

# The impact of KS4 vocational courses on disengaged young people's engagement with education 15-18

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The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Education.

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## Executive Summary

This study investigated the hypothesis that offering vocational options in Year 10 can help improve levels of educational engagement and subsequent outcomes among young people disengaged from education. However we found little evidence to support this claim. Disengaged young people who reported following vocational courses did not differ from those who chose not to take these courses in terms of their subsequent engagement or destinations post Year 11. There was evidence that those taking vocational courses were more likely to achieve Key Stage 4 Level 1 although not Level 2. We also investigated an additional hypothesis that young people with borderline attainment (achieving 1 – 4 GCSEs grades A\*-C) who follow vocational as opposed to academic pathways post Year 11 may have better outcomes. We found no evidence to support this case.

Data for the research comes from the Longitudinal Study of Young People in England (LSYPE), a comprehensive study following the lives of a cohort of young people through the last three years of their compulsory schooling and into their subsequent destinations. Definitions of disengagement included in the study comprise underachievement at Key Stage 3, having poor attitudes to school, aspiring to leave education and training at the age of 16, and playing truant.

The vocational course subjects relating to Year 10 options that were asked about in the LSYPE questionnaire reflect the titles of vocational GCSEs, and also match well with the titles of GNVQs that were offered at the time (GNVQs ceased to be offered in 2007). The LSYPE cohort analysed in this study completed Key Stage 4 in 2006, when there were still relatively few Vocationally Related Qualifications (VRQs) taken in schools at Key Stage 4. The results presented in this study will therefore largely relate to young people taking vocational GCSEs or GNVQs rather than VRQs.

The analysis proceeded in two stages. The first stage was designed to provide timely evidence to feed into the Wolf review of vocational education and provides a first look at the relationship between vocational courses, young people's subsequent

engagement and other educational outcomes. Here we compared levels of engagement, attainment and destinations between disengaged young people who reported taking at least one vocational course in Year 10 and those who did not, examining differences in Years 9, 10, 11.

These initial findings suggest that disengaged young people who took at least one vocational course in Year 10 were more likely to show signs of disengagement over time compared to those who took no vocational courses. However, those who took vocational courses were also more likely to achieve basic qualifications at Key Stage 4, although they were less likely to achieve higher levels of qualifications. At age 17, they were less likely to be in full time education, part time education, or on a training course or apprenticeship, and more likely to be in full time work or doing something else. But by age 18, these differences in destinations had all but disappeared. Overall, where differences did exist between disengaged young people who did and did not take vocational qualifications, these tended to be very small and most were not statistically significant.

In the second stage we re-examined this relationship in more detail using more sophisticated statistical methods that enabled us to examine change in engagement at the individual level and take into account other factors that might otherwise explain any differences found. We found no evidence to suggest that taking vocational courses in Year 10 helps to re-engage young people who are already disengaged from education. Neither did we find any evidence to suggest studying vocational courses makes matters worse. The finding that young people who take at least one vocational course in Year 10 are more likely to achieve Key Stage 4 Level 1 remained, however there was no relationship between subject choice and Level 2 achievement, or young people's destinations at age 17 and 18.

In a final step we explored an additional hypothesis that students with borderline attainment (those achieving 1 – 4 GCSEs A\*-C) who follow vocational instead of academic pathways post Year 11 may have better outcomes. However our analysis, which examined the relationship between course choice and the probability of experiencing NEET by age 18, found no support for this hypothesis.



It is important to note that we cannot entirely reject the idea that vocational courses may help foster improvement for some young people under some circumstances on the basis of our research alone. Firstly, the data comes from a cohort of young people who began their Key Stage 4 studies in 2004/05, early on in the expansion of the 14-19 curriculum and prior to the very broad rollout of new vocational type qualifications. It is therefore possible that today's experience of vocational education, including its methods of teaching, assessment and curriculum are different to those we were able to examine in this research. Second, it is also possible that vocational study may be of more benefit to young people who are less disengaged than those that we studied here. Nevertheless, for the type of vocational courses and the particular kinds of disengaged young people that were examined, there appears to have been little impact, at least in the relatively short term.

Finally, whilst it is not central to this study, our research also confirmed previous findings, that disengaged young people were more likely to be male, from a lower social position and have poorly qualified mothers. Ethnic groups tend to differ in their disengagement. White young people were more likely to have poor attitudes to school and to want to leave education and training at 16, whilst young people from minority ethnic backgrounds (especially Pakistani, Bangladeshi, Black Caribbean and Mixed race young people) were more likely to underachieve and/or play truant. Disengaged young people were also more likely to opt for vocational courses than other young people. The reasons young people gave for selecting vocational courses in Year 10 were both strategic and self rewarding, i.e. the courses were needed for future study or employment, because the young person thought they would do well in the subject, or simply because they thought they would enjoy them.

# 1. Outcomes for disengaged young people who take vocational courses in Year 10

## 1.1 Overview

Previous research and anecdotal evidence has suggested that offering a broader curriculum, and in particular, vocational qualifications, may be a way to motivate young people who have become disengaged from education and improve their subsequent attainment<sup>1</sup>. However, this hypothesis has not been systematically evaluated. The analyses presented here explore the educational outcomes of disengaged young people from a nationally representative cohort who reported taking vocational courses in Year 10 compared to similarly disengaged young people who did not.

In this study we explored outcomes across a range of different subgroups of young people from the Longitudinal Study for Young People (LSYPE), defined using different characteristics of being disengaged in Year 9.

Disengagement can be expressed in different ways and have different meanings for young people, and can subsequently have different consequences and solutions<sup>2</sup>. The characteristics we have used to encompass disengagement include underachievement at Key Stage 3, having poor attitudes to school, aspiring to leave education and training at the age of 16 and playing truant. By defining disengagement in multiple ways, we can be more confident in our conclusions about the potential impact of vocational courses on young people's engagement and subