English Lang + Lit	62	3.5	0.6
ICT	201	3.5	0.7
Health & Social Care	77	3.5	0.7
Psychology	534	3.5	0.7
French	105	3.5	0.7
Geography	324	3.5	0.7
German	71	3.4	0.7
Sociology	249	3.4	0.7
Media Studies	254	3.4	0.7
Religious Studies	155	3.4	0.7
Philosophy	118	3.4	0.7
General Studies	225	2.1	1.0

General Studies has seen a decline in its entry in the last few years (Vidal Rodeiro 2006) and, in this research, some students felt that they were forced to take it against their wishes. In the following, some of the students' comments with regard to General Studies are shown:

- *General Studies was compulsory*
- *Had to take General Studies forced by school*
- *Pressured into General Studies by school*
- *I had always planned to take the subjects I am doing for AS level beforehand, although I had not planned on doing General Studies.*
- *Having to study General Studies despite being fully literate and willing to sit the exam made me question whether I could cope with the work-load of so many subjects. However, I was determined to take whichever subjects I wanted and not be made to compromise my ambition for the sake of an unwanted and for me unnecessary subject*
- *General Studies was forced upon me, which I am not happy about, particularly as most universities don't count it as a qualification*
- *I didn't want to do General Studies. I was forced to and to be honest I don't like it*

Tables 12 and 13 display the relative importance of students' own AS and A2 subjects, respectively. Subjects in these tables are displayed in order of importance (from high to low).

Table 12: Relative importance of students' own AS subjects (subjects taken by at least 50 students)

Subject	% students rating all subjects equally important	% students rating the subject the most important	% students rating the subject the least important
Chemistry	4.2	71.9	5.6
Mathematics	4.0	76.8	2.8
Applied ICT	3.7	70.4	0.0
Further Maths	9.4	67.7	14.6
Music Technology	0.0	84.6	0.0
History of Art	0.0	62.5	0.0
English Lang + Lit	5.2	71.4	2.6
English Lang	1.4	63.2	4.7
Biology	3.6	70.9	4.5
Spanish	3.8	63.5	9.6
English Lit	2.8	60.4	3.4
Law	2.2	72.0	3.9
Art & Design / Art	3.2	63.7	3.6
Drama & Theatre Studies	3.2	59.5	5.6
German	4.3	60.9	4.3
Accounting	6.9	55.2	0.0
PE/Sport	4.1	72.6	4.6
Physics	3.7	63.6	3.1
Latin	0.0	23.1	15.4
Music	0.0	54.3	10.9
History	3.5	56.0	9.0
Geography	2.7	56.7	3.6
Computing	4.4	60.4	4.4
Business Studies	3.4	58.3	4.3
D&T	2.0	60.5	8.2
Economics	6.6	48.1	8.0
Health & Social Care	3.9	59.8	2.0
Government & Politics	5.7	45.7	5.7
ICT	2.8	54.2	8.9
French	7.1	53.1	8.8
Performance Studies/Art	0.0	50.0	10.0
Environmental Science	0.0	41.2	5.9
Media Studies	3.0	48.5	4.3
Religious Studies	2.4	45.2	10.3
IT	0.0	32.4	35.1
Psychology	2.8	51.7	4.7
Sociology	3.6	51.0	3.0
Film Studies	5.4	48.7	10.8
Travel & Tourism	0.0	41.7	0.0
Philosophy	2.3	41.2	11.4
Communication Studies	6.9	24.1	10.3
Applied Science	11.1	55.6	11.1
Critical Thinking	3.4	8.9	58.9
Citizenship	8.3	16.7	66.7
General Studies	3.9	6.7	69.2

Table 13: Relative importance of students' own A2 subjects (subjects taken by at least 50 students)

Subject	% students rating all subjects equally important	% students rating the subject the most important	% students rating the subject the least important
Music	16.7	100.0	0.0
Chemistry	14.7	79.5	8.6
Further Maths	14.3	80.4	17.9
Mathematics	13.6	82.4	6.5
Biology	12.4	78.5	5.4
English Lang	8.7	76.2	3.7
Accounting	20.0	70.0	0.0
Law	4.4	75.6	4.4
Art & Design / Art	6.7	71.1	40.0
English Lit	5.2	68.7	7.0
PE/Sport	6.6	82.0	3.3
Drama & Theatre Studies	2.6	63.2	10.5
Physics	14.5	68.5	12.9
D&T	1.8	67.9	8.9
History	10.2	67.5	9.6
Economics	3.0	66.7	6.1
Business Studies	7.3	70.0	1.8
English Lang + Lit	5.0	70.0	5.0
ICT	10.0	68.3	8.3
Health & Social Care	17.1	60.0	5.7
Psychology	6.9	67.9	7.0
French	22.2	74.1	18.5
Geography	8.1	69.7	9.1
German	9.5	52.4	23.8
Sociology	8.8	66.7	5.9
Media Studies	2.8	59.1	12.7
Religious Studies	13.0	57.4	11.1
Philosophy	9.5	61.9	9.5
General Studies	8.5	9.7	76.8

Note that when computing the percentages in Tables 12 and 13 ties were allowed. Therefore, students might not have rated all of their subjects equally important but they might have rated two or three equally important. Table 12 shows, for example, that around 72% of the students that chose Chemistry thought it was their most important subject and only 6% of the students taking it thought it was their least important subject. On the other hand, 59% of the students that chose Critical Thinking thought it was their least important subject and only 17% rated it as their most important subject.

The above tables also show that there is more variation in the importance of the subjects at AS than at A2. It seems that students that carry on with a subject to A2 think it is very important for them.

The importance of the AS/A level subjects varied by gender. Tables 14 and 15 list the subjects perceived as more important for male and female students. Note that no adjustments were made in subjects such as Physics, which has often been seen as traditionally male. It is also worth noting that Chemistry is usually a requirement for the Medicine degree in many universities and this would inevitably have an impact on its rating.

Mathematics, Further Mathematics and Chemistry were often placed as most important subjects by boys at AS and A2; Chemistry, Mathematics, Biology and English by girls. At A2 the position of Mathematics for girls seemed to have worsened slightly and Biology became more important. For boys, Applied ICT disappeared from the 'Top 10' at A2 although it was the most important subject at AS. The differences between both groups might suggest that boys were generally more inclined towards the quantitative subjects, and at AS girls leaned more heavily towards subjects with a heavy language demand.

Table 14: 'Top 10' most important AS subjects by gender

Male	Female
Applied ICT	Chemistry
Mathematics	Mathematics
Further Maths	Accounting
Chemistry	English Lang
English Lang + Lit	English Lang + Lit
Physics	History of Art
Music	Spanish
Biology	English Lit
PE/Sport	Law
Accounting	Biology

Table 15: 'Top 10' most important A2 subjects by gender

Male	Female
Mathematics	Chemistry
Chemistry	Biology
Further Maths	PE/Sport
English Lang	Economics
Physics	Mathematics
Drama & Theatre Studies	English Lang
Biology	Art & Design / Art
English Lit	English Lit
Art & Design / Art	History
Business Studies	Law

The importance of the AS/A level subjects also varied by attainment and ethnicity. Tables 16 and 17 list the subjects perceived as more important for each attainment group and Tables 18 and 19 list the subjects perceived as more important for 'white' and 'non-white' students.

Table 16: 'Top 10' most important AS subjects by attainment

Low	Medium	High
Applied ICT	English Lang + Lit	Mathematics
Computing	Mathematics	Chemistry
Art & Design / Art	Chemistry	Biology
Law	English Lang	Further Maths
Accounting	English Lit	English Lit
Mathematics	PE/Sport	Spanish
Chemistry	Drama & Theatre Studies	English Lang
Physics	Art & Design / Art	Drama & Theatre Studies
Biology	Music	D&T
Drama & Theatre Studies	Law	English Lang + Lit

Table 17: 'Top 10' most important A2 subjects by attainment

Low	Medium	High
English Lang	PE/Sport	Chemistry
Mathematics	English Lang	Mathematics
Art & Design / Art	Chemistry	Further Maths
History	Mathematics	Economics
English Lit	Biology	Biology
ICT	Drama & Theatre Studies	Business Studies
Business Studies	Art & Design / Art	English Lit
Psychology	ICT	Art & Design / Art
Sociology	History	English Lang
Media Studies	English Lit	Physics

These tables give some indication that students of different abilities and ethnic groups took different approaches to their option choices. For example, within the most important A2 subjects, students in the high ability group mentioned five science/maths subjects. On the other hand, students in the low ability group only included one science/maths subject in the 'Top 10' most important subjects and included four subjects in the humanities field (a taxonomy of AS/A level subjects can be found in Appendix E).

Table 18: 'Top 10' most important AS subjects by ethnic group

white	non-white
Chemistry	Mathematics
Mathematics	Further Maths
Music Technology	Chemistry
PE/Sport	Biology
English Lang + Lit	Law
Spanish	English Lang
Applied ICT	Accounting
History of Art	Physics
Further Maths	English Lit
Art & Design / Art	Business Studies

Table 19: 'Top 10' most important A2 subjects by ethnic group

white	non-white
Chemistry	Mathematics
Art & Design / Art	Chemistry
English Lang	Biology
Mathematics	ICT
Biology	Business Studies
Physics	English Lit
PE/Sport	History
D&T	Physics
English Lit	Sociology
Law	Psychology

4.3 Reasons for AS/A level choices

In research into curriculum choice at AS/A level there is evidence of several factors influencing subject choice. These include the previous study of the subject, the students' perception of the easiness/difficulty of the subject, the probability of passing or failing, the interest or enjoyment of the subject, the perceived usefulness/importance of the subject, the

type of school, career aspirations, parental socio-economic characteristics and the advice the student receives. Garratt (1985), McEwen *et al.* (1986) and Stables and Wikeley (1997), among others, provide evidence on these issues. However, such studies are not always agreed on the relative weighting of these influences. Knowledge of factors that potentially impact on students' choice of AS/A level subjects is clearly useful to the policy makers and for the design of the post-16 curriculum.

4.3.1 Individual subjects

A set of 16 reasons for choosing AS or A2 subjects were presented to students and they were asked to rate how important these reasons were at the time they had to decide which subjects to take (1 – 'Not at all important', 4 – 'Very important'). Tables 20 and 21 show the proportion of times each reason was rated 'Very important' and 'Not at all important', respectively. It is reasonable to argue that some reasons are better than others and, in this research, those that are arguably the most valid tend to be the ones rated as very important. The rating of the reason 'This subject is a requirement for the university degree I want to study' depends on the student having decided what to study at university and on the course having subject requirements.

Table 20: Importance of reasons for choosing AS or A2 subjects: proportion of times each reason was rated as 'Very important'

Reason	%
I thought it would be an interesting subject	80.3
I thought this subject would be useful for my future career	79.2
I thought I would enjoy this subject	78.0
I was good at GCSE in this subject	69.1
I thought I would do well in this subject	68.8
I thought this was a good subject to have	67.2
I was good at AS level in this subject	62.2
This subject is a requirement for the university degree I want to study	54.8
It was a new subject for me and sounded exciting	46.1
I like the teacher / The teacher was good	34.2
I was advised to take this subject	26.5
I thought it would be an easy subject	17.7
This subject fitted well in my timetable	17.4
I needed this subject to 'complete numbers' ⁷	11.9
The school put pressure on me to take this subject	8.8
My friends were taking this subject	7.4

Future employment considerations and references to enjoyment, usefulness and ability dominated the responses. The career value of subjects was said to be very important by around 70% of the students and around 80% indicated that the interest value of the subject had a major influence in their decisions. The results that students expect to get in their AS/A level courses also played a large part in the choices. Perceived level of easiness had least influence on subject choice. Only 18% of students admitted that they picked a subject because they thought it would be easy.

Table 20 also suggests that few students chose a subject merely because their friends had chosen it. Students' prior attainment (either at GCSE or AS level) and their competence in the subject, that is, whether they believed themselves to be good at it, played an important part when they chose their AS/A levels. When considering the effect of previous performance on

⁷ 'Complete numbers' in this research means to choose another AS/A2 subject in order to make up the number of subjects to study. For example, one student might want to study only two subjects at A level but he/she might be encouraged (by the school, by the parents, by the university admissions requirements, etc.) to take a third one. In this situation, this third subject was 'needed to complete numbers'.

subject choice it is important to know that some subjects offered at AS/A level were not available at GCSE (e.g. Critical Thinking).

The reasons with least impact for choosing AS or A2 subjects proved to be: 'the school put pressure on me to take this subject', 'I needed this subject to complete numbers' and 'my friends were taking this subject' (Table 21). From the point of view of the students that completed this questionnaire, there do not seem to be incentives to take certain subjects, or that institutions were seeking to improve their positions in league tables and tried to maximise their A level scores by encouraging students to choose easier subjects (apart from some schools making General Studies compulsory). Obviously, students' choices were limited by the subjects offered in the schools. Also, from the analysis of these data it can be said that choosing subjects to 'complete numbers' was not a common practice.

Table 21: Importance of reasons for choosing AS or A2 subjects: proportion of times each reason was rated as 'Not at all important'

Reason	%
The school put pressure on me to take this subject	85.9
I needed this subject to 'complete numbers'	81.9
My friends were taking this subject	80.3
It was a new subject for me and sounded exciting	66.9
This subject fitted well in my timetable	65.2
I was advised to take this subject	60.7
I thought it would be an easy subject	58.2
This subject is a requirement for the university degree I want to study	49.3
I like the teacher / The teacher was good	47.2
I was good at GCSE in this subject	39.9
I thought this subject would be useful for my future career	22.2
I thought this was a good subject to have	15.9
I was good at AS level in this subject	14.9
I thought I would enjoy this subject	12.8
I thought it would be an interesting subject	12.1
I thought I would do well in this subject	10.4

The reasons given for choosing individual subjects were also analysed, revealing that the reasons for choices varied to some extent between subjects. In several cases the numbers of students taking the subjects were too low for any useful analysis so we only report on those subjects taken by 50 or more students and offered in at least 10% of the schools participating in the survey (Appendix F shows the provision of AS/A level subjects).

In general, subject choice was heavily influenced by previous experience in the subject: being good at GCSE featured strongly in almost every subject (when the subject was available at GCSE).

In subjects such as Physics, Chemistry, Mathematics, Further Mathematics, Business Studies, ICT/Applied ICT, English and Accounting usefulness for a future career featured as the most important reason. This reason also featured strongly in relation to Law, Economics, Spanish, PE/Sport and Health and Social Care. By contrast, in Psychology, Sociology, History, History of Art, Art & Design, Media Studies, Film Studies, Philosophy, Religious Studies, Music, Dance, Drama, Communication Studies, Design & Technology, Government & Politics and Travel & Tourism reasons relating to interest and enjoyment outnumbered those relating to ability or usefulness for a career.

Ability featured least in the cases of Psychology, General Studies, Law, Accounting, Communication Studies, Critical Thinking, Film Studies and History of Art.

Further analyses on the reasons for AS/A level choices were carried out. The AS/A level subjects were grouped into five areas: English, Languages, Science/Maths, Arts and Social Sciences/Humanities. More details of the subjects areas can be found in Appendix G. The proportions of times each reason was rated as 'Very important' were computed for each subject area and are reported in Table 22. The reasons that have been highlighted in grey

scored higher than the average for all subjects. There is a contrast between the Arts and the Sciences. Students choosing the Arts have higher than average ratings for enjoyment, interest and ability in the subject and less than average ratings for the more pragmatic criteria relating to higher education and to future employment. Students choosing science/maths subjects have higher than average ratings for usefulness.

In 2006, the University of Cambridge identified some AS/A level subjects that provide a less effective preparation for their courses. To be a realistic applicant, a student will normally need to be offering two traditional academic subjects (*i.e.* two subjects not on the list displayed in Appendix H). Information about the uptake of these subjects can be found in Bell *et al.* (2006). However, students may still be deterred from taken the traditional academic subjects because of their desire to achieve as impressive a set of A level grades as possible. In this research, we found that the reasons with more impact on choosing a less effective preparation subject were 'I thought it would be an interesting subject' and 'I thought I would enjoy this subject' and other factors such as the career value or the usefulness had less influence.

4.3.2 Combinations of subjects

Students were asked how they combined their subjects and to rate the importance of a series of reasons for doing so (see Table 23). The reason that was rated as very important for more students was 'required combination for future career', with 40% of the students. Being the required combination for a degree at University' or 'did not think about the combination (only thought about picking subjects)' were rated as very important by 34% and 35% of students, respectively. The least important reasons for choosing a particular combination were 'wanting to have a mixture of science and arts/humanities subjects', 'the combination fitting well in the timetable' and 'being advised to choose the combination'.

Table 23: Reasons for choosing a combination of AS/A2 subjects and their importance (1 – 'Not at all important', 4 – 'Very important')

Reasons	% rated 1	% rated 2	% rated 3	% rated 4
Required combination for future career	12.4	17.0	30.7	39.9
Required combination for degree at University	18.3	20.2	28.0	33.5
Fitted well in the timetable	51.4	21.9	16.6	10.2
Advised to choose the combination	46.2	29.1	18.1	6.7
Mixture of science and arts/humanities	55.5	18.2	14.7	11.6
Mixture of new and traditional subjects	43.3	22.5	21.9	12.3
Did not think about the combination	21.0	20.2	23.8	35.0

Some students mentioned other reasons for choosing their combinations of AS subjects. Among them, the following came up:

- *My subjects would give me both skills and knowledge*
- *I wanted to keep my options open*
- *Wasn't sure what I wanted to be when older so I chose the subjects I liked*
- *I wanted to do four academic subjects*
- *A challenge to myself and set myself higher targets*
- *I chose the courses because I enjoy being creative*
- *I like to try new things, two of my subjects are new to me*
- *I wanted subjects that complemented each other well*
- *I also thought that all of the subjects would work well in building up my English skills together, as well as enjoyable*

Table 22: Importance of reasons for choosing subject areas: reason was rated as 'very important'

Reason	Arts		English		Languages		Science/Maths		Social Science/Humanities	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
I thought I would do well in this subject	89.9	4.7	86.1	7.1	87.9	1.4	85.9	5.1	79.4	13.0
I thought it would be an interesting subject	93.9	1.9	87.1	4.1	89.6	4.8	82.4	5.0	84.7	16.7
I thought it would be an easy subject	28.0	7.8	23.0	7.8	28.9	2.7	27.8	7.6	25.3	7.4
I thought this subject would be useful for my future career	74.3	6.5	78.0	4.8	72.0	12.6	80.7	8.4	69.9	14.8
This subject is a requirement for the university degree I want to study	45.8	8.4	47.4	7.6	39.4	9.2	56.6	13.1	38.7	12.0
It was a new subject for me and sounded exciting	50.4	25.6	30.3	28.7	7.0	4.6	29.1	17.6	60.2	25.3
The school put pressure on me to take this subject	5.9	2.6	6.7	1.0	5.3	1.9	8.0	4.4	8.4	3.9
I was advised to take this subject	32.4	10.4	37.6	5.9	30.0	4.2	37.6	7.0	30.0	6.0
My friends were taking this subject	11.3	3.9	9.1	2.4	5.5	1.2	10.3	2.1	11.7	3.2
I like the teacher / The teacher was good	55.8	8.0	52.6	5.0	47.2	8.4	39.1	3.2	45.5	5.9
This subject fitted well in my timetable	28.6	11.2	28.6	5.1	11.9	5.3	26.8	7.8	28.3	6.4
I needed this subject to 'complete numbers'	9.8	4.2	14.3	11.1	3.7	2.0	15.3	7.6	14.7	4.6
I thought this was a good subject to have	75.4	5.2	82.8	7.6	80.1	15.6	86.2	5.0	76.4	11.6
I thought I would enjoy this subject	94.7	3.5	86.8	5.6	91.8	3.2	83.8	4.2	83.8	15.7

4.4 Social class and subject choice

Some research examining the extent to which children are likely to choose subjects that are associated with their parents' backgrounds has been carried out in the last few years (for example, Van de Werfhorst *et al.* 2001 and Dryler 1998). This research shows that there is a positive correlation between parents' occupation or study field and a child's choice of subject at secondary school. Van de Werfhorst *et al.* (2001) argued that students' choice of subject must be understood within the parents' position in both the economic and cultural hierarchy. In another study, Van de Werfhorst *et al.* (2003) explored the impact of social class, economic and cultural capital on the choice of subject in secondary and higher education in Britain. Also, in Payne (2003), it is mentioned that family background is known to affect the chances of getting good results at GCSE which has a major impact on choice at 16.

In this section we examine the impact of family background (social class) on the choice of AS/A level subjects. Social class of the parents was operationalised in five categories: higher managerial, higher professional, lower managerial and professional, intermediate and routine and manual. Using these categories, differences between the children of professionals and other social classes can be examined.

Figure 8 shows that children of the higher professionals were more oriented towards science subjects and children of the higher managers were more inclined to have a mixture of subjects.

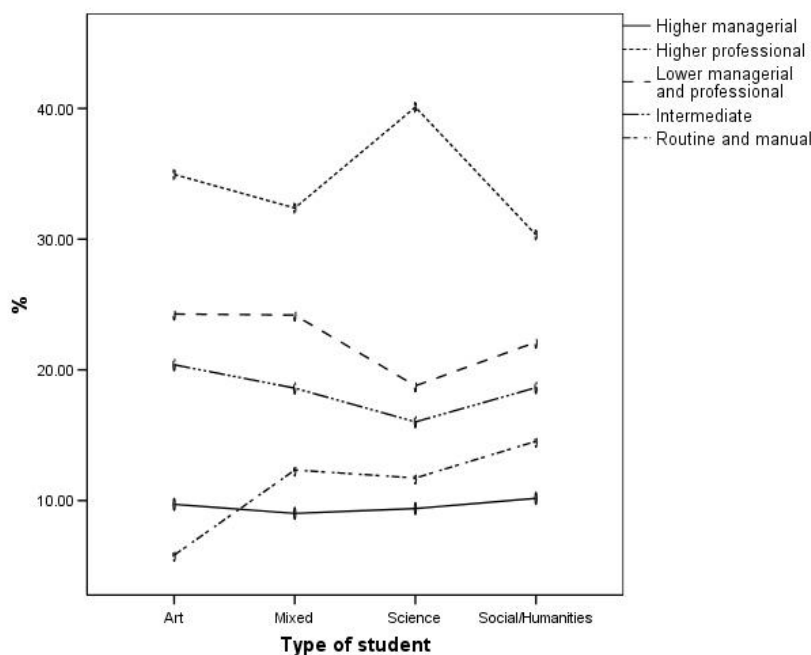


Figure 8: Type of students by social class group

The number of AS subjects was also related to the social class (see Figure 9). The children of the higher professionals tended to sit more AS subjects.

In Tables 24 and 25 there is evidence that students' socio-economic background influenced subject choice. Students from high social class groups were more likely to enter for examinations in Biology, Economics, English Literature, Further Maths, Geography, History, Modern Foreign Languages, Mathematics, Music or Physics (science/maths, languages or established humanities fields) while those in the lower groups were more likely to enter for subjects such as Citizenship, Film Studies, Health and Social Care, ICT, Law, Media Studies, Psychology, Sociology or Travel and Tourism (subjects in the vocational, established humanities or newer humanities fields). Entry on subjects such as PE/Sport, Philosophy, Design and Technology or English Language was found not to be dependent on the students' background.

In this research, differences between the two groups in the top of the socio-economic classification were also found. Children whose parents were in the higher managerial group were more oriented towards Accounting, Business Studies, Economics, Law or Computing than children of the higher professionals. On the other hand, the children of the higher professionals were more oriented towards more academic subjects such as Chemistry, Physics, Mathematics, French or German.

Figures 10 and 11 show the uptake of AS and A2 subjects respectively and their importance by social class. They show that there appeared to be differences between students' perceived importance of their AS/A2 subjects. For example, the importance of English Language, Economics and Business Studies varied by social class background: students whose parents were higher managers gave more importance to these subjects than their counterparts from other social class groups. Further Mathematics was perceived as a very important subject by almost 70% of the children of higher professionals, this percentage being higher than for any of the other groups.

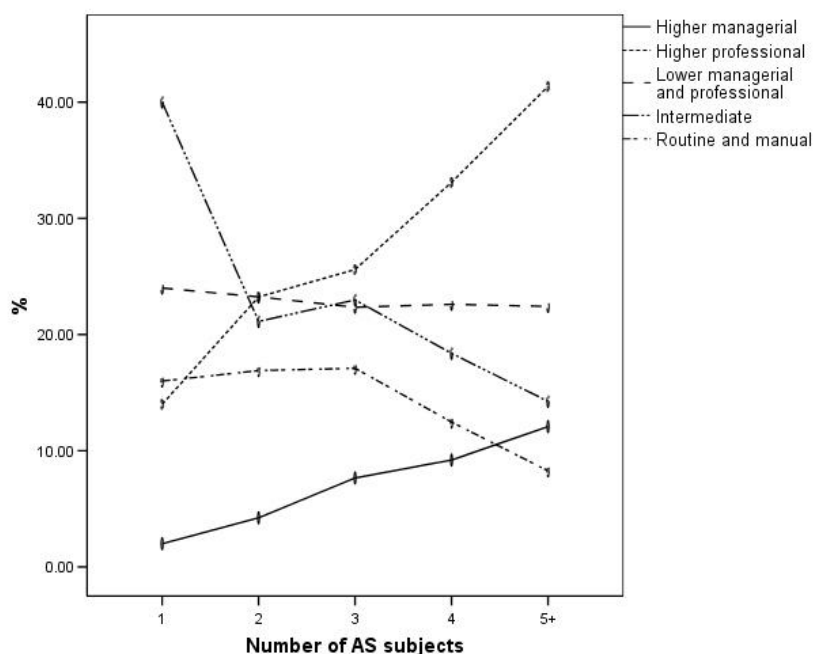


Figure 9: Number of AS subjects by social class group

Although students from higher social class groups were more likely to enter for examinations in Modern Foreign Languages, there were differences in the perceived importance of those subjects: for example, children of the higher managerial perceived German and Spanish as very important subjects. Children of the higher and lower professionals and the lower managers did not perceive them as important. French was not perceived as important as the previous two other languages.

Subjects such as Sociology, Philosophy, Psychology or Media Studies had a high entry in the lower socio-economic groups and their importance was low not only for the students in those groups but for all students.

Subjects such as Physics, Mathematics, Chemistry or Biology were perceived as very important by high percentages of students in each social class group. However, as shown in Tables 24 and 25, the percentages of students from the lower socio-economic groups taking these subjects are smaller.

Table 26 shows the perceived importance of the reasons for choosing AS or A2 subjects by social class. The most important reason cited by the students that completed the questionnaire was that they thought it would be an interesting subject (80% of students). This figure was higher (85%) for students from a higher social class background and lower for the students from the lower social class background. Students' perceived level of prior attainment followed a very similar pattern.

Table 24: Uptake of individual AS subjects by social class (% of students completing the survey)

Subject	Higher managerial	Higher professional	Lower managerial and professional	Intermediate	Routine and manual
Accounting	2.7	1.8	1.7	2.4	4.8
Applied Art & Design	0.7	0.5	0.9	0.8	1.1
Applied Business	0.5	0.4	0.7	1.3	0.8
Applied ICT	1.4	1.0	1.7	1.8	1.8
Applied IT	0.0	0.1	0.1	0.1	0.3
Applied Science	0.5	0.9	1.1	1.4	1.3
Arabic	0.0	0.1	0.0	0.0	0.0
Archaeology	0.0	0.1	0.1	0.0	0.0
Art & Design / Art	16.4	17.7	17.0	15.3	13.2
Bengali	0.0	0.0	0.0	0.0	0.1
Biology	27.9	29.8	26.2	24.4	22.7
Business & Economics	1.6	0.6	1.0	0.3	0.4
Business Studies	20.7	14.1	16.7	17.9	20.0
Chemistry	20.9	27.3	18.8	19.8	17.1
Chinese	0.4	0.1	0.0	0.3	0.1
Citizenship	0.5	0.4	0.6	1.0	2.3
Classical Civilisation	0.5	0.5	0.2	0.6	0.1
Classical Greek	0.5	0.7	0.0	0.0	0.0
Communication Studies	0.9	0.8	1.1	1.0	0.5
Computing	3.6	1.7	3.0	1.7	4.3
Critical Thinking	4.1	6.0	4.9	4.2	2.3
D&T	6.8	7.8	8.0	8.5	7.1
Dance	1.3	0.9	0.7	1.1	0.3
Drama & Theatre Studies	6.8	6.1	7.9	7.0	5.1
Dutch	0.0	0.0	0.1	0.0	0.0
Economics	9.2	7.5	5.8	5.1	6.5
Electronics	0.0	0.3	0.1	0.7	0.8
Engineering	0.5	0.5	0.5	0.5	0.1
English Lang	12.1	10.4	8.9	12.2	9.3
English Lang + Lit	3.6	3.2	4.1	3.2	3.1
English Lit	16.5	17.6	16.9	14.7	14.3
Environmental Science	0.5	0.6	1.1	1.4	1.0
Film Studies	0.9	1.7	2.2	2.3	2.5
French	7.9	9.5	8.4	5.1	3.7
Further Maths	6.1	5.5	4.1	3.2	3.8
General Studies	15.3	15.5	15.9	16.5	13.5
Geography	17.6	17.2	16.6	14.5	12.2
Geology	0.7	0.8	0.9	0.4	0.5
German	3.4	4.6	3.6	1.9	0.9
Government & Politics	3.2	2.6	1.4	1.8	1.1
Gujarati	0.0	0.1	0.0	0.0	0.0
Health & Social Care	2.9	2.0	4.3	4.7	6.0
Hebrew	0.0	0.0	0.1	0.0	0.0
History	27.3	25.1	22.8	16.7	14.4
History of Art	1.6	1.1	0.7	0.7	0.6
Home Economics	0.4	0.1	0.2	0.1	0.1
Human Biology	0.2	0.5	0.6	0.8	0.4
ICT	7.0	8.9	7.4	11.8	13.8

Table 24
(Continuation)

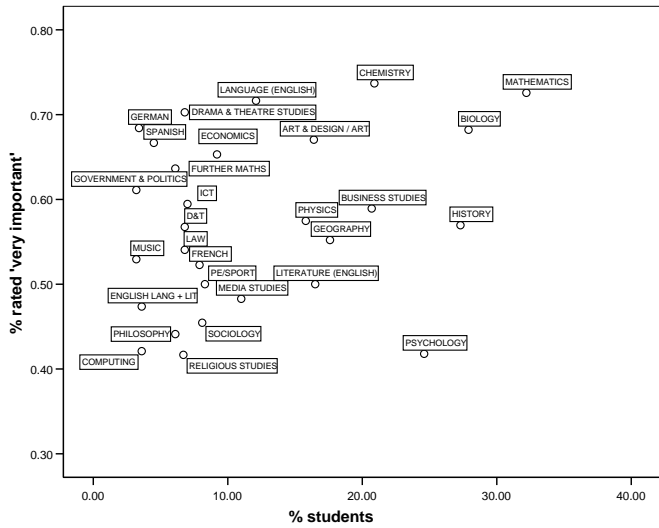
Subject	Higher managerial	Higher professional	Lower managerial and professional	Intermediate	Routine and manual
Islamic Studies	0.0	0.0	0.0	0.0	0.1
IT	1.1	1.9	2.5	2.4	2.2
Italian	0.9	0.3	0.2	0.1	0.0
Japanese	0.0	0.2	0.1	0.0	0.1
Latin	1.4	2.5	0.7	0.6	0.1
Law	6.8	4.8	6.8	9.0	9.3
Leisure Studies	0.0	0.2	0.9	0.5	0.5
Mathematics	32.2	36.2	27.2	27.4	30.7
Media Studies	11.0	9.6	14.4	14.4	13.2
Modern Greek	0.0	0.1	0.0	0.0	0.0
Music	3.2	3.5	2.9	2.4	0.9
Music Technology	0.9	1.0	1.1	0.8	0.5
Panjabi	0.0	0.1	0.1	0.0	0.3
PE/Sport	8.3	7.6	9.9	8.8	8.9
Performance Studies/Art	0.5	0.8	1.4	1.4	1.0
Persian	0.0	0.0	0.0	0.1	0.0
Philosophy	6.1	6.0	5.7	5.3	5.5
Physics	15.8	18.3	12.6	10.9	12.0
Polish	0.0	0.0	0.1	0.0	0.0
Portuguese	0.2	0.1	0.0	0.0	0.0
Psychology	24.6	23.9	29.3	28.0	31.2
Religious Studies	6.7	6.8	5.1	6.4	4.6
Russian	0.2	0.4	0.2	0.0	0.0
Sociology	8.1	8.2	12.8	13.8	16.1
Spanish	4.5	4.1	3.0	2.1	1.8
Travel & Tourism	0.5	0.9	1.2	1.7	1.8
Turkish	0.0	0.0	0.0	0.0	0.1
Urdu	0.0	0.0	0.0	0.2	0.0
World Development	0.4	0.3	0.1	0.3	0.9

Table 25: Uptake of individual A2 subjects by social class (% of year 13 students completing the survey)

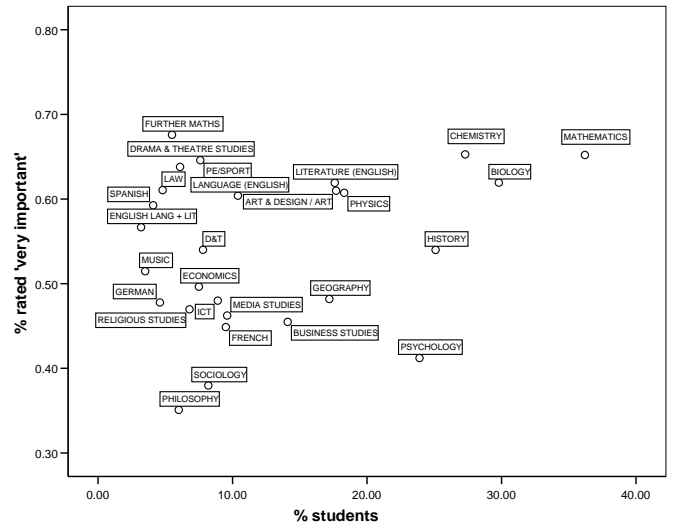
Subject	Higher managerial	Higher Professional	Lower managerial and professional	Intermediate	Routine and manual
Accounting	0.9	0.9	1.7	1.8	4.1
Applied Art & Design	0.0	0.4	1.3	0.0	0.4
Applied Business	0.4	0.5	0.4	1.5	0.4
Applied ICT	0.4	0.5	0.6	1.5	1.2
Applied IT	0.0	0.1	0.0	0.0	0.0
Applied Science	0.9	0.4	0.2	0.5	0.8
Arabic	0.0	0.1	0.0	0.0	0.0
Archaeology	0.0	0.0	0.0	0.0	0.0
Art & Design / Art	14.6	16.3	15.4	14.9	11.9
Biology	20.6	27.4	21.0	19.9	19.7
Business & Economics	0.4	0.8	0.7	0.3	0.0
Business Studies	19.7	12.7	14.2	19.7	22.1
Chemistry	19.7	23.5	16.3	16.4	18.0
Classical Civilisation	0.0	0.6	0.6	0.3	0.0
Classical Greek	0.0	0.6	0.0	0.0	0.0
Communication Studies	1.7	0.9	0.6	1.0	0.4
Computing	2.1	1.4	1.5	1.3	3.3
Critical Thinking	1.3	0.4	0.6	0.5	0.4
D&T	6.0	8.0	7.9	6.6	5.7
Dance	1.3	0.5	0.4	1.5	0.0
Drama & Theatre Studies	6.9	6.2	7.1	7.1	5.3
Economics	6.9	6.5	5.6	3.8	3.7
Electronics	0.0	0.3	0.2	0.3	0.4
Engineering	0.0	0.3	0.2	0.3	0.0
English Lang	15.5	10.4	9.4	9.8	10.2
English Lang + Lit	3.0	1.8	3.4	2.8	3.3
English Lit	10.3	14.5	15.0	13.1	13.9
Environmental Science	0.9	0.4	1.3	1.3	0.4
Film Studies	0.9	1.4	1.9	2.5	2.9
French	6.4	5.5	5.2	2.8	2.5
Further Maths	4.3	4.3	2.6	2.3	1.6
General Studies	9.4	9.3	10.7	9.1	6.6
Geography	13.7	13.9	15.5	14.6	12.3
Geology	0.9	0.4	0.6	0.0	0.0
German	3.9	4.6	3.7	1.3	0.4
Government & Politics	2.6	2.5	0.6	1.8	1.2
Health & Social Care	3.9	1.9	3.4	4.5	4.5
Hebrew	0.0	0.0	0.2	0.0	0.0
History	22.7	24.4	21.5	15.2	16.4
History of Art	1.7	1.7	0.7	0.5	0.4
Human Biology	0.0	0.3	0.4	0.5	0.0
ICT	6.0	6.9	6.4	11.9	13.1
IT	0.4	1.0	1.5	2.0	1.6
Italian	0.4	0.3	0.6	0.3	0.0
Latin	0.0	2.0	0.4	0.5	0.0
Law	3.9	3.0	2.8	4.8	3.7
Leisure Studies	0.0	0.4	0.2	1.3	0.4

Table 25
(Continuation)

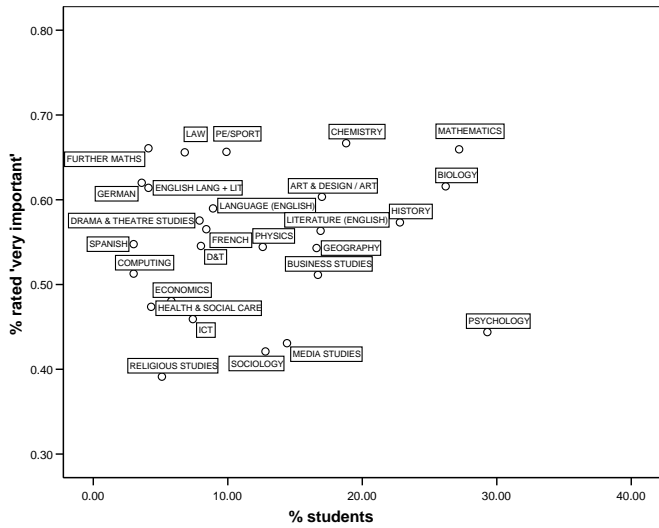
Subject	Higher managerial	Higher professional	Lower managerial and professional	Intermediate	Routine and manual
Mathematics	24.9	29.7	23.6	23.2	26.6
Media Studies	9.0	9.4	13.3	10.9	9.4
Music	0.9	3.2	2.2	3.5	0.4
Music Technology	0.4	0.8	0.9	0.5	0.8
Panjabi	0.0	0.1	0.0	0.0	0.4
PE/Sport	6.4	6.7	7.1	7.8	7.0
Performance Studies/Art	0.4	0.5	1.3	2.0	0.4
Philosophy	5.2	4.7	5.6	4.5	4.1
Physics	12.9	15.5	9.2	10.4	10.7
Psychology	20.2	21.0	25.3	22.5	25.0
Religious Studies	6.4	6.6	4.9	9.3	5.7
Russian	0.0	0.3	0.2	0.0	0.0
Sociology	11.6	7.1	12.2	12.1	13.1
Spanish	2.6	2.3	2.6	1.8	0.4
Tamil	0.0	0.0	0.2	0.0	0.0
Travel & Tourism	0.4	0.9	0.9	3.0	1.2
Urdu	0.0	0.0	0.0	0.5	0.0



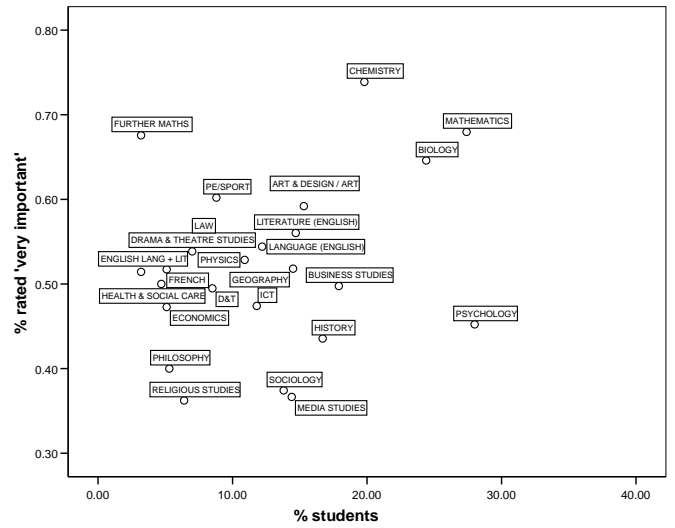
(a) Higher managerial



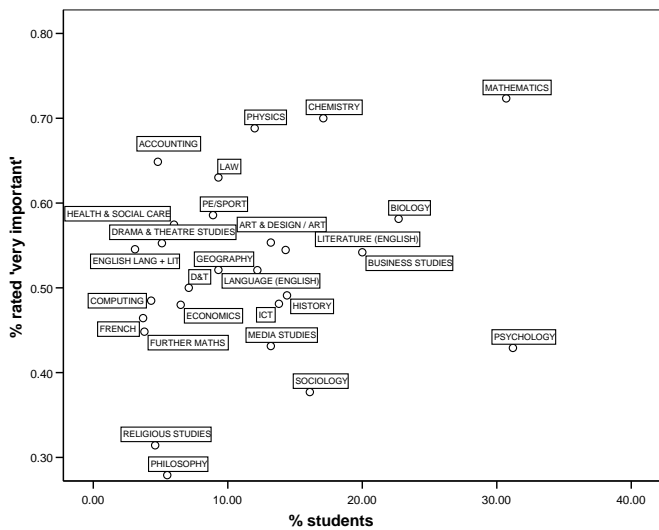
(b) Higher professional



(c) Lower managerial and professional



(d) Intermediate



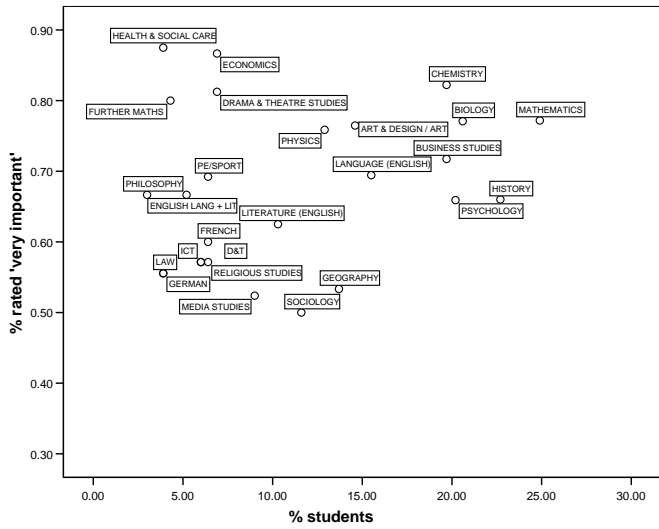
(e) Routine and manual

Notes:

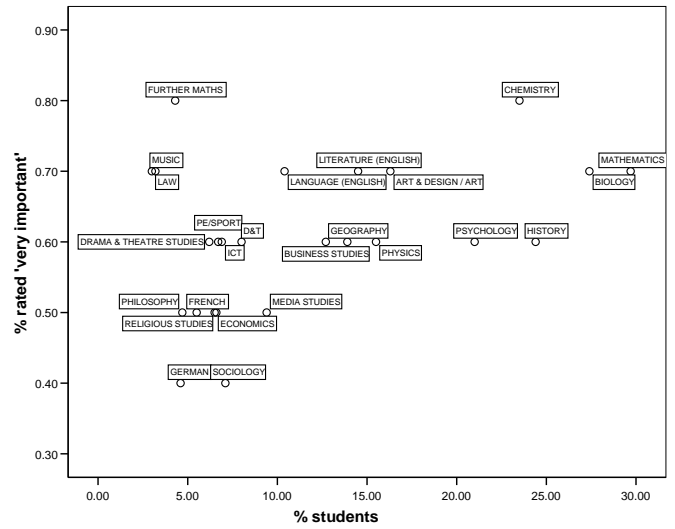
Subjects plotted in the Figures 10(a)-10(e) are those taken by more than 3% of the students in the group.

Critical Thinking and General Studies (both considered of low importance) are outliers and they are not included in the graphs.

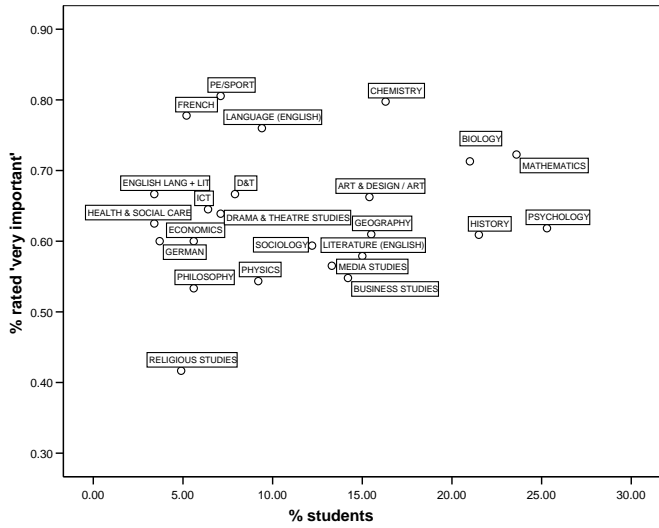
Figure 10: Uptake and importance of AS subjects by social class



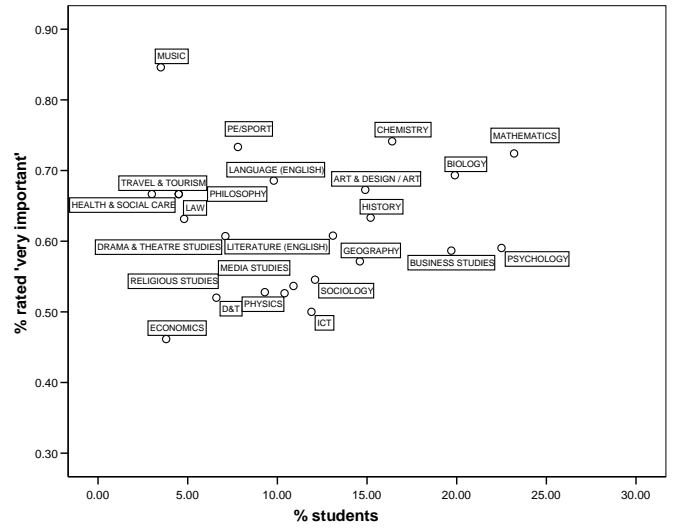
(a) Higher managerial



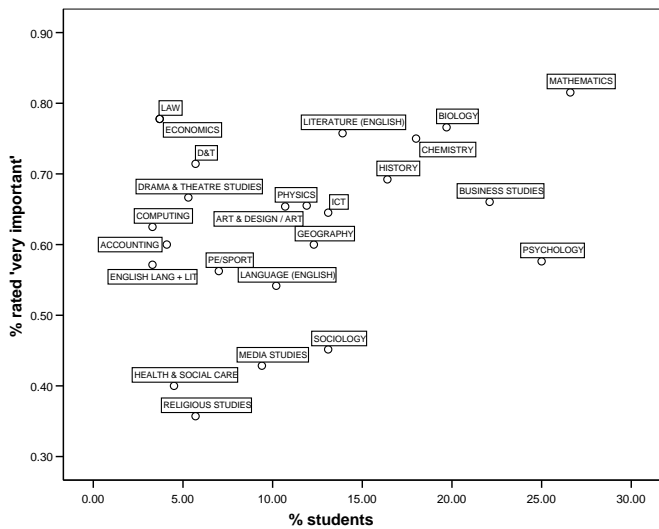
(b) Higher professional



(c) Lower managerial and professional



(d) Intermediate



(e) Routine and manual

Notes:

Subjects plotted in the Figures 11(a)-11(e) are those taken by more than 3% of the students in the group.

General Studies (considered of low importance) is an outlier and it is not included in the graphs

Figure 11: Uptake and importance of A2 subjects by social class

Table 26: Importance of reasons for choosing AS or A2 subjects by social class: proportion of times each reason was rated 'very important'

Reason	All students	Higher Managerial	Higher Professional	Lower managerial and professional	Intermediate	Routine and manual
I thought it would be an interesting subject	80.3	85.8	84.4	80.7	81.4	76.9
I thought this subject would be useful for my future career	79.2	81.5	81.6	79.3	79.5	81.7
I thought I would enjoy this subject	78.0	79.7	81.6	79.7	79.5	75.4
I was good at GCSE in this subject	69.1	71.8	72.7	70.0	71.3	66.4
I thought I would do well in this subject	68.8	74.5	71.1	70.1	69.8	67.3
I thought this was a good subject to have	67.2	69.4	68.7	68.3	69.6	67.8
This subject is a requirement for the university degree I want to study	54.8	55.6	58.2	55.1	54.8	54.8
It was a new subject for me and sounded exciting	46.1	47.1	43.5	47.2	48.3	50.7
I like the teacher / The teacher was good	34.2	33.5	35.8	34.3	32.1	35.3
I was advised to take this subject	26.5	27.3	26.8	25.9	28.8	27.4
I thought it would be an easy subject	17.7	17.6	17.4	17.2	18.3	20.8
This subject fitted well in my timetable	17.4	16.9	15.1	18.3	18.7	20.5
I needed this subject to "complete numbers"	11.9	11.0	11.6	11.5	12.7	13.4
The school put pressure on me to take this subject	8.8	9.9	8.9	9.1	8.0	8.4
My friends were taking this subject	7.4	9.4	6.8	6.7	8.0	8.2

Around 78% of the students stated that they chose a subject because they would enjoy it. This figure rose a bit amongst the students from a higher social class background.

More students from lower social class backgrounds chose a subject because it was new and exciting, because it fitted well their timetables or because they needed it to 'complete numbers' than students from the higher social class backgrounds.

There were no big differences between the different social class groups in the percentages of students choosing a subject because they believed they needed it for a future job or career.

4.5 School type and subject choice

Subject choices might be partly made due to personal characteristics and aspirations and partly due to institutional influences. Davies *et al.* (2004) and Nelson *et al.* (2001) found that some schools could exert a significant influence on students' subject choice and that there were large differences between schools in the pattern of examination entries across subjects. In this section, we focus on subject choice at AS/A level by type of school.

The number of AS subjects taken by year 12 students was related to the type of school they attended. Students attending grammar and independent schools tended to take more AS subjects and students attending comprehensive schools and sixth form colleges took fewer subjects (see Figure 12).

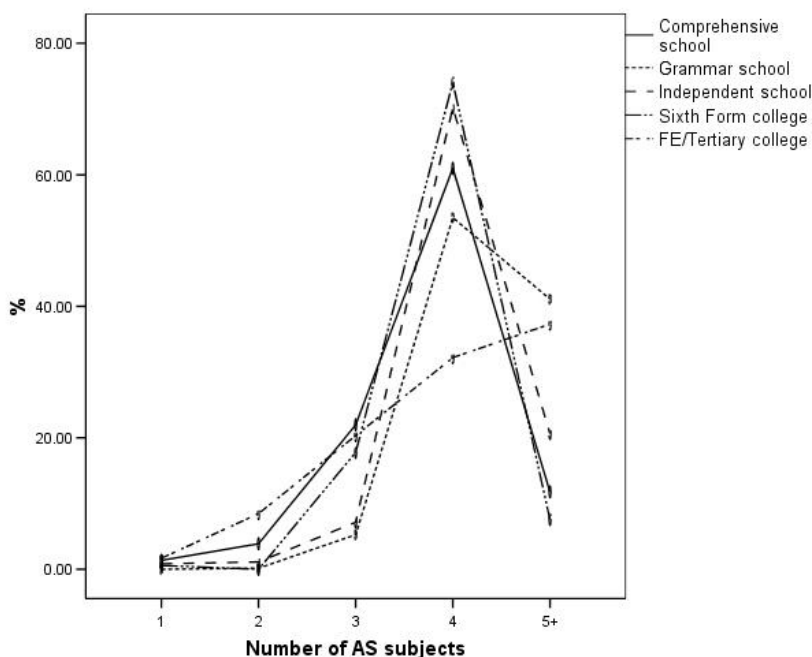


Figure 12: Number of AS subjects by school type

Students attending grammar and independent schools and sixth form colleges were more oriented towards science subjects and students attending comprehensive schools were more inclined to have a mixture of subjects (Figure 13). Students attending FE/Tertiary colleges were more likely to take Art subjects or subjects in the Socio/Humanities fields.

Schools sixth forms, FE/Tertiary colleges and sixth form colleges tended to specialise in different types of courses and this obviously affected students' choice. Tables 27 and 28 show the uptake of AS and A2 subjects by school type. In these tables it is possible to see that there were differences between schools in the uptake patterns across the subjects.

Students in grammar or independent schools appeared to have tended to take subjects such as Biology, Chemistry, Physics, History, Religious Studies, traditional Modern Foreign Languages (French, Spanish or German), Music or Latin.

Students in sixth form colleges and FE/Tertiary colleges seemed to have preferred subjects such as Business Studies, Law, ICT, Media Studies, Film Studies, Philosophy, Sociology and Psychology (subject in the Business or Humanities fields).

Comprehensive schools usually offer a wider range of subjects than other centres and in some subjects, such as History, Geography, Music or Religious Studies, the patterns of uptake were similar to those in grammar and independent schools but, in many other subjects, such as Accounting, Business Studies, Chemistry, ICT, Media Studies or Sociology, the uptake was more similar to the subject uptake in colleges.

It has to be noted that the uptake of AS/A2 subjects by school type might be influenced by the provision of subjects in each type of school.

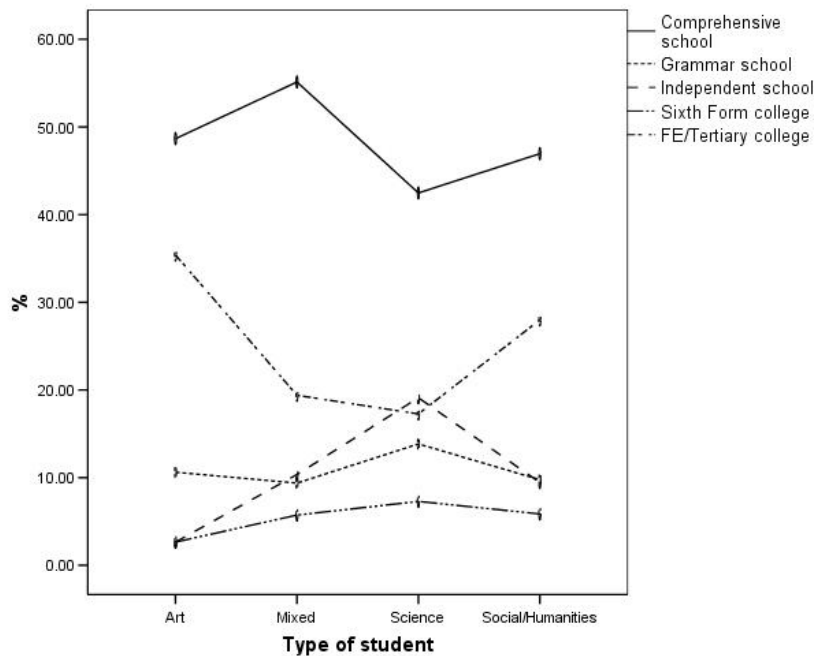


Figure 13: Types of students by school type

There appeared to be differences between schools in students' perceived importance of their AS/A2 subjects (Figures 14 and 15). However, when comparing the importance given to a subject in a type of school, it is important to remember that the uptake of subjects in each type of school is quite different (Tables 27 and 28).

In general, the perceived importance given to AS/A2 subjects by students in independent schools was higher than the importance given by students in other schools. The school 'ethos', which is the dominant set of values, attitudes and behaviours in the school, may have an explanatory role in these differences.

Further Mathematics was perceived as a very important subject by almost 70% and 75% of the students in grammar and independent schools, respectively, percentages being higher than for any of the other types of school. Subjects such as Mathematics, Chemistry or Biology were perceived as very important by high percentages of students in each type of school.

Subjects such as Psychology or Media Studies (with very different entries in each type of school) were given a similar importance in all schools.

Table 27: Uptake of individual AS subjects by school type (% of students completing the survey)

Subject	Comprehensive school	Grammar school	Independent school	Sixth Form college	FE/Tertiary college
Accounting	3.0	0.0	0.0	12.2	2.6
Applied Art & Design	0.6	0.0	0.0	0.0	2.0
Applied Business	1.2	0.0	0.0	0.0	0.3
Applied ICT	1.7	0.0	0.6	0.0	2.1
Applied IT	0.2	0.0	0.0	0.0	0.0
Applied Science	1.6	0.3	0.0	0.0	0.4
Arabic	0.1	0.0	0.0	0.0	0.0
Archaeology	0.0	0.0	0.0	0.0	0.2
Art & Design / Art	15.3	15.5	19.2	4.9	17.4
Bengali	0.0	0.0	0.0	0.3	0.0
Biology	24.8	31.3	29.0	32.6	21.8
Business & Economics	0.7	2.4	0.0	0.0	0.0
Business Studies	18.9	9.4	10.0	20.8	17.3
Chemistry	17.3	31.5	31.7	27.1	17.2
Chinese	0.0	0.0	1.2	0.3	0.0
Citizenship	0.0	0.0	0.0	2.3	3.5
Classical Civilisation	0.0	1.3	1.4	1.8	0.0
Classical Greek	0.0	0.4	1.7	0.0	0.0
Communication Studies	0.9	0.0	0.0	0.0	1.8
Computing	1.7	0.9	0.0	9.6	5.3
Critical Thinking	4.3	9.4	1.2	3.9	4.9
D&T	8.7	12.8	4.4	8.9	2.3
Dance	0.6	0.9	0.0	1.0	1.7
Drama & Theatre Studies	7.4	8.4	1.1	3.1	6.1
Dutch	0.0	0.0	0.0	0.3	0.0
Economics	7.4	6.7	7.9	7.8	2.6
Electronics	0.2	0.0	0.0	3.9	0.4
Engineering	0.1	3.3	0.0	0.0	0.1
English Lang	10.6	9.7	10.3	4.9	10.5
English Lang + Lit	3.8	0.0	1.5	0.0	5.2
English Lit	16.4	15.5	12.2	14.1	14.8
Environmental Science	1.0	0.0	0.0	3.6	0.8
Film Studies	1.1	0.4	0.0	1.8	6.0
French	5.4	14.6	12.5	4.2	4.1
Further Maths	2.8	5.1	9.1	3.9	4.9
General Studies	12.7	24.7	24.6	6.0	10.8
Geography	17.2	21.6	11.6	2.6	10.0
Geology	0.3	3.6	0.0	0.0	1.0
German	2.5	7.1	4.3	1.0	1.9
Government & Politics	0.8	3.8	3.2	4.2	2.9
Gujarati	0.0	0.0	0.0	0.0	0.0
Health & Social Care	5.2	0.0	1.2	5.5	3.0
Hebrew	0.0	0.0	0.0	0.0	0.0
History	20.3	29.1	26.2	8.3	17.0
History of Art	0.3	0.0	6.2	0.0	0.6
Human Biology	0.4	3.1	0.0	0.0	0.3

Table 27
(Continuation)

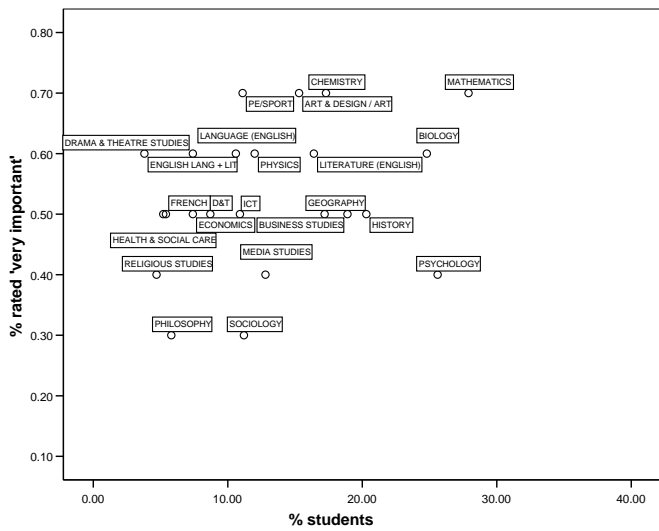
Subject	Comprehensive school	Grammar school	Independent school	Sixth Form college	FE/Tertiary college
ICT	10.9	5.0	4.4	10.7	10.9
Islamic Studies	0.0	0.0	0.0	0.0	0.1
IT	2.5	0.6	3.0	1.6	1.4
Italian	0.0	0.0	1.7	0.0	0.1
Japanese	0.1	0.0	0.4	0.0	0.1
Latin	0.0	3.4	6.8	0.0	0.0
Law	2.5	0.0	2.9	13.5	22.8
Leisure Studies	0.8	0.0	0.0	0.0	0.1
Mathematics	27.9	32.1	40.2	37.2	27.0
Media Studies	12.8	6.1	1.9	17.7	16.8
Modern Greek	0.0	0.0	0.0	0.0	0.0
Music	2.4	4.0	4.2	1.6	1.3
Music Technology	1.3	0.6	0.0	0.3	0.9
Panjabi	0.1	0.0	0.0	0.0	0.0
PE/Sport	11.1	8.5	2.5	5.2	5.1
Performance Studies/Art	0.9	0.0	1.7	0.3	1.4
Persian	0.0	0.0	0.0	0.0	0.0
Philosophy	5.8	1.4	3.2	5.2	6.8
Physics	12.0	23.2	20.7	11.2	11.0
Polish	0.0	0.1	0.1	0.5	0.0
Portuguese	0.0	0.0	0.0	0.0	0.0
Psychology	25.6	19.5	9.9	34.9	39.4
Religious Studies	4.7	10.8	15.1	0.0	1.6
Russian	0.0	0.0	1.1	0.0	0.1
Sociology	11.2	1.6	3.9	14.6	19.1
Spanish	1.9	5.5	8.9	0.8	1.7
Travel & Tourism	2.1	0.0	0.0	0.8	0.1
Turkish	0.0	0.0	0.0	0.0	0.0
Urdu	0.0	0.0	0.1	0.3	0.0
World Development	0.1	0.0	0.1	3.6	0.5

Table 28: Uptake of individual A2 subjects by school type (% of year 13 students completing the survey)

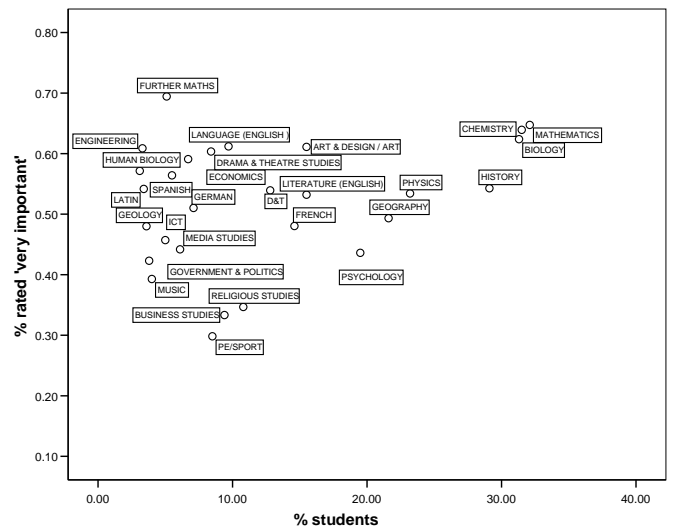
Subject	Comprehensive school	Grammar school	Independent school	Sixth Form college	FE/Tertiary college
Accounting	2.6	0.0	0.0	12.6	1.6
Applied Art & Design	0.9	0.0	0.0	0.0	0.0
Applied Business	1.2	0.0	0.0	0.0	0.0
Applied ICT	0.9	0.0	0.3	0.0	1.6
Applied IT	0.1	0.0	0.0	0.0	0.0
Applied Science	0.7	0.0	0.0	0.0	0.0
Arabic	0.1	0.0	0.0	0.0	0.0
Archaeology	0.0	0.0	0.0	0.0	0.3
Art & Design / Art	13.5	16.3	21.4	5.4	14.0
Biology	20.6	32.7	28.3	35.1	13.2
Business & Economics	0.3	2.7	0.0	0.0	0.0
Business Studies	20.8	6.8	11.3	18.0	15.0
Chemistry	14.8	33.3	27.7	34.2	11.9
Classical Civilisation	0.0	1.7	0.6	1.8	0.0
Classical Greek	0.1	0.0	1.6	0.0	0.0
Communication Studies	1.1	0.0	0.0	0.0	1.3
Computing	1.5	0.3	0.0	7.2	3.4
Critical Thinking	0.0	0.0	0.0	1.8	3.6
D&T	7.6	16.0	3.5	4.5	1.3
Dance	0.5	1.0	0.3	1.8	1.3
Drama & Theatre Studies	7.5	11.6	1.3	3.6	4.1
Economics	6.0	6.5	6.9	7.2	1.8
Electronics	0.4	0.0	0.0	0.0	0.0
Engineering	0.0	1.4	0.0	0.0	0.0
English Lang	10.9	10.9	11.9	3.6	11.9
English Lang + Lit	2.9	0.0	2.2	0.0	4.4
English Lit	14.3	11.2	10.4	18.0	13.5
Environmental Science	0.9	0.0	0.0	2.7	1.3
Film Studies	0.9	0.0	0.0	2.7	7.8
French	2.9	10.5	7.9	2.7	2.6
Further Maths	1.8	6.1	5.3	1.8	4.1
General Studies	6.7	19.0	11.3	7.2	11.9
Geography	16.3	15.3	11.9	2.7	6.7
Geology	0.1	0.7	0.0	0.0	1.3
German	2.3	7.5	4.7	1.8	0.8
Government & Politics	0.4	3.7	2.2	3.6	3.9
Health & Social Care	4.7	0.0	0.0	5.4	2.8
Hebrew	0.1	0.0	0.0	0.0	0.0
History	20.8	29.6	24.8	6.3	15.0
History of Art	0.0	0.0	8.2	0.0	0.0
Human Biology	0.2	1.7	0.0	0.0	0.5
ICT	10.1	0.3	6.0	9.0	10.6
IT	1.4	0.0	2.8	0.0	1.0
Italian	0.1	0.0	1.9	0.0	0.0
Latin	0.0	3.4	3.8	0.0	0.0
Law	0.7	0.0	2.2	9.9	16.8

Table 28
(Continuation)

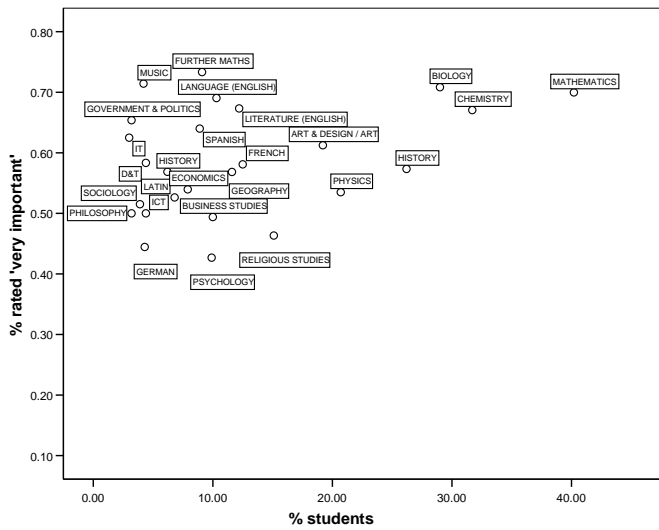
Subject	Comprehensive school	Grammar school	Independent school	Sixth Form college	FE/Tertiary college
Leisure Studies	0.7	0.0	0.3	0.0	0.0
Mathematics	22.4	31.3	39.0	36.0	19.4
Media Studies	12.2	4.8	0.3	15.3	16.6
Music	2.4	2.0	3.8	1.8	0.5
Music Technology	1.1	0.0	0.0	0.9	0.5
Punjabi	0.1	0.0	0.0	0.0	0.0
PE/Sport	8.6	5.8	3.5	3.6	4.9
Performance Studies/Art	1.1	0.0	1.6	0.0	1.0
Philosophy	5.6	0.7	3.1	1.8	7.5
Physics	9.8	21.1	18.9	9.9	7.0
Psychology	21.5	19.7	10.1	32.4	35.5
Religious Studies	4.4	11.2	17.3	0.0	3.9
Russian	0.0	0.0	0.9	0.0	0.0
Sociology	10.7	1.7	4.7	17.1	19.7
Spanish	1.4	1.4	6.6	1.8	1.6
Tamil	0.1	0.0	0.0	0.0	0.0
Travel & Tourism	2.1	0.0	0.0	2.7	0.0
Urdu	0.0	0.0	0.3	0.9	0.0



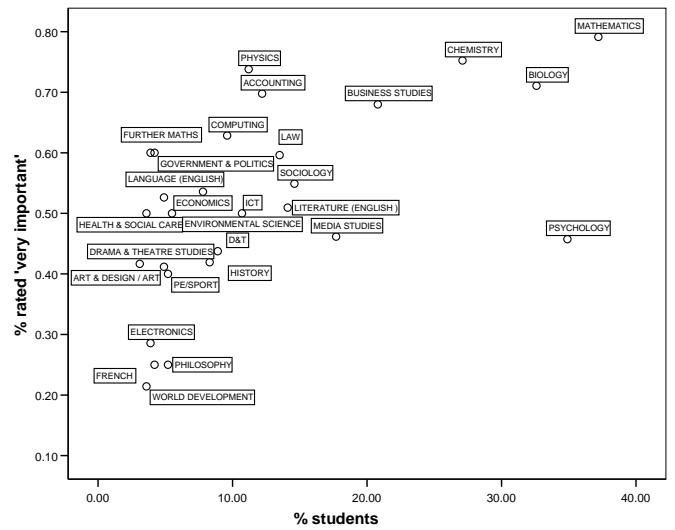
(a) Comprehensive schools



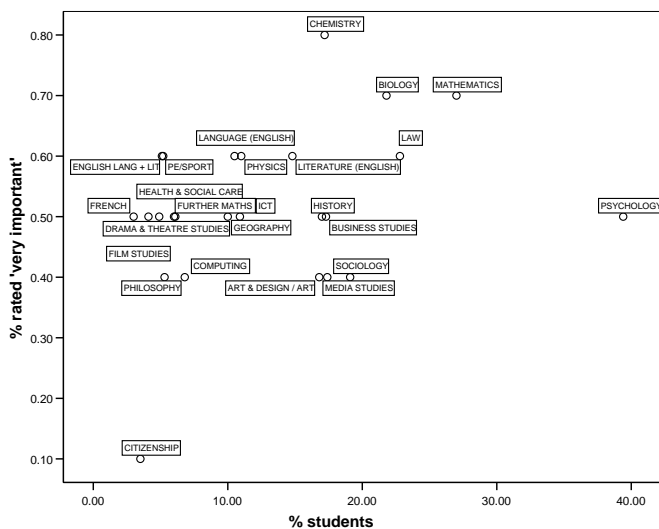
(b) Grammar schools



(c) Independent schools



(d) Sixth form colleges



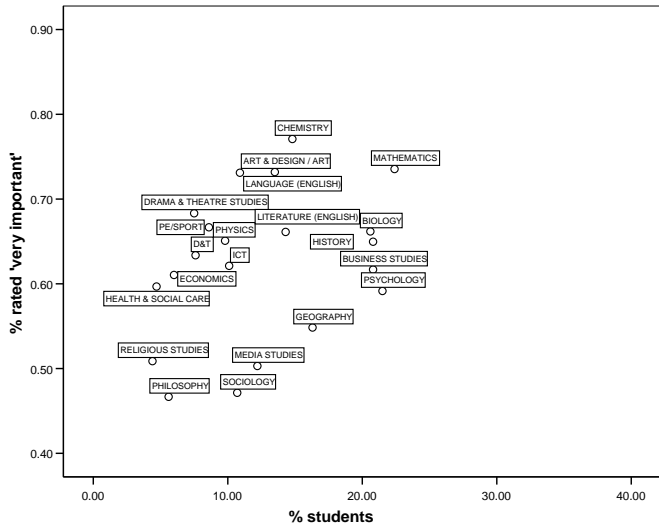
(e) FE/Tertiary colleges

Notes:

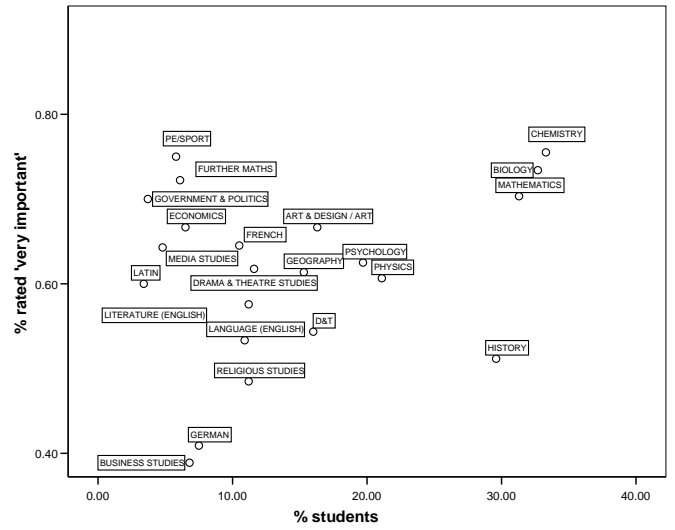
Subjects plotted in the Figures 14(a)-14(e) are those taken by more than 3% of the students in the group.

Critical Thinking and General Studies (both considered of low importance) are outliers and they are not included in the graphs.

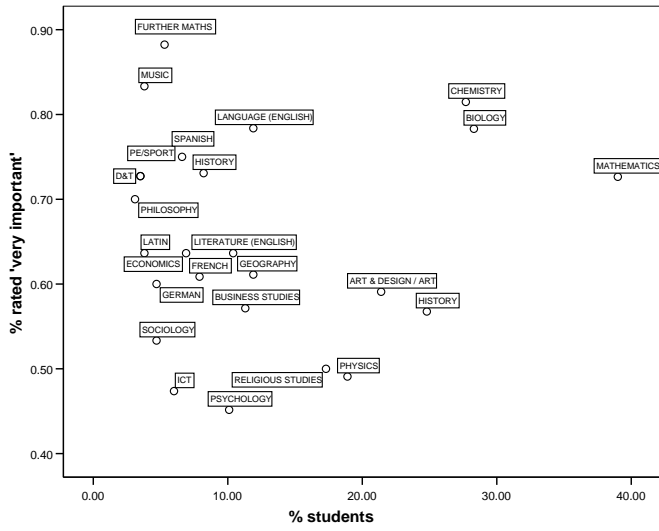
Figure 14: Uptake and importance of AS subjects by school type



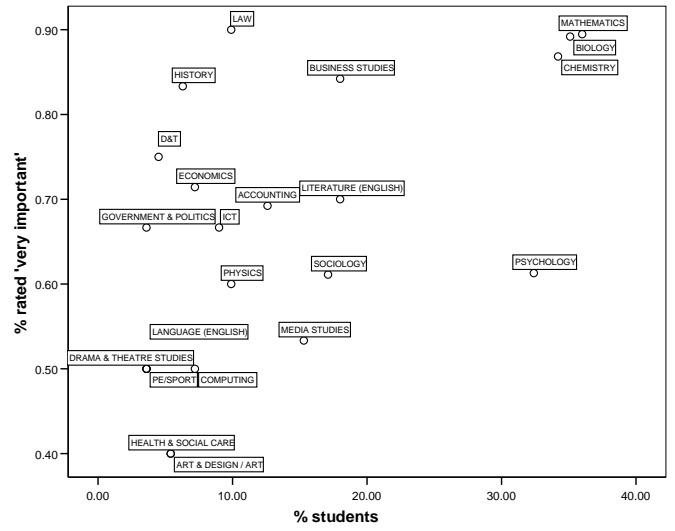
(a) Comprehensive schools



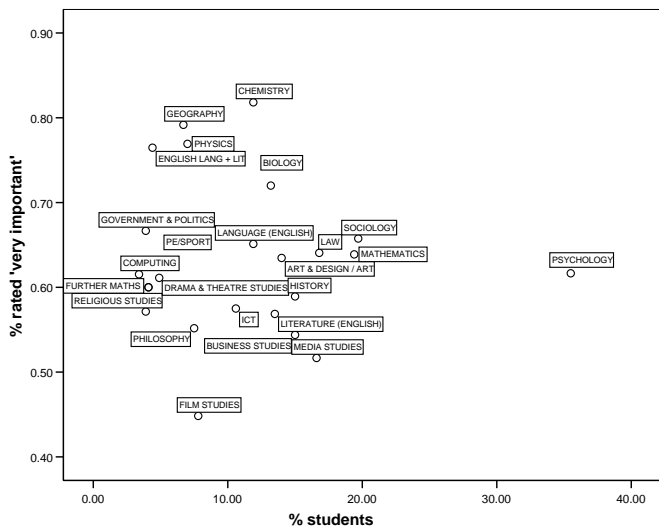
(b) Grammar schools



(c) Independent schools



(d) Sixth form colleges



(e) FE/Tertiary colleges

Notes:

Subjects plotted in the Figures 15(a)-15(e) are those taken by more than 3% of the students in the group.

General Studies (considered of low importance) is an outlier and it is not included in the graphs

Figure 15: Uptake and importance of A2 subjects by school type

Table 29 shows the perceived importance of the reasons for choosing AS or A2 subjects by type of school. There was evidence that students considered usefulness of the subject for the future as an important reason for choosing their subjects (79% career usefulness and 55% usefulness for degree at university). The figures varied by school type. For example, 82% and 85% of students in sixth form colleges and FE/Tertiary colleges chose their subjects because of the value they attached to them regarding future jobs or careers. Figures were lower for the grammar and independent schools.

Around 78% of the students stated that they chose a subject because they would enjoy it or it would interest them. This figure decreased amongst students attending comprehensive schools and sixth form colleges. The highest percentage was found among students attending FE/Tertiary colleges.

Smaller percentages of students in grammar or independent schools chose a subject because it was new and exciting, because it fitted well their timetables or because they needed it to 'complete numbers' than students in colleges or comprehensive schools.

Around 34% of students attending grammar schools chose a subject because their friends had chosen it. This compared with percentages around 10% in the other types of schools. It is worth noting that this might be a size effect since grammar schools have usually fewer students than other types all schools and they offer a smaller number of subjects.

4.6 Subjects dropped from AS to A level

Sharp (1996) found that students who drop a subject do so for a number of reasons and it is difficult to judge which ones are the most influential. These reasons include employment-related reasons, organisation and content of the course, liking of the teacher, lack of enjoyment, lack of perceived usefulness or considerations of ability and difficulty. A research study by Pinot de Moira (2002) showed evidence that students that dropped subjects from AS level to A level usually had a bad result for the AS part of the examination. In this research we do not focus on the reasons for dropping a particular subject but on the subjects with the highest and lowest percentages of students dropping them (Tables 30 and 31).

Table 30: 'Top 10' most dropped subjects

Subject	% students dropping the subject
General Studies	53
Applied Science	47
Latin	41
French	39
Spanish	36
IT	33
Further Maths	33
Music	29
Communication Studies	26
Applied ICT	24

A particular cause of concern that arises from Table 30 is the fact that two of the traditional modern languages are among the ten most dropped subjects, agreeing with the latest patterns that show a decline in the uptake of languages (see, for example, Vidal Rodeiro 2006).

The least dropped subjects are mainly subjects in the creative arts and humanities fields.

Table 29: Importance of reasons for choosing AS or A2 subjects by school type: proportion of times each reason was rated 'very important'

Reason	All students	Comprehensive school	Grammar school	Independent school	Sixth Form college	FE/Tertiary college
I thought it would be an interesting subject	80.3	78.0	81.1	85.0	75.5	83.8
I thought this subject would be useful for my future career	79.2	77.8	75.4	76.0	81.8	85.4
I thought I would enjoy this subject	78.0	75.6	80.1	80.7	73.7	82.3
I was good at GCSE in this subject	69.1	69.2	69.9	72.2	68.5	66.3
I thought I would do well in this subject	68.8	67.2	69.3	72.5	70.6	69.8
I thought this was a good subject to have	67.2	66.4	65.1	61.3	66.7	73.9
This subject is a requirement for the university degree I want to study	54.8	51.1	58.4	61.9	66.1	55.1
It was a new subject for me and sounded exciting	46.1	43.8	39.1	37.5	54.4	58.0
I like the teacher / The teacher was good	34.2	34.2	33.4	34.1	33.3	34.7
I was advised to take this subject	26.5	25.9	25.4	23.2	31.0	29.3
I thought it would be an easy subject	17.7	15.5	13.9	22.5	31.5	18.3
This subject fitted well in my timetable	17.4	18.3	10.7	10.7	24.0	20.4
I needed this subject to "complete numbers"	11.9	11.7	8.9	10.4	17.7	13.1
The school put pressure on me to take this subject	8.8	8.0	12.2	9.5	10.9	8.2
My friends were taking this subject	7.4	7.2	33.5	7.6	9.9	8.0

Table 31: 'Top 10' least dropped subjects

Subject	% students dropping the subject
ICT	4
Business Studies	4
Drama & Theatre Studies	5
Travel & Tourism	6
Sociology	6
English Lit	8
English Lang+Lit	10
Dance	10
History of Art	10
Performance Studies/Art	11

4.7 Advice

The students in the sample appeared to have taken the choice of the AS/A level subjects quite seriously and, in general, they acknowledged having sought advice.

Around 80% of the students that completed the questionnaire acknowledged receiving advice and around 20% claimed that had been solely responsible for their own decisions. Subject choices can be modified by available information, by the advice of peers, teachers, and career officers as well as by parents and other family members. Table 32 displays some sources of advice and Table 33 their perceived importance.

Table 32: Sources of advice

Sources of advice	% students
Parents	42.5
Teachers in your secondary school	37.9
Other students/friends	21.1
Brothers and/or sisters	16.1
Interview at the sixth form centre	15.0
Internet (e.g. university admission requirements)	14.0
Open day / Career events	11.7
Guidance at this school/college after starting courses	10.5
School leaflets	8.4
Speakers from higher education institutions	6.6
Other	5.0
Speakers from employment	4.7
University admission tutors	4.6

Parents were the most sought source of advice and help when decisions about subject choice had to be made (43% of the students acknowledged receiving advice from their parents). Other family members, in particular brothers and sisters, were also useful sources of information about AS/A level choices. Some students mentioned that brothers' or sisters' recent experience with AS/A level courses or in a job was a very important source of advice.

Students also acknowledged advice from teachers who were the second source of advice, with 38% of students regarding them as advisors. In addition, for some individuals, teachers were very influential.

Friends were also a source of information about specific courses, and their opinions sometimes were more meaningful than those from formal sources.

On some occasions parents appeared to set boundaries within which choices were made, so that students did not even consider some options as possibilities. In other cases, students made choices that accorded with their parents' preferences. In the following, there are some students' quotes about the influence of their parents on their choices:

- *I got pressure from members of my family*
- *Pressure from parents to become a doctor was why I chose Physics which I have now dropped, because I don't want to be a doctor*
- *Parents' opinions and views on the matter*
- *I had to work around the fact that my parents forbid me to drop Maths*
- *My parents forced me!!!*
- *Parental choice*

Formal careers education and guidance appeared to have less influence on AS/A level choice than family. This finding is opposite to that reported by Blenkinsop *et al.* (2006) in their study about how young people make choices at 14 and 16: 'young people were influenced by careers education and guidance and less reliant on friends and family'. Many students mentioned the 'Connexions Personal Advisers', a public service that 'provides quality information, advice and support for young people' (<http://www.connexions.gov.uk/>). The advisers appeared to have been influential in some cases but not all students believed connexions had been helpful. It has to be noted that this service has its priorities around the less able students at expense of more able students. For example, in a report from the Science and Technology Committee (2006) it is established that the Science, Technology, Engineering and Mathematics (STEM) careers advice offered in schools appears not to be of sufficient quality and the Connexions service is not well adapted to the needs of high achieving students.

It is, of course, possible that the amount of advice acknowledged by students may be influenced by the perceived rationality of the students' initial choice of subjects.

Table 33: Sources of advice and their importance (1 – 'Not at all important', 4 – 'Very important')

Sources of advice	% rated 1	% rated 2	% rated 3	% rated 4
Internet (e.g. university admission requirements)	2.7	15.2	33.1	49.0
University admission tutors	8.3	6.8	37.5	47.4
Brothers and/or sisters	12.7	14.0	34.5	38.8
Open day / Career events	3.1	16.9	41.8	38.3
Speakers from employment	9.6	20.6	31.7	38.2
Speakers from higher education institutions	4.7	18.6	38.6	38.0
Interview at the sixth form centre	5.2	17.5	39.4	37.9
Teachers in your secondary school	3.5	15.5	43.9	37.1
Parents	3.8	18.2	43.6	34.3
Guidance at this school/college after starting courses	3.6	16.2	46.5	33.7
Other students/friends	4.8	26.3	44.2	24.7
School leaflets	15.2	28.2	35.8	20.9

The advice that was most valued was that received from university admission tutors and from the internet (e.g. university admission requirements). Maybe those students that were quite clear about their future plans were able to make better use of this type of guidance (White *et al.* 1996). Speakers from employment and higher education were also high valued. The least useful advice came from schools leaflets and other students or friends.

The 14-19 Implementation Plan, which outlines how the reforms set out in the 2005 Education and Skills White Paper would be implemented, highlighted that 'young people will receive better advice and support, so that they are well informed to make choices'. However, in this research, around 17% of the students found that the advice they received was not enough to make a well informed decision about their choices of AS/A level subjects.

4.7.1 Advice by ability group

Low ability students recalled having had less advice than the high ability ones (72% low ability students acknowledged receiving advice compared to the 83% high ability ones). Using a χ^2 test we found that the differences between the ability groups in each source of advice were statistically significant and that as ability increased, students were more likely to have received advice (χ^2 for trend, p -value<0.0001).

Figure 16 displays the type of advice students of different ability groups acknowledged and the importance given to each source of advice (% of students that rated it as 'Very important').

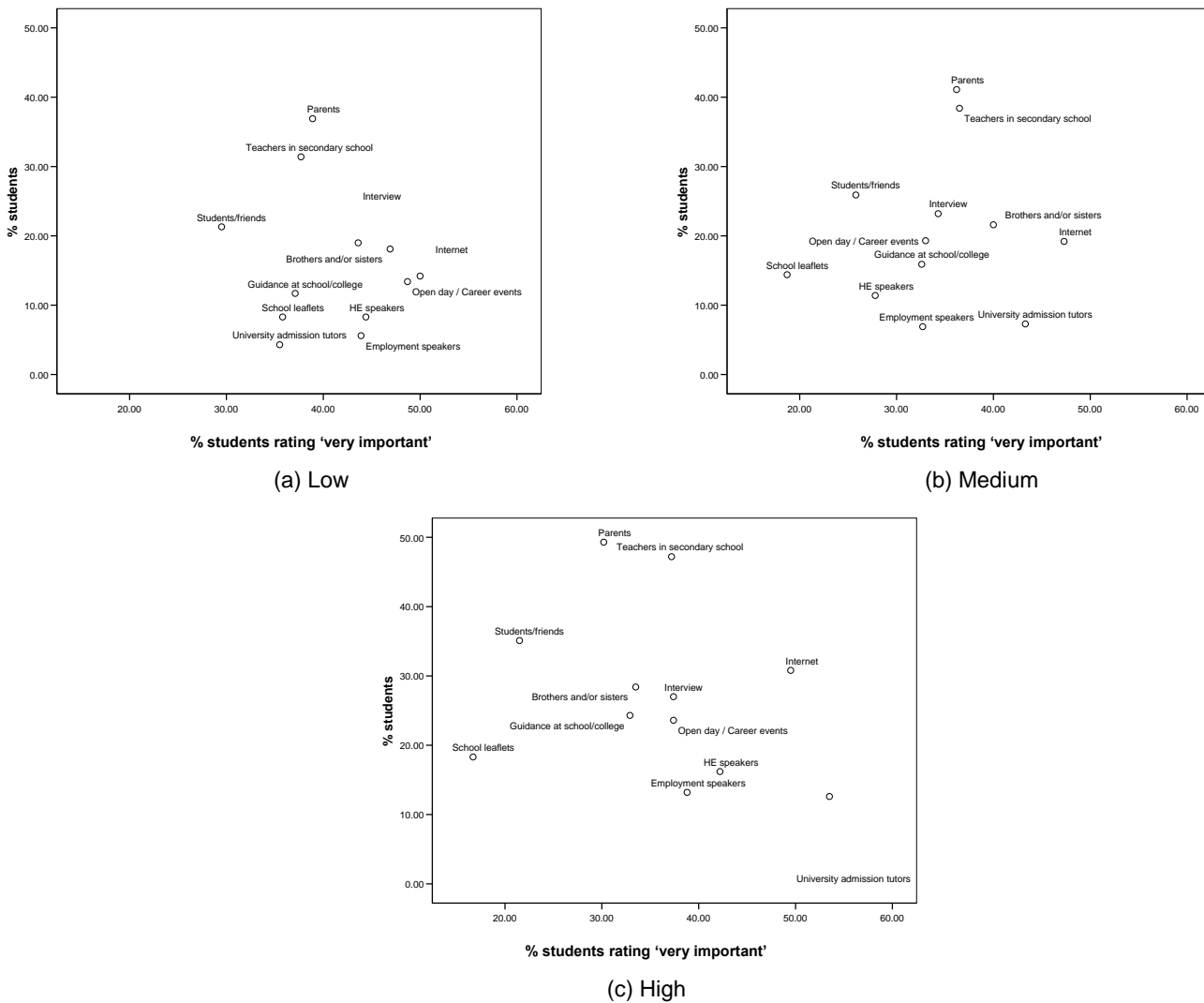


Figure 16: Sources of advice and their importance by ability

Students of low ability found more useful than medium and high ability students the advice from parents, brothers and/or sisters, school leaflets, other students/friends, speakers from employment, open days (during which the application process was explained and subject teachers were available for consultation) and the interview at the sixth form centre.

The high ability students found the advice from university admission tutors the most valued, followed by the advice obtained from the internet (e.g. university admission requirements). Presumably, the students in the high ability group were more likely to have going to university in mind and therefore they might have found themselves valuing more the advice that came directly from the universities. The least valued advice for the students in this group was the advice obtained from school leaflets and from other students/friends.

The percentages of students finding valuable the advice from teachers in the secondary school were very similar in the three ability groups.

4.7.2 Advice by school type

For the following analysis, centres participating in the survey were classified into three groups: colleges, comprehensive schools, and grammar and independent schools.

Table 34 shows that children in grammar or independent schools acknowledged more advice than their counterparts in other types of schools. The children that acknowledged less advice were those in colleges. These differences were found to be statistically significant.

Table 34: Percentage of students that received advice by school type

School type	% students
Colleges	72.6
Comprehensive schools	77.1
Grammar / Independent schools	82.8

Schools can make a difference to how students made their choices. Table 35 shows the percentages of students that sought each source of advice by school type. Using χ^2 tests, we found that there were significant differences between the three types of schools in all cases but school leaflets and university admission tutors. This table shows that, for almost all sources of advice, the percentages of students receiving that particular advice were higher in grammar and independent schools. However, higher percentages of students in colleges sought advice from speakers from higher education institutions, open day/careers events and from the guidance at the school.

Table 35: Sources of advice by school type (% students)

Sources of advice	Colleges	Comprehensive schools	Grammar Independent schools
Parents	39.0	42.6	47.4
Teachers in your secondary school	31.0	40.8	45.5
Other students/friends	22.4	27.7	33.7
Interview at the sixth form centre	23.0	26.0	14.4
Brothers and/or sisters	20.0	23.2	25.6
Internet (e.g. university admission requirements)	16.8	22.9	25.9
Open day / Career events	23.0	16.0	19.7
Guidance at this school/college after starting courses	23.1	15.1	15.4
School leaflets	11.4	14.5	15.0
Speakers from higher education institutions	14.8	10.2	12.8
University admission tutors	6.9	7.8	10.4
Speakers from employment	6.0	7.7	13.5

Figure 17 displays the importance of each source of advice (% of students that rated it as 'Very important'). The advice most valued for students attending colleges is the advice obtained from the internet, followed by the advice given by brothers and/or sisters, university admission tutors or the advice received during the interview at the sixth form centre. The least valued advice is the obtained from school leaflets and other students or friends. Students attending grammar or independent schools found the advice from university admission tutors the most valued. This was followed by the advice obtained from the internet and from speakers from employment.

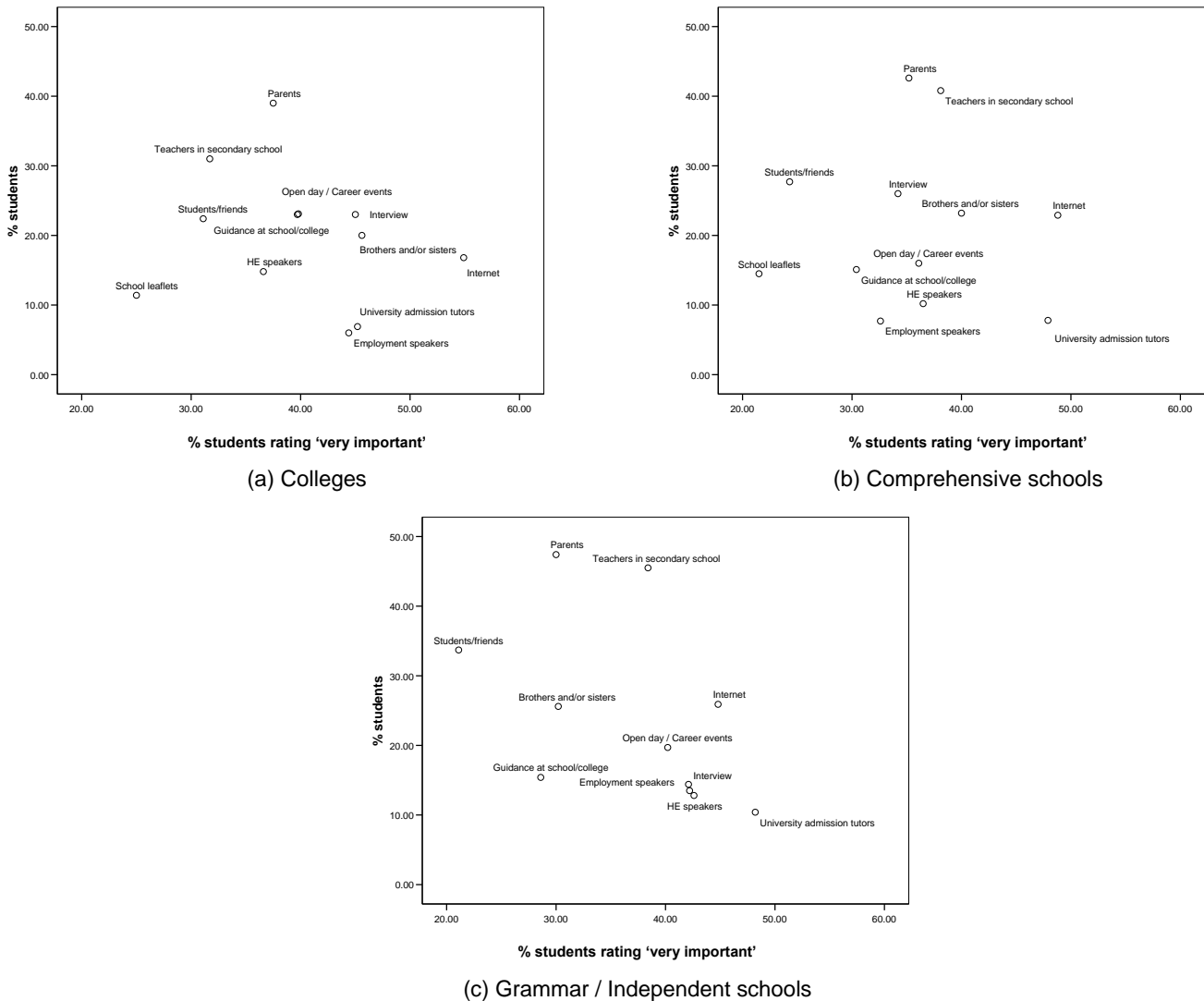


Figure 17: Sources of advice and their importance by school type

The percentages of students that found that the advice they received was not enough to make a well informed decision about their choices at AS/A level were very similar for all types of schools and the differences were not statistically significant.

4.7.3 Advice by social class

Children of the higher professionals received more advice than their counterparts in other social class groups. The children that received less advice were those of the routine and manual

workers. Using a χ^2 test we found that the differences between the groups were statistically significant and that as the social class decreased, students were less likely to have received advice (χ^2 for trend, p -value<0.0001).

Table 36: Percentage of students that received advice by social class

Social class	% students
Higher managerial	76.1
Higher professional	80.7
Lower managerial and professional	75.6
Intermediate	78.3
Routine and manual	75.4

Around 17% of the students found that the advice they received was not enough to make a well informed decision about their choices at AS/A level. This percentage was two points smaller for children of the higher managers and one point lower for the children of the intermediate workers. However, these differences between the social class groups were found to be not statistically significant.

There were statistically significant differences between the students by social class with regard to the type of advice received. For example, using a χ^2 test for trend we found that as the social class of the students decreased, they were less likely to have sought advice from parents, brothers or sisters, teachers in the secondary school, other students or friends, university admission tutors and the internet. Also, we found that there were differences between the social class groups with regard to the advice sought from the open day or careers events. Children of those working in the intermediate professions were more likely to have sought this type of advice. On the other hand, children of the higher professionals were the least likely to have sought advice from the open days or careers events. For the other sources of advice there were not significant differences among the social class groups.

The perceived importance of the advice varied by social class. Figure 18 displays the type of advice students of different social classes acknowledged and the importance given to each source of advice (% of students that rated it as 'Very important').

4.7.4 Advice by parental education

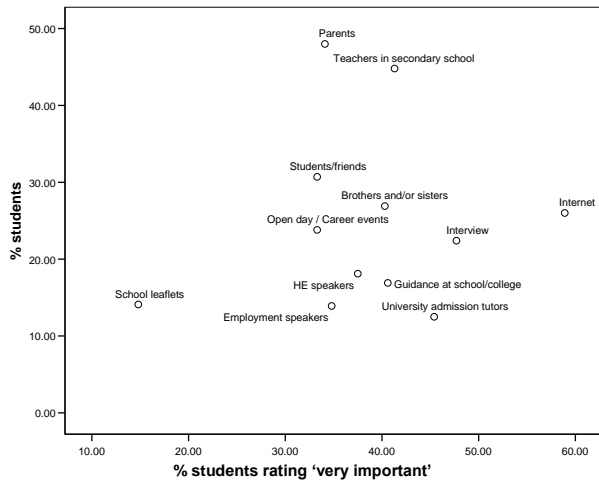
Based on the responses given to the question 'Which is the highest qualification that your parents have?' a new variable was created. Children were classified into two groups depending on their parents having a university degree (undergraduate or higher degree) or not.

Similar analyses to those performed for social class were carried out using this classification.

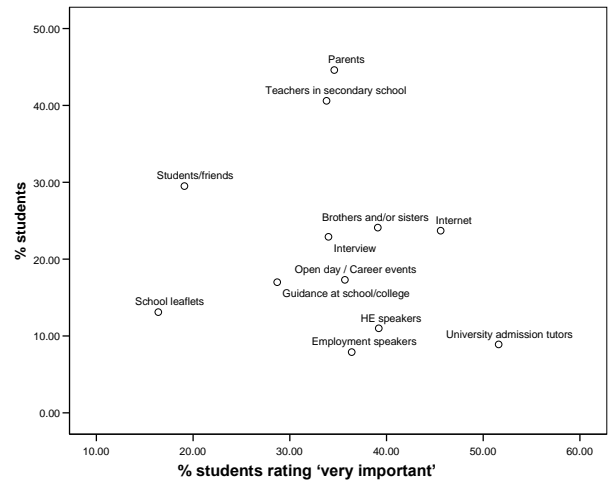
Children whose parents had a university degree acknowledged more advice than those whose parents did not (80% and 76% of students, respectively). This difference was found to be statistically significant.

Table 37 displays the percentages of children that sought each type of advice by parental education. Statistically significant differences are shaded in the table. The perceived importance of the advice varied depending on the parents' education.

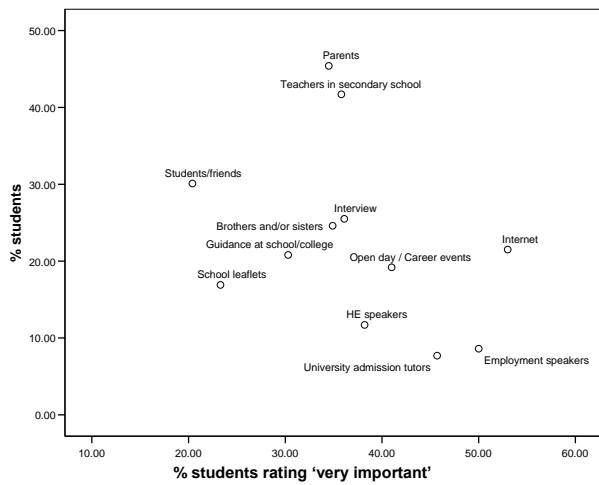
Children whose parents had a university degree gave more importance to the advice obtained from brothers and/or sisters, university admission tutors, speakers from higher education and the internet than the children whose parents did not have a degree. On the other hand, the latter considered more important the advice obtained by teachers, other students/friends, speakers from employment and the guidance at the sixth form.



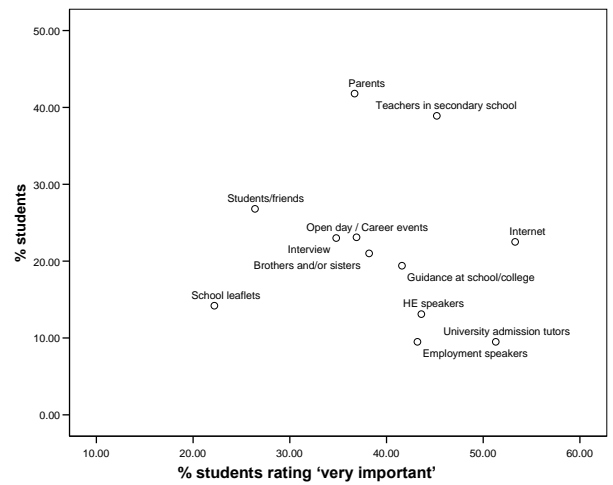
(a) Higher Managerial



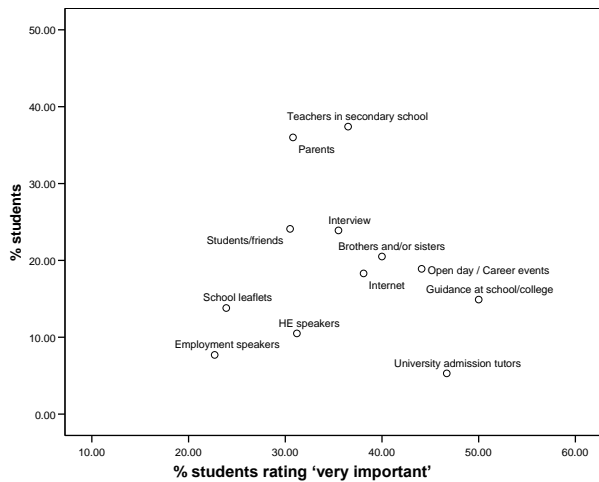
(b) Higher Professional



(c) Lower managerial and professional



(d) Intermediate



(e) Routine and manual

Figure 18: Sources of advice and their importance by social class

Table 37: Sources of advice by parental education (% students)

Sources of advice	Parents with a degree	Parents without a degree
Parents	43.9	42.2
Teachers in your secondary school	40.8	39.3
Other students/friends	29.2	27.2
Brothers and/or sisters	23.5	22.9
Internet (e.g. university admission requirements)	23.4	21.5
Interview at the sixth form centre	21.1	24.1
Open day / Career events	17.7	19.5
Guidance at this school/college after starting courses	16.4	18.4
School leaflets	13.7	14.2
Speakers from higher education institutions	11.8	12.0
University admission tutors	9.8	7.2
Speakers from employment	8.6	8.5

Finally, the percentages of students that found that the advice they received was not enough to make a well informed decision about their choices at AS/A level were very similar for students whose parents had an university degree (16%) and for those whose parents have not (17%). The differences were found to be not statistically significant.

4.8 Change of school/college

Given that schools can only offer a limited number of courses (Vidal Rodeiro 2005) it is particularly important that 16 year olds should be fully informed of the opportunities available and receive top quality advice about the significant benefits of studying one subject or another.

Sometimes students had to choose subjects not on the basis of the most appropriate course or the preferred course, but on whether or not the school offered it. In a few cases, students were prepared to compromise on their choices in order to stay on in the same school.

- *I wanted to do Psychology, however, at the time my college did not provide it*
- *I was unable to study Further Mathematics at my sixth form*
- *There was no PE offered*
- *Limited choice e.g. Economics was not offered*
- *I wanted to stay at my school but they didn't do Psychology so I did Critical Thinking instead*
- *Not having the courses available at the same school it altered my choices*

In other cases, students changed centres in order to study a particular AS/A level subject. Around 16% of the students that completed the questionnaire reported that they attended a different institution to have access to their preferred subjects.

4.9 Future aspirations

For many students (73%), the major motive for staying in education after age 16 was the wish to go to University. This percentage varied by social class, being higher for children of the higher professionals (81%) and the children of the higher managers (77%) and lower for the children of the intermediate workers (71%) and the routine and manual workers (68%). The majority of the students intending to leave school for employment were planning to get a job with training (or an apprenticeship). Around 16% of students had not made their mind yet. There were no other really popular options.

Table 38: Intentions after finishing AS/A level courses

Future plans	% students
Start vocational training	0.6
Get a job whether or not it offers training	1.1
Go to college or institution of higher education	3.2
Go to a university	75.4
Be unemployed by choice	0.3
Get a job with training	3.0
Have not made up my mind yet	16.5

Some students stated other plans for the future. Among them, the following were mentioned:

- join the police force,
- join the army/RAF/navy,
- travel,
- take a year out to volunteer or work before continuing studies,
- set up a business.

4.10 Uptake of science subjects

One area of concern is the uptake of sciences. It was shown in Bell *et al.* (2005) that there is a decline in the percentage of students taking three or more A levels in Science (science specialists). This could be a result of the broadening of the curriculum, with science specialists reducing the amount of science to study and taking at least one subject in the Languages, Arts or Humanities fields. Note that one of the aims of 'Curriculum 2000' was to broaden students' experiences and to discourage early specialisation.

In this research, logistic regression was used for the analysis of a dichotomous dependent variable that relates to the uptake of science/maths subjects: the variable takes the value 1 if the student chose two or more science/maths subjects and 0 otherwise.

Table 39 shows the effects of a number of background variables on the choice of science subjects. Each variable has a baseline category with which all other categories in the variable are compared. 'Higher professionals' has been taken as reference for the social class, 'female' for the gender, 'white' for the ethnic group, 'comprehensive school' for the school type, 'low' for ability and 'urban ≥ 10 ' for the urban/rural indicator.

If b is the logistic regression coefficient for a particular independent variable then $\exp(b)$ is the odds ratio. A positive coefficient (b) implies a positive relationship with the outcome; negative values imply that the probability of taking two or more science/maths subjects decreases with higher values of the variable. The odds ratio for each independent variable gives the relative amount by which the odds of taking two or more science/maths subjects increase (odds ratio greater than 1) or decrease (odds ratio less than 1) when the value of the independent variable is increased by one unit. For example, the variable gender is coded as 0 (female) and 1 (male) and the odds ratio for this variable is 2.7. This means that the odds of males taking two or more science/maths subjects are 2.7 times higher than the odds of females.

Table 39: Effects of background variables on the probability of taking at least two science/maths subjects⁸

Variable	Coefficient	Standard error	Odds ratio
Constant	-2.724	0.127	
Gender: male	0.987	0.066	2.7
Ability: medium	0.983	0.068	2.7
Ability: high	2.068	0.092	7.9
Social class: higher managers	-0.266	0.111	0.7
Social class: lower managers and professionals	-0.173	0.081	0.8
Social class: intermediate workers	-0.125	0.088	0.9
Social class: routine and manual workers	-0.085	0.104	0.9
Social class: unemployed	-0.061	0.166	0.9
School type: FE/Tertiary college	0.246	0.177	1.3
School type: Grammar school	0.450	0.232	1.6
School type: Independent school	0.203	0.205	1.2
School type: Sixth Form college	0.338	0.345	1.4
Town and fringe	0.069	0.113	1.1
Village	0.152	0.120	1.2
Hamlet and isolate dwelling	0.020	0.159	1.0
Ethnic group: Black African	1.055	0.208	2.9
Ethnic group: Black Caribbean	-0.001	0.353	1.0
Ethnic group: Black Other	0.052	0.649	1.1
Ethnic group: Chinese	1.922	0.245	6.8
Ethnic group: Mixed	0.448	0.173	1.6
Ethnic group: Indian	0.959	0.138	2.6
Ethnic group: Pakistani	1.113	0.163	3.0
Ethnic group: Bangladeshi	0.248	0.257	1.3
Ethnic group: Any other ethnic group	1.040	0.188	2.8
Advice	-0.063	0.081	0.9
Advice: Parents	0.126	0.107	1.1
Advice: Brothers and/or sisters	-0.070	0.108	0.9
Advice: Teachers in the secondary school	-0.014	0.109	1.0
Advice: School leaflets	-0.070	0.143	0.9
Advice: Other students/friends	-0.383	0.107	0.7
Advice: University admission tutors	0.797	0.180	2.2
Advice: Speakers from higher education	-0.359	0.167	0.7
Advice: Speakers from employment	-0.067	0.176	0.9
Advice: Open Day / Career events	-0.008	0.127	1.0
Advice: Internet	0.576	0.115	1.8
Advice: Guidance at the centre	-0.222	0.130	0.8
Advice: Interview at the sixth form centre	-0.099	0.118	0.9

Boys were more likely to choose two or more science/maths subjects than girls.

The probability of a student choosing two or more science/maths subjects was significantly lower for children of higher managers and lower managers and professionals compared to the probability of those whose parents were higher professionals. For the other social classes there were no significant differences.

Ability was strongly related to the uptake of science/maths subjects: the highest the ability, the highest the probability of choosing two or more subjects in the Science or Mathematics fields.

Ability, gender and social class proved to be powerful indicators of taking science/maths subjects, no matter the type of school.

⁸ Estimates in bold indicate statistical significance at 0.05 level

Differences appeared between ethnic groups. The results show that in comparison with the white group, Black African, Chinese, Mixed, Indian and Pakistani students had a higher probability of taking two or more science subjects. In particular, the odds of taking two or more science subjects for a Chinese, Pakistani and Indian student were 6.8, 3.0 and 2.6 times the odds of a white student, respectively. Previous research in this field (Elias *et al.* 2006, for example) revealed that Indian and Chinese students show a strong preference for science at A level compared with other ethnic groups. In contrast, Black Caribbean students reveal a strong aversion to science, in particular to Chemistry and Physics. Also, Indian and Chinese students are more likely to come from higher socio-economic groups than other ethnic minority groups, whereas the opposite is true, for example, for the Bangladeshi and the Black Caribbean students (Modood 1997, Owen *et al.* 2003). Differences in subject choices made by different ethnic groups might also have their origins in family attitudes towards education and towards what subjects and courses are seen as leading to professional careers.

Students that received advice from university admission tutors were more likely to choose two or more science/maths subjects (the odds for this group were 2.2 times higher than the odds of the group of students that did not acknowledge advice from them). On the other hand, students that acknowledged advice from speakers from higher education institutions were less likely to choose two or more science subjects.

4.11 Uptake of Modern Foreign Languages

Another area of particular concern in this age range is the uptake of Modern Foreign Languages. As shown in Tables D1 and D2 (Appendix D) the main foreign languages are French, German and Spanish.

Again, using logistic regression we analysed a variable that takes the value 1 if the student chose one or more foreign languages and 0 otherwise. The results of this analysis are displayed in Table 40. As in section 4.10 each variable has a baseline category with which all other categories in the variable are compared. 'Higher professionals' has been taken as reference for the social class, 'female' for the gender, 'white' for the ethnic group, 'comprehensive school' for the school type, 'low' for ability and 'urban ≥ 10 ' for the urban/rural indicator.

Girls were more likely than boys to be studying at least one foreign modern language.

Ability was strongly related to the uptake of foreign modern languages: the highest the ability, the highest the probability of choosing one or more languages. However, this relationship was weaker than the relationship between uptake and ability found for the science subjects.

The probability of a student choosing one or more foreign languages was significantly lower for children of routine and manual workers compared to the probability of those whose parents were higher professionals. For the other social classes there were no significant differences.

School type had an important effect in the uptake of these subjects. The odds of taking at least one foreign language for a student attending a FE/Tertiary college were 0.6 times the odds of a student attending a comprehensive school. However, if the student attended a grammar or an independent school, the odds of taking at least one language were 1.9 and 2.4, respectively. Therefore, students attending grammar and independent schools were more likely to take modern foreign languages as part of their AS/A level subjects.

Evidence was found of differences in subject choice by ethnic group. Some ethnic minorities such as Indian, Pakistani or Bangladeshi were less likely to take modern foreign languages. For the other ethnic groups there were no significant differences.

Students that received advice from speakers from employment were less likely to choose two or more languages (the odds for this group were 0.4 times the odds of the group of students not getting advice from them). None of the other sources of advice have a significant effect.

Deprivation or living in a rural or urban location did not have a significant effect in the uptake of modern foreign languages.

Table 40: Effects of background variables on the probability of taking at least on foreign language

Variable	Coefficient	Standard error	Odds ratio
Constant	-2.803	0.169	
Gender: male	-0.812	0.104	0.4
Ability: medium	0.800	0.148	2.2
Ability: high	1.771	0.142	5.9
Social class: higher managers	-0.194	0.145	0.8
Social class: lower managers and professionals	0.015	0.105	1.0
Social class: intermediate workers	-0.226	0.127	0.8
Social class: routine and manual workers	-0.387	0.170	0.7
Social class: unemployed	-0.094	0.276	0.9
School type: FE/Tertiary college	-0.488	0.224	0.6
School type: Grammar school	0.669	0.252	1.9
School type: Independent school	0.877	0.220	2.4
School type: Sixth Form college	0.187	0.403	1.2
Ethnic group: Black African	-0.204	0.343	0.8
Ethnic group: Black Caribbean	0.459	0.420	1.6
Ethnic group: Black Other	-0.440	1.067	0.6
Ethnic group: Chinese	-0.416	0.338	0.6
Ethnic group: Mixed	0.161	0.222	1.2
Ethnic group: Indian	-0.596	0.210	0.6
Ethnic group: Pakistani	-1.134	0.321	0.3
Ethnic group: Bangladeshi	-2.544	1.114	0.1
Ethnic group: Any other ethnic group	-0.055	0.261	0.9
Town and fringe	0.070	0.141	1.1
Village	-0.115	0.151	0.9
Hamlet and isolate dwelling	-0.253	0.201	0.8
Advice	-0.074	0.120	0.9
Advice: Parents	0.145	0.147	1.2
Advice: Brothers and/or sisters	-0.160	0.140	0.9
Advice: Teachers in the secondary school	0.334	0.148	1.4
Advice: School leaflets	0.196	0.172	1.2
Advice: Other students/friends	-0.155	0.135	0.9
Advice: University admission tutors	-0.022	0.223	1.0
Advice: Speakers from higher education	0.144	0.217	1.2
Advice: Speakers from employment	-0.449	0.172	0.6
Advice: Open Day / Career events	0.079	0.146	1.1
Advice: Internet	0.079	0.165	1.1
Advice: Guidance at the centre	0.079	0.165	1.1
Advice: Interview at the sixth form centre	-0.217	0.158	0.8

4.12 Uptake of less effective preparation (LEP) subjects

For the following analysis, students were classified into two groups according to the uptake of A level subjects that provide a less effective preparation (LEP): those taking two or more subjects and those taking fewer. Table 41 shows the effects of students' background and students' characteristics on the probability of a student taking at least two LEP subjects. Each variable has a baseline category with which all other categories in the variable are compared. 'Higher professionals' has been taken as reference for the social class, 'female' for the gender, 'white' for the ethnic group, 'comprehensive school' for the school type, 'low' for ability and 'urban ≥ 10 ' for the urban/rural indicator.

Table 41: Effects of background variables on the probability of taking at least two LEP subjects

Variable	Coefficient	Standard error	Odds ratio
Constant	-0.609	0.179	
Gender: male	0.016	0.067	1.0
Ability: Medium	-0.174	0.074	0.8
Ability: High	-1.401	0.101	0.2
Social class: higher managers	0.062	0.126	1.1
Social class: lower managers and professionals	0.027	0.088	1.0
Social class: intermediate workers	0.017	0.093	1.0
Social class: routine and manual workers	0.016	0.106	1.0
Social class: unemployed	-0.084	0.176	0.9
School type: FE/Tertiary college	-0.351	0.242	0.7
School type: Grammar school	-0.154	0.340	0.9
School type: Independent school	-0.967	0.314	0.4
School type: Sixth Form college	-0.078	0.497	0.9
Town and fringe	-0.065	0.124	0.9
Village	-0.063	0.137	0.9
Hamlet and isolate dwelling	0.407	0.170	1.5
Ethnic group: Black African	-0.247	0.247	0.8
Ethnic group: Black Caribbean	-0.146	0.349	0.9
Ethnic group: Black Other	0.553	0.605	1.7
Ethnic group: Chinese	-0.159	0.299	0.9
Ethnic group: Mixed	-0.169	0.213	0.8
Ethnic group: Indian	-0.097	0.169	0.9
Ethnic group: Pakistani	-0.447	0.215	0.6
Ethnic group: Bangladeshi	0.049	0.271	1.1
Ethnic group: Any other ethnic group	-0.621	0.275	0.5
Advice	0.063	0.080	1.1
Advice: Parents	-0.009	0.111	1.0
Advice: Brothers and/or sisters	0.021	0.114	1.0
Advice: Teachers in the secondary school	0.082	0.113	1.1
Advice: School leaflets	-0.221	0.157	0.8
Advice: Other students/friends	0.208	0.111	1.2
Advice: University admission tutors	-0.909	0.262	0.4
Advice: Speakers from higher education	0.184	0.178	1.2
Advice: Speakers from employment	-0.035	0.038	1.0
Advice: Open Day / Career events	0.038	0.134	1.0
Advice: Internet	-0.235	0.133	0.8
Advice: Guidance at the centre	0.388	0.135	1.5
Advice: Interview at the sixth form centre	-0.136	0.122	0.9

There were no significant differences between boys and girls with regard to the uptake of LEP subjects. There were also no significant differences between social classes.

Ability was strongly related to the uptake of LEP subjects: the higher the ability, the lower the probability of choosing two or more of these subjects.

Students attending a comprehensive school were more likely to choose two or more LEP subjects than students in any other type of institution. However, only the effect of the independent schools was significant: the odds of a student taking two or more LEP subjects in an independent school were 0.4 times the odds of a student attending a comprehensive school. This effect might be related to the provision of the LEP subjects. In general, the provision in independent schools was more limited than in other types of centres and they offered fewer LEP subjects.

Evidence was found that students that received advice from speakers from higher education were less likely to choose two or more LEP subjects (the odds for this group were 0.4 times

the odds of the group of students not getting advice from them). On the other hand, students that were guided in the centre through their choices were more likely to choose two or more LEP subjects.

Other variables that had a significant effect on the probability under study were living in a 'hamlet and isolate dwelling' (higher probability) or being Pakistani or part of 'any other ethnic group' (lower probability).

5. CONCLUSIONS AND DISCUSSION

Much of the research on subject choice at 16 in England pre-dates some of the recent policy changes such as '*Curriculum 2000*' and, at present, policy decisions are informed by relatively modest evidence concerning the causes of choice. However, since the choices of students aged 16-19 affect their futures and the supply of qualified people to society, it is helpful to understand these choices and the reasons for them. Therefore, this research aimed to identify issues concerning students' choices in order to see the implications that they could have for sixth formers and the implications for future provision and developments (e.g. the implementation of the national diplomas).

Students in this research came from widely varying social backgrounds, attended different types of schools and differed hugely in abilities and interests. The findings of this research enable a number of conclusions to be drawn about the effects of different factors such as ability, ethnicity, social class, and type of school upon subject choice of AS/A level subjects. This section identifies the key findings that have emerged from the research and outlines some implications. These findings refer to the AS/A level subjects taken by the students that completed the questionnaire, to the students' perceptions of their own subjects and to the reasons behind their own choices.

Our findings with regard to the uptake of AS/A level subjects show that the entries tended to follow different patterns depending on students' characteristics. Boys showed a preference for more practical subjects whilst girls showed their liking for subjects in the Humanities and Languages fields. These patterns agreed with the results in Bell *et al.* (2005) and Vidal Rodeiro (2006). The more able students were more likely to take traditional academic subjects and the less able tended to take newer or vocational subjects. Differences also emerged between ethnic groups. The results show that in comparison to the white group, Black African, Chinese, Indian, Pakistani and students from a mixed background were more likely to take two or more maths/science subjects. On the other hand, some minorities, such as Indian, Pakistani or Bangladeshi, were less likely to take modern foreign languages. It is important to know that differences in subject choices made by different ethnic groups might have an origin in family attitudes towards education and towards what subjects and courses are seen to lead to professional careers.

This research also showed a correlation between parents' occupation and child's choice of AS/A level subjects. The children of the more advantaged social classes were oriented towards science and more academic subjects. Children from less advantaged backgrounds were more inclined to have a mixture of subjects.

The analyses of AS/A level subject uptake by school type revealed that there were large differences between schools in the patterns of entries across the different subjects. Students attending grammar and independent schools and sixth form colleges were more inclined to have a mixture of subjects. Students attending FE/Tertiary colleges were more likely to take Art subjects or subjects in the Socio/Humanities fields. However, it is important to bear in mind that schools sixth forms, FE/Tertiary colleges and sixth form colleges tend to specialise in different types of courses and this affects the students' choices (Vidal Rodeiro 2005).

As shown in previous studies, for example Stables (1996), perception of importance is a key factor in subject choice. Also, the perceived importance of the subjects is an essential tool for encouraging young people in schools to continue to study the subjects and to pursue a career in the field. In this research it was found that academic subjects such as Mathematics,

Chemistry or English and other more applied subjects such as ICT or Art and Design scored high for importance. Subjects like Critical Thinking or General Studies (often made compulsory in schools) scored quite low for importance. The perceived importance varied by gender suggesting that boys considered more important the quantitative subjects and girls leaned more towards subjects with a heavy language demand. This has significant implications for career choices.

Small differences in the perceived importance of AS/A level subjects were also found by type of school. However, high percentages of students in each type of school perceived the most traditional academic subjects (e.g. Mathematics, Chemistry or Biology) as very important and gave low importance to subjects such Psychology or Media Studies.

Only a few differences appeared between the pupils from different social class backgrounds with regard to subject importance. These differences were mainly between the two groups in the top of the social class classification. This result is not surprising if we follow the belief that children choose subjects that correspond closely to their parents positions in society (as shown by previous studies, e.g. Van de Werfhorst 2003).

Already in 1976, Keys and Ormerod had reported that at the time of subject choice, subject preference might be a complex issue in which different factors are involved and that the magnitude of the effect of each factor varies for different subjects. In this research we found evidence that the relative importance of enjoyment, ability and careers as factors for choice varied considerably from subject to subject. However, in general, most students chose their AS/A level courses because they enjoyed the subject or had a liking or interest in it. This reason scored higher for students from a high social class background and lower for the students from a low social class background. Students also appeared to consider important the usefulness of the subject for a preferred future job or career. It should be recognised that the value or usefulness that students give to a subject may be influenced by information presented to them by their teachers, their parents or the media. A third factor highly involved in the decision-making process was the students' self-perception of their ability in the subjects.

Other factors investigated (e.g. school pressure, timetabling, liking of the teacher, influence of friends) did not score highly for the majority of the students. However, more students from lower social class backgrounds than students from the higher social class backgrounds chose a subject because it was new and exciting, because it fitted well their timetables or because they needed to choose another subject to make up the number of subjects they had decided to study.

The type of school attended exerted a significant influence on students' subject choice. High percentages of students in sixth form colleges and FE/Tertiary colleges chose their subjects because of the value they attached to them regarding future jobs or careers. Figures were lower for the grammar and independent schools. The highest percentage of students that chose a subject because they would enjoy it or it would interest them was found in FE/Tertiary colleges. Smaller percentages of students in grammar or independent schools than students in colleges or comprehensive schools chose a subject because it was new and exciting, because it fitted well their timetables or because they needed to choose another subject to make up the number of subjects they had decided to study.

Results from this research reveal that there does not seem to be an impact from the points system on subject choice and that schools were not leading their students to take certain subjects in an attempt to maximise point scores and scale positions in league tables.

The impact of new subjects seemed greater in colleges, in particular in FE/Tertiary colleges, than in independent or grammar schools where fewer of the newer/vocational subjects were offered.

Some students tended to believe they had restricted choices and made comments on this issue, most of them critical of their schools. While policy emphasis is on increasing choice for all students, this research showed that choice was, in fact, limited for some of them. Sometimes students had to choose subjects not on the basis of the preferred course, but on whether or not the school offered it. In a few cases, students compromised on their choices in order to stay on in the same school. In other cases, students changed centres to study a particular subject. This raises issues in relation to the curriculum on offer in schools.

Also, the provision of AS/A level subjects has obvious implications for access to universities. If a subject is a requirement for a degree (or just strongly preferred) then students who attend schools where it is not offered are obviously at a disadvantage. Of course, it can be argued that students can select schools or colleges that provide the courses that match their future aspirations. There are a number of problems with this. For example, there may be additional travel costs or students may have to split from friendship groups.

Advice appeared to offer considerable scope for equipping students with the necessary knowledge and skills required to allow them to make subject choices. The percentages of students that received advice varied in relation to their social background and the type of school attended. The evidence from this research suggests that parental influence seemed to have a big influence on students' choices at AS/A level. However, a number of researchers have raised a cautionary note, suggesting that parental views on subjects may be outdated or misconceived (Wikeley and Stables 1999, McCrone *et al.* 2005).

However, some students claimed that they had not received enough information to make informed decisions. A question then arises: are students aware of the effects of potentially choosing the wrong subject? In this research we found that, for instance, some students were not told by their teachers that taking certain subjects at AS/A level, for example, more than one LEP subject, could put them at a disadvantage if they wanted to be considered for an academic course at a top university. Also, attending an independent school decreased considerably the probability of a student taking two or more of these subjects. It would then appear to be important to develop a greater degree of understanding of the relationship between the type of school and the ways in which they advise their students. Universities appear also concerned that the quality of advice given to students – covering choice of subjects, future career options, and guidance on higher education – varies across the school sector (Sutton Trust 2007).

Given that schools can only offer a limited number of courses, it is particularly important that 16 year olds are fully informed of all the opportunities available. Students need to have all the possible options explained and be made aware of the implications for their future career or employment of any decision made about their choices. Some students participating in this research mentioned that it was not the amount of information they received which was not enough, but the timing that was wrong. Students are not being given careers advice at a sufficiently early age to allow them to make informed choices and they do not receive a full picture of the consequences of their subject choices. Advice on subject choice and on the alternatives open to students should begin earlier in the secondary school years in order not to have restricted opportunities later and needs to be re-introduced on different occasions. Also, given the developments of new routes through the 14-19 qualification system, including the development of national diplomas, there is a need to ensure that students not only have the advice they need but the necessary skills to make use of it.

The differences that emerged in this research between different social class groups, ethnic groups and types of school with regard to subject choice can have implications for the widening participation agenda. In fact, widening access and improving participation in higher education are a crucial part of the current educational policy which aims to promote and provide the opportunity of participating in higher education to everyone. Widening participation addresses the large discrepancies in the take-up of higher education opportunities between, in particular, different social groups. In this research, for example, it has been shown that parents' interests are channelled to their children and therefore children choose subjects that correspond closely to their parents' positions in the economic and cultural hierarchy. Students from professional backgrounds were found to be more likely to choose science and more academic subjects in order to maintain the social class of their parents. However, students from lower social class backgrounds chose applied or practical subjects which might have restricted their opportunities. The widening participation agenda looks to ensure that all those with the potential to succeed have fair access to the opportunities and benefits that higher education can bring. For that purpose, advice and the curriculum on offer in schools are still at the heart of the changes that are required if practitioners in educational institutions are to widen participation.

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Appendix A: Selection of centres and students

Selection of centres

Random stratified sampling was used to select the institutions that took part in the research from the population of all institutions that offer AS/A level courses in England. When sub-populations vary considerably (in this case institutions' characteristics vary by type), it is advantageous to sample each sub-population (stratum) independently. The strata should be mutually exclusive: every element in the population must be assigned to only one stratum. Then, random sampling is applied within each stratum. This often improves the representativeness of the sample by reducing the sampling error. For example, if a population consist of 60% in the male stratum and 40% in the female stratum, then the relative size of the two samples (males and females) should reflect this proportion.

In this research the sample was stratified by institution type:

- Comprehensive school: school providing secondary education which admits pupils of all academic abilities.
- Grammar school: secondary school which selects all their pupils by ability.
- Independent school: a school at which full-time education is provided for five or more pupils of compulsory school age. This term does not include a school maintained by a Local Education Authority (LEA), a self-governing grant-maintained school or a special school not maintained by a LEA.
- Sixth form college: post-compulsory educational establishment in the further education sector that offers largely full-time academic courses for students aged 16-19. Sixth form colleges may also offer vocational courses.
- Further education college: educational establishment providing full- or part-time education and training for students over compulsory school leaving age and outside the university sector. Traditionally, further education colleges offered vocational courses. They now tend to offer a combination of academic and vocational courses, but some remain specialised, offering specific vocational education, as in colleges of agriculture and horticulture, technical colleges, colleges of art and of commerce.
- Tertiary college: educational establishment for the 16-19 group, which combines the functions of a further education college and a sixth form college, and which offers further education through a full range of courses, both vocational and academic.

Allowance needed to be made for the fact that some of the selected centres chose not to participate in the study. To cope with this situation, when one institution pulled out of the study, it was replaced by another institution of similar characteristics selected at random from the same stratum.

The sample, which was drawn using SAS⁹, consisted of 140 centres stratified as shown in Table A1. After chasing up the centres that did not respond to the invitation, there were 52 positives responses. Only one further education college agreed to take part in the survey in the first instance but, with the help of the Association of Colleges, eight more were recruited.

⁹ Statistical Analysis System, version 8.0.1

Table A1: Centres invited and centres taking part in the survey by centre type

Centre type	Centres invited		Centres taking part	
	Number	%	Number	%
Comprehensive schools	77	55	34	57
Further education colleges	14	10	9	15
Grammar schools	9	7	4	7
Independent schools	31	22	7	12
Sixth form colleges	7	5	5	8
Tertiary colleges	2	1	1	1
Total	140	100	60	100

Selection of students

After some consideration, it was decided that all the students doing AS or A level courses in the 60 participating centres would be invited to take part in the survey. Potentially, there were 16678 students completing the questionnaire.

Appendix B: Questionnaire design

The first part of the questionnaire gathered factual information about the students and their academic background. The second part was aimed to discover factors affecting subject choice at AS/A level and the perceptions of the chosen subjects. Information was drawn concerning feelings about year 12 and year 13 subjects, reasons for choosing the subjects, advice given and future aspirations.

Just as important as the questions themselves, is the way they appear in the questionnaire. The questionnaire should look attractive, be easy to answer and appear spacious and interesting (Cohen and Manion, 1994). A major consideration is the length of the questionnaire. This decision is not an easy one but the aim is to gather the necessary data without overburdening the participants. Also, its design must minimize potential errors from respondents and coders. Colleagues from the Core Research group¹⁰ who have expertise in questionnaire design helped with the design of the questionnaire.

The questionnaire was anonymous and therefore it was not possible to use the 16+/18+ databases to match the students with their previous GCSE results. Instead, the questionnaire had some questions relating to the previous attainment of the students (students were asked how many GCSEs they took and how many of them were graded with an A*, A, B, etc.).

Since the students' participation in the survey was voluntary, the questionnaire had to help in engaging their interest and encourage their cooperation. To this end, a covering letter was written to emphasise to the students the importance of their responses. It also indicated the aim of the survey and assured students of the confidentiality of their responses.

Pilot

No matter how experienced a researcher is in questionnaire design, it is rarely possible to create a first draft that needs no further amendment. Therefore, pre-testing is essential and it has been observed that piloting a questionnaire is the most effective means of pre-testing in order to increase reliability, validity and practicability. With this in mind, an early version of the questionnaire was piloted on a small group of sixth formers to obtain feedback about its questions and structure. Ten schools in the Cambridgeshire Local Education Authority were approached and two agreed to take part in the pilot study. These centres were mixed comprehensive schools and 86 of their students completed the questionnaires. This pilot study was used for prior estimation on response levels and the feedback from it enabled to amend the questionnaire before it took its final form.

Two researchers from Cambridge Assessment carried out interviews with a small number of students in a local sixth form college (15 A level Psychology and 13 A level Physics students). These students were asked about their subject choices, the reasons for their choices, the quality of the advice that was given to them, which subjects they considered more important and why, etc. Also, the draft of the questionnaire was shown to these students and they were asked about their impressions. The students had concerns about the length and the font size but, in general, their comments were positive and they said it was easy to complete.

Using the feedback provided by the students that completed the pilot and those interviewed, the questionnaire was amended.

Main questionnaire

The main questionnaire included the following topics:

- factual information about the students and their academic background
 - o school, date of birth and gender
 - o ethnic background (9 specified categories and other)
 - o parents' qualifications (mother and father, separately)
 - o parents' employment status and type of work (mother and father, separately)

¹⁰ The Core Research group, within Cambridge Assessment' research division, is concerned with educational measurement and assessment including long-term issues and current developments. Topics of recent projects include: coursework/internal assessment issues, vocational assessments, question difficulty, awarding standards and test design.

- GCSEs subjects studied and grades obtained
- AS/A level subjects and perceptions of these subjects
- factors affecting AS/A level subject choice (15 different reasons given to be rated from 'not important at all' to 'very important')
- combinations of subjects
- advice
 - sources of advice
 - value of the advice
- future aspirations or intentions post-18

There was a final open-ended question where the students were able to offer their own comments and opinions.

A copy of the final version of the questionnaire is enclosed here.



About you

1. In which year of school are you?

- Year 12 Year 13

2. What is your date of birth?

DD MM YYYY
[][] - [][] - [][][][]

3. Are you male or female?

- Male Female

4. What is your ethnic group?

- White Mixed
 Black African Indian
 Black Caribbean Pakistani
 Black Other Bangladeshi
 Chinese Any other ethnic group

If other, please specify: []

5. What is your home postcode?

[][][][] [][][][]

6. Which is the highest qualification that your parents have?

Your father

- GCSEs/O levels/CSEs/School certificate
 A levels/AS levels/Higher school certificate
 First university degree (e.g. BA, BSc)
 Higher university degree (e.g. MA, PhD, PGCE)
 Foundation GNVQ, NVQ Level 1
 Intermediate GNVQ, NVQ Level 2
 Advanced GNVQ, NVQ Level 3
 Higher National Certificate/Diploma, NVQ Levels 4-5
 Other qualifications
 No qualifications
 Do not know

Your mother

- GCSEs/O levels/CSEs/School certificate
 A levels/AS levels/Higher school certificate
 First university degree (e.g. BA, BSc)
 Higher university degree (e.g. MA, PhD, PGCE)
 Foundation GNVQ, NVQ Level 1
 Intermediate GNVQ, NVQ Level 2
 Advanced GNVQ, NVQ Level 3
 Higher National Certificate/Diploma, NVQ Levels 4-5
 Other qualifications
 No qualifications
 Do not know

1. Example
Please mark boxes clearly and use capital letters when filling in answers.

A B C

Your choices for AS subjects

10. How many AS subjects did you take/are you taking? Please write the number in the appropriate box.

Number of AS courses last year Number of AS courses this year

Please tell us about your AS subjects. How important are these subjects to you? Rate their importance by ticking the appropriate box.

	Not at all important				Very important			
	1	2	3	4	1	2	3	4
AS subject 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AS subject 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AS subject 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AS subject 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AS subject 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you are in Year 12, please rate how important each of the following reasons was *at the time* you chose the AS subjects above.

If you are in Year 13, please go to question 11.

	Not at all important				Very important															
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
I was good at GCSE in this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought I would do well in this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought it would be an interesting subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought it would be an easy subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought this subject would be useful for my future career	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This subject is a requirement for the university degree I want to study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was a new subject for me and it sounded exciting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The school put pressure on me to choose this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I was advised to take this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My friends were taking this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like the teacher/the teacher is good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This subject fitted well in my timetable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I needed this subject to 'complete numbers' (needed to study another subject)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought this was a good subject to have	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought I would enjoy this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Your choices for A-level (Yr 12 students go to Q12)

11. How many A-levels are you studying?

Number of A-levels

Please tell us about your A-levels. How important are these subjects to you? Rate their importance by ticking the appropriate box.

											Not at all important				Very important				
											1	2	3	4	1	2	3	4	
A-level 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A-level 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A-level 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A-level 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please rate how important each of the following reasons was *at the time* you chose the A-levels above.

	Not at all important				Very important											
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
I was good at GCSE in this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I was good at AS level in this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought I would do well in this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought it would be an interesting subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought it would be an easy subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought this subject would be interesting for my future career	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This subject is a requirement for the university degree I want to study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was a new subject for me and it sounded exciting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The school put pressure on me to choose this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I was advised to take this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My friends were taking this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like the teacher/the teacher is good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This subject fitted well in my timetable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I needed this subject to 'complete numbers' (needed to study another subject)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought this was a good subject to have	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought I would enjoy this subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

General questions about your choices

12. Please rate the importance of the following reasons for choosing your combination of AS/A level subjects.

	Not at all important				Very important			
	1	2	3	4	1	2	3	4
It was the required combination for my future career	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was the required combination for the degree I want to study at university	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This combination fitted well in my timetable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I was advised to choose this combination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I wanted a mixture of science and arts/humanities subjects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I wanted a mixture of new and traditional subjects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I did not think about combinations (I only thought about choosing subjects)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you have any other reason, please specify:

13. Were you given advice when choosing your AS/A level subjects or combinations?

Yes No

14. If you were given advice, who gave you that advice and how useful was it?

	Not at all useful				Very useful			
	1	2	3	4	1	2	3	4
<input type="checkbox"/> Parents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Brothers and/or sisters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Teachers in your secondary school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> School leaflets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other students/friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> University admission tutors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Speakers from higher education institutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Speakers from employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Open Day/Career events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Internet (e.g. university admission requirements)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Guidance at this school/college after starting courses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Interview at the sixth form centre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you have any other source of advice, please specify:

15. If you were given advice, was it enough for you to make a well-informed decision about your choices of AS/A level subjects?

Yes No

16. Did you have to go to a particular school or change schools in order to study some AS/A level subjects?

- Yes No

17. What do you intend to do when you finish your A-levels?

- Start vocational training
- Get a job whether or not it offers training
- Go to college or institution of higher education
- Go to a university
- Be unemployed by choice
- Get a job with training
- Have not made up my mind yet

If other, please let us know in the space below:

18. If there is anything else that affected your AS/A-level choices, tell us about it in the box below.

Thank you for taking time to answer this questionnaire.
We appreciate your help.

Appendix C: National Statistics Socio-Economic classification

The following classification shows the eight social classes described in the National Statistics Socio-Economic classification.

1. Higher managerial and professional occupations.
 - 1.1 Employers and managers in large organisations (e.g. company directors, senior company directors, senior company managers, senior civil servants, senior officers in police and armed forces).
 - 1.2 Higher professionals (e.g. doctors, lawyers, clergy, teachers and social workers).
2. Lower managerial and professional occupations (e.g. nurses and midwives, journalists, actors, musicians, prison officers, lower ranks of police and armed forces).
3. Intermediate occupations (e.g. clerks, secretaries, driving instructors, telephone fitters).
4. Small employers and own account workers (e.g. publicans, farmers, taxi drivers, window cleaners, painters and decorators).
5. Lower supervisory, craft and related occupations (e.g. printers, plumbers, television engineers, train drivers, butchers).
6. Semi-routine occupations (e.g. shop assistants, hairdressers, bus drivers, cooks).
7. Routine occupations (e.g. couriers, labourers, waiters and refuse collectors).
8. Unemployed.

Table C1 gives a breakdown of the parents' occupations for the students in the survey.

Table C1: Parents' occupations

Parents' occupations	Fathers %	Mothers %
1.1 Employers and managers in large organisations	6.4	2.4
1.2 Higher professionals	21.1	16.9
2 Lower managerial and professional occupations	16.2	15.9
3 Intermediate occupations	7.7	15.5
4 Small employers and own account workers	10.4	3.2
5 Lower supervisory, craft and related occupations	6.7	1.1
6 Semi-routine occupations	6.9	11.9
7 Routine occupations	3.8	3.6
8 Unemployed	3.3	16.8
Unknown/Unsure	0.8	0.5
No response	16.7	12.1

There were higher proportions of fathers than mothers in higher managerial and professional occupations (28% and 19%, respectively). For mothers, the second most common category was unemployed (although this might be more accurately described as not in paid employment). Around 17% of the sixth formers gave no information about their fathers' occupation and around 12% gave no information about their mothers'.

Appendix D: Uptake of AS/A level subjects

Table D1: Uptake of individual AS subjects by gender (% of students completing the survey)

Subject	Total	Male	Female
Accounting	2.9	4.2	1.9
Applied Art & Design	0.7	0.3	1.0
Applied Business	0.7	0.9	0.6
Applied ICT	1.4	2.2	0.8
Applied IT	0.1	0.2	0.1
Applied Science	1.0	1.2	0.8
Arabic	0.0	0.0	0.1
Archaeology	0.0	0.1	0.0
Art & Design / Art	16.4	10.6	19.9
Bengali	0.0	0.0	0.0
Biology	27.1	23.1	29.0
Business & Economics	0.6	0.4	0.8
Business Studies	17.5	21.2	14.1
Chemistry	22.1	21.8	21.3
Chinese	0.2	0.0	0.2
Citizenship	0.9	1.0	0.8
Classical Civilisation	0.4	0.4	0.4
Classical Greek	0.3	0.1	0.4
Communication Studies	0.9	0.6	1.1
Computing	2.7	5.9	0.4
Critical Thinking	4.8	3.3	5.7
D&T	7.7	6.6	8.3
Dance	0.8	0.0	1.4
Drama & Theatre Studies	6.6	4.5	7.9
Dutch	0.0	0.0	0.1
Economics	6.8	8.1	5.5
Electronics	0.4	0.8	0.1
Engineering	0.4	1.0	0.0
English Lang	10.6	6.8	12.9
English Lang + Lit	3.4	2.7	3.8
English Lit	16.2	8.3	21.2
Environmental Science	0.9	1.0	0.8
Film Studies	2.0	2.9	1.4
French	7.2	4.0	9.4
Further Maths	4.5	6.7	2.8
General Studies	15.4	14.2	15.3
Geography	15.5	16.8	14.1
Geology	0.7	1.0	0.6
German	3.1	1.6	4.0
Government & Politics	2.1	2.4	1.7
Gujarati	0.0	0.0	0.0
Health & Social Care	4.0	0.5	6.2
Hebrew	0.0	0.0	0.0
History	21.6	19.6	22.2
History of Art	0.9	0.0	1.5
Home Economics	0.2	0.0	0.2
Human Biology	0.6	0.5	0.5
ICT	10.0	14.1	6.7
Islamic Studies	0.0	0.0	0.0
IT	2.2	3.0	1.4
Italian	0.2	0.0	0.4
Japanese	0.1	0.1	0.1

Table D1
(Continuation)

Subject	Total	Male	Female
Latin	1.2	0.3	1.8
Law	7.4	6.5	7.6
Leisure Studies	0.5	0.6	0.4
Mathematics	31.7	40.3	24.4
Media Studies	12.5	12.6	11.8
Modern Greek	0.0	0.0	0.0
Music	2.7	2.3	2.8
Music Technology	1.0	1.5	0.6
Panjabi	0.1	0.0	0.1
PE/Sport	8.7	12.9	5.4
Performance Studies/Art	1.0	0.8	1.3
Persian	0.0	0.0	0.0
Philosophy	5.5	5.0	5.6
Physics	14.7	23.0	8.0
Polish	0.0	0.0	0.1
Portuguese	0.0	0.0	0.0
Psychology	27.8	18.3	33.7
Religious Studies	6.0	4.0	7.1
Russian	0.2	0.0	0.2
Sociology	11.7	6.9	14.8
Spanish	3.2	2.0	3.9
Travel & Tourism	1.2	1.2	1.1
Turkish	0.0	0.0	0.0
Urdu	0.0	0.1	0.0
World Development	0.4	0.3	0.4

Table D2: Uptake of individual A2 subjects by gender (% of year 13 students completing the survey)

Subject	Total	Male	Female
Accounting	2.3	4.3	1.0
Applied Art & Design	0.5	0.5	0.5
Applied Business	0.7	0.5	0.7
Applied ICT	0.8	1.3	0.4
Applied IT	0.0	0.1	0.0
Applied Science	0.4	0.5	0.3
Arabic	0.0	0.0	0.1
Archaeology	0.0	0.0	0.0
Art & Design / Art	14.9	9.9	17.3
Biology	23.0	19.5	24.1
Business & Economics	0.5	0.4	0.5
Business Studies	17.2	22.6	13.1
Chemistry	19.5	19.8	18.3
Classical Civilisation	0.4	0.2	0.5
Classical Greek	0.2	0.1	0.3
Communication Studies	0.8	0.6	0.8
Computing	1.8	4.3	0.1
Critical Thinking	0.7	0.6	0.7
D&T	7.1	4.4	8.5
Dance	0.7	0.1	1.2
Drama & Theatre Studies	6.6	5.3	7.4
Economics	5.7	7.6	4.3
Electronics	0.2	0.3	0.1
Engineering	0.2	0.4	0.0
English Lang	11.1	6.9	13.1
English Lang + Lit	2.6	2.6	2.5
English Lit	13.7	7.4	17.3
Environmental Science	0.8	0.7	0.9
Film Studies	1.9	2.1	1.6
French	4.5	2.2	5.8
Further Maths	3.2	5.1	1.8
General Studies	9.7	7.7	10.2
Geography	13.8	15.8	12.2
Geology	0.3	0.3	0.3
German	3.0	1.6	3.7
Government & Politics	1.8	2.1	1.3
Health & Social Care	3.3	0.2	5.2
Hebrew	0.0	0.0	0.1
History	21.2	19.4	21.2
History of Art	1.1	0.0	1.7
Human Biology	0.4	0.1	0.6
ICT	8.6	13.3	5.3
IT	1.3	2.3	0.5
Italian	0.3	0.0	0.5
Latin	0.9	0.1	1.4
Law	3.8	3.3	3.8
Leisure Studies	0.5	0.7	0.3
Mathematics	26.3	36.0	19.5
Media Studies	10.8	11.0	9.9
Music	2.3	1.8	2.4
Music Technology	0.7	1.2	0.3
Panjabi	0.1	0.0	0.1
PE/Sport	7.0	11.0	4.2
Performance Studies/Art	1.0	0.4	1.4

Table D2
(Continuation)

Subject	Total	Male	Female
Philosophy	4.9	4.8	4.8
Physics	12.1	20.6	6.1
Psychology	22.9	14.2	27.7
Religious Studies	6.7	3.1	8.6
Russian	0.1	0.1	0.1
Sociology	10.7	7.5	12.2
Spanish	2.1	1.2	2.7
Tamil	0.0	0.1	0.0
Travel & Tourism	1.3	1.4	1.2
Urdu	0.1	0.2	0.0

Table D3: Uptake of individual AS subjects by attainment group (% of students completing the survey)

Subject	Low	Medium	High
Accounting	3.6	3.4	1.2
Applied Art & Design	1.0	0.9	0.3
Applied Business	1.6	0.5	0.0
Applied ICT	3.0	1.0	0.1
Applied IT	0.2	0.1	0.0
Applied Science	1.6	0.9	0.2
Arabic	0.0	0.0	0.0
Archaeology	0.1	0.0	0.0
Art & Design / Art	13.7	18.0	15.0
Bengali	0.0	0.0	0.0
Biology	11.1	25.4	40.2
Business & Economics	0.5	0.9	0.4
Business Studies	20.7	21.6	7.7
Chemistry	7.6	16.1	38.8
Chinese	0.2	0.1	0.2
Citizenship	1.4	1.2	0.0
Classical Civilisation	0.1	0.5	0.6
Classical Greek	0.0	0.0	0.7
Communication Studies	1.4	0.9	0.2
Computing	3.1	3.1	1.6
Critical Thinking	3.2	3.9	6.5
D&T	6.4	9.6	5.9
Dance	0.8	1.0	0.6
Drama & Theatre Studies	5.8	7.7	5.3
Dutch	0.0	0.1	0.0
Economics	3.4	6.6	9.1
Electronics	0.6	0.4	0.2
Engineering	0.6	0.3	0.3
English Lang	9.4	10.9	9.9
English Lang + Lit	2.3	3.9	3.4
English Lit	10.8	15.9	19.1
Environmental Science	0.7	1.6	0.3
Film Studies	2.8	2.6	0.5
French	1.6	4.1	14.7
Further Maths	1.8	2.2	8.8
General Studies	13.4	14.5	15.9
Geography	8.8	16.1	19.0
Geology	0.4	0.7	1.0
German	0.7	2.0	6.1
Government & Politics	0.9	2.1	2.9
Gujarati	0.0	0.0	0.0
Health & Social Care	6.3	3.9	1.1
Hebrew	0.0	0.0	0.0
History	11.0	20.2	30.1
History of Art	0.3	0.5	1.9
Home Economics	0.3	0.1	0.0
Human Biology	0.4	0.9	0.5
ICT	12.2	12.5	4.0

Table D3
(Continuation)

Subject	Low	Medium	High
Islamic Studies	0.0	0.0	0.0
IT	2.7	2.2	1.4
Italian	0.0	0.0	0.6
Japanese	0.1	0.1	0.1
Latin	0.1	0.0	3.3
Law	9.3	8.0	3.8
Leisure Studies	1.1	0.3	0.0
Mathematics	16.2	26.2	47.4
Media Studies	17.0	14.4	4.5
Modern Greek	0.0	0.0	0.0
Music	1.3	2.5	3.7
Music Technology	1.1	0.9	0.8
Panjabi	0.0	0.0	0.1
PE/Sport	7.6	11.7	5.5
Performance Studies/Art	0.9	1.3	0.7
Persian	0.0	0.0	0.0
Philosophy	4.1	7.3	4.2
Physics	6.4	11.4	23.8
Polish	0.0	0.0	0.0
Portuguese	0.1	0.0	0.0
Psychology	24.9	32.3	22.0
Religious Studies	3.4	5.9	7.6
Russian	0.0	0.0	0.4
Sociology	13.9	14.6	5.0
Spanish	0.8	2.1	6.2
Travel & Tourism	2.6	0.9	0.0
Urdu	0.1	0.0	0.0
World Development	0.6	0.4	0.0

Table D4: Uptake of individual A2 subjects by attainment group (% of year 13 students completing the survey)

Subject	Low	Medium	High
Accounting	2.7	3.6	0.9
Applied Art & Design	0.7	0.8	0.1
Applied Business	2.3	0.1	0.1
Applied ICT	1.7	1.0	0.0
Applied IT	0.2	0.0	0.0
Applied Science	1.0	0.3	0.1
Arabic	0.0	0.1	0.0
Archaeology	0.2	0.0	0.0
Art & Design / Art	14.6	15.3	13.9
Biology	6.7	17.6	36.0
Business & Economics	0.2	0.7	0.5
Business Studies	22.7	24.1	7.4
Chemistry	4.2	11.4	34.3
Classical Civilisation	0.2	0.2	0.6
Classical Greek	0.0	0.1	0.5
Communication Studies	1.5	0.9	0.3
Computing	1.5	2.6	1.2
Critical Thinking	0.7	0.9	0.4
D&T	6.0	9.2	5.5
Dance	0.3	1.3	0.5
Drama & Theatre Studies	7.2	8.6	4.3
Economics	4.4	5.7	6.2
Electronics	0.3	0.1	0.2
Engineering	0.2	0.2	0.1
English Lang	9.2	11.4	11.4
English Lang + Lit	2.5	3.3	2.1
English Lit	11.6	12.2	15.6
Environmental Science	1.0	1.0	0.5
Film Studies	4.4	1.9	0.3
French	0.7	2.1	8.4
Further Maths	1.8	0.8	5.8
General Studies	11.1	8.3	9.7
Geography	8.4	14.1	16.0
Geology	0.2	0.3	0.4
German	0.5	1.9	5.3
Government & Politics	0.5	1.4	2.8
Health & Social Care	8.1	2.8	0.9
Hebrew	0.0	0.1	0.0
History	11.4	21.3	25.8
History of Art	0.0	0.3	2.3
Human Biology	0.2	0.3	0.6
ICT	12.6	10.7	4.1
IT	2.2	1.5	0.6
Italian	0.0	0.1	0.7
Latin	0.0	0.0	2.2
Law	6.0	3.8	2.4
Leisure Studies	0.8	0.6	0.1
Mathematics	12.6	17.8	40.2
Media Studies	19.3	12.9	3.4
Music	1.2	2.4	2.7

Table D4
(Continuation)

Subject	Low	Medium	High
Music Technology	1.2	0.9	0.3
Punjabi	0.0	0.1	0.1
PE/Sport	8.1	9.2	4.1
Performance Studies/Art	2.2	0.7	0.5
Philosophy	4.9	6.4	3.4
Physics	4.9	7.2	19.9
Psychology	22.1	27.5	18.5
Religious Studies	4.0	7.5	7.3
Russian	0.0	0.0	0.3
Sociology	14.9	13.8	5.2
Spanish	0.3	1.4	3.7
Travel & Tourism	3.7	1.2	0.0
Urdu	0.3	0.0	0.0
Tamil	0.0	0.0	0.1

Table D5: Most common combinations of at least three AS subjects (% of candidates with at least three AS subjects)

Combination					%	Cumulative %
Biology	Chemistry	Mathematics	Physics		1.6	1.6
Biology	Chemistry	Mathematics	Psychology		1.0	2.6
Biology	Chemistry	Mathematics			0.5	3.1
Chemistry	Further Maths	Mathematics	Physics		0.4	3.5
Biology	Chemistry	General Studies	Mathematics	Physics	0.4	3.9
Biology	Chemistry	Geography	Mathematics		0.3	4.2
Biology	Chemistry	History	Mathematics		0.3	4.5
Chemistry	Geography	Mathematics	Physics		0.3	4.8
Biology	Chemistry	Further maths	Mathematics	Physics	0.2	5
Biology	Chemistry	Critical Thinking	Mathematics	Physics	0.2	5.2

Table D6: Most common combinations of at least three A2 subjects (% of candidates with at least three A2 subjects)

Combination					%	Cumulative %
Biology	Chemistry	Mathematics			3.6	3.6
Biology	Chemistry	Mathematics	Physics		1.5	5.1
Biology	Chemistry	Psychology			1.4	6.5
Chemistry	Mathematics	Physics			1.3	7.8
Biology	Chemistry	History			0.8	8.6
Chemistry	Further Maths	Mathematics	Physics		0.7	9.3
English Lit	Geography	History			0.6	9.8
Biology	Chemistry	Physics			0.5	10.4
English Lit	History	Psychology			0.5	10.9
Biology	Mathematics	Physics			0.5	11.4

Appendix E: Taxonomy of AS/A level subjects

The following taxonomy was developed after some of the analyses in this report were carried out. It does not necessarily match QCA or the awarding bodies subject classifications and it is not based in any theoretical constructs. It was written in order to help with the discussion and interpretation of the results presented in this report.

Science

<i>Maths</i>	<i>Science</i>
Mathematics	Archaeology
Further Maths	Biology
	Human Biology
	Chemistry
	Environmental Science
	Geology
	Physics

Languages

<i>Classics</i>	<i>Traditional Modern Languages</i>	<i>Other Languages</i>	
		<i>European</i>	<i>Rest of the world</i>
Latin	French	Dutch	Arabic
Classical Greek	German	Italian	Hebrew
	Spanish	Portuguese	Chinese
		Modern Greek	Panjabi
		Polish	Bengali
		Russian	Gujarati
			Japanese
			Turkish
			Urdu
			Tamil

B / V / T (Business, Vocational and Technologies)

<i>Business</i>	<i>Vocational</i>	<i>Technologies</i>
Accounting	Home Economics	Computing
Applied Business	Health & Social Care	ICT
Business Studies	Leisure Studies	Applied ICT
Business & Economics	PE/Sport	IT
Law	Travel & Tourism	Applied IT
		Engineering
		Electronics
		Applied Science
		D & T
		Music Technology
		Communication Studies

Creative Arts

Performance studies/art
Drama & Theatre Studies
Applied Art & Design
Art & Design / Art
Dance
Music

Established Humanities

Classical Civilisation
Economics
Geography
History
History of Art
Philosophy
Religious Studies
Government & Politics
English Lang
English Lit
English Lang + Lit
Sociology
Psychology

Newer Humanities

Film Studies
Media Studies
Islamic Studies
Critical Thinking

Appendix F: Provision of AS/A level subjects in the schools in the survey

The following tables show the percentages of schools in the survey that offer each individual subject at AS level (Table F1) and A2 (Table F2).

Table F1: Provision of AS subjects

Subject	% schools
Accounting	19.6
Applied Art & Design	9.8
Applied Business	23.5
Applied ICT	33.3
Applied IT	9.8
Applied Science	19.6
Arabic	3.9
Archaeology	2.0
Art & Design / Art	100.0
Bengali	2.0
Biology	100.0
Business & Economics	7.8
Business Studies	94.1
Chemistry	100.0
Chinese	7.8
Citizenship	5.9
Classical Civilisation	7.8
Classical Greek	7.8
Communication Studies	7.8
Computing	27.5
Critical Thinking	49.0
D&T	76.5
Dance	23.5
Drama & Theatre Studies	76.5
Dutch	3.9
Economics	51.0
Electronics	11.8
Engineering	5.9
English Lang	94.1
English Lang + Lit	31.4
English Lit	100.0
Environmental Science	13.7
Film Studies	25.5
French	84.3
Further Maths	72.5
General Studies	52.9
Geography	94.1
Geology	7.8
German	68.6
Government & Politics	25.5
Gujarati	2.0
Health & Social Care	45.1
Hebrew	2.0
History	98.0
History of Art	7.8

Table F1
(Continuation)

Subject	% schools
Home Economics	5.9
Human Biology	13.7
ICT	86.3
Islamic Studies	2.0
IT	66.7
Italian	5.9
Japanese	15.7
Latin	15.7
Law	39.2
Leisure Studies	13.7
Mathematics	100.0
Media Studies	68.6
Modern Greek	2.0
Music	68.6
Music Technology	33.3
Panjabi	2.0
PE/Sport	82.4
Performance Studies/Art	17.6
Persian	2.0
Philosophy	51.0
Physics	92.2
Polish	3.9
Portuguese	2.0
Psychology	90.2
Religious Studies	70.6
Russian	9.8
Sociology	68.6
Spanish	51.0
Travel & Tourism	29.4
Turkish	2.0
Urdu	3.9
World Development	7.8

Table F2: Provision of A2 subjects

Subject	% schools
Accounting	13.7
Applied Art & Design	5.9
Applied Business	7.8
Applied ICT	13.7
Applied IT	2.0
Applied Science	5.9
Arabic	2.0
Archaeology	2.0
Art & Design / Art	92.2
Biology	80.4
Business & Economics	5.9
Business Studies	86.3
Chemistry	78.4
Classical Civilisation	5.9
Classical Greek	5.9
Communication Studies	9.8
Computing	15.7
Critical Thinking	5.9
D&T	58.8
Dance	15.7
Drama & Theatre Studies	64.7
Economics	39.2
Electronics	3.9
Engineering	2.0
English Lang	84.3
English Lang + Lit	29.4
English Lit	86.3
Environmental Science	9.8
Film Studies	13.7
French	54.9
Further Maths	41.2
General Studies	41.2
Geography	78.4
Geology	5.9
German	47.1
Government & Politics	17.6
Health & Social Care	31.4
Hebrew	2.0
History	90.2
History of Art	5.9
Human Biology	7.8
ICT	72.5
IT	29.4
Italian	5.9
Latin	9.8
Law	25.5
Leisure Studies	7.8
Mathematics	84.3
Media Studies	60.8
Music	45.1
Music Technology	15.7

Table F2
(Continuation)

Subject	% schools
Panjabi	2.0
PE/Sport	62.7
Performance Studies/Art	11.8
Philosophy	41.2
Physics	76.5
Psychology	80.4
Religious Studies	54.9
Russian	3.9
Sociology	54.9
Spanish	37.3
Travel & Tourism	19.6
Urdu	3.9
Tamil	2.0

Appendix G: Subject areas

Science/Maths

LEAP code	Subject Title
1010A	Biology
1030A	Biology: Human
1050A	Biology: Social
1110A	Chemistry
1210A	Physics
1310A	Sci: Single Award
1730A	Sci: Electronics
1750A	Sci: Environmental
1770A	Science: Geology
1830A	Psychology JMB/NEA
2030A	Science: Other
2210B	Mathematics
2230B	Mathematics (Pure)
2240B	Maths (Decision)
2250B	Mathematics(Appld)
2260B	Mathematics (Statistics)
2510B	Statistics
2610C	Com.Stds/Computing
2650C	Information Tech

English

LEAP code	Subject Title
5010I	English
5030I	English Language
5110I	English Literature
5210I	Drama
5310I	Communication Stds
5330I	Expressive Arts

Languages

LEAP code	Subject Title
5650K	French
5670K	German
5690K	Italian
5710K	Modern Greek
5730K	Portuguese
5750K	Spanish
6030K	Modern Hebrew
6050K	Panjabi
6070K	Polish
6090K	Russian
6110K	Turkish
6130K	Urdu
6310K	Other Languages
6550K	Greek
6610K	Latin
6650K	Other Class. Langs

Social Science/Humanities

LEAP code	Subject Title
3210D	Bus. Studs:Single
3230D	Bus.Stds&Economics
3310D	Home Economics
3330D	HE: Child Devt
3390D	HE: Home & Family
3910F	Geography
4010G	History
4410H	Economics
4430H	Economics&Business
4610H	Religious Studies
4730H	Archaeology
4770H	Law
4790H	Logic / Philosophy
4830H	Politics
4850H	Psychology
4890H	Sociology
6510K	Ancient History
6530K	Class.Civilisation
7410N	Accounting/Finance
7810P	General Studies
7830P	Critical Thinking

Arts

LEAP code	Subject Title
3510E	Art & Design
3550E	Art & Des(Graphcs)
3570E	Art & Des(Photo.)
3650E	Art & Des(Textles)
3670E	Art & Des(3D Stds)
3680E	Art&Des(Crit.Stds)
3690E	Art&Des - Fine Art
3810E	Art
3830E	History Of Art
5350I	Media/Film/TV Stds
5360I	Film Studies
5370I	Theatre Studies
7010L	Music
7020L	Music: Practical
7210M	Sport/P.E. Studies
7230M	Dance
7570N	Photography

Appendix H: Less effective preparation (LEP) A level subjects

Accounting
Art and Design
Business Studies
Communication Studies
Dance
Design and Technology
Drama/Theatre Studies
Film Studies
Home Economics
Information and Communication Technology
Leisure Studies
Media Studies
Music Technology
Performance Studies
Performing Arts
Photography
Physical Education
Sports Studies
Travel and Tourism
Health and Social Care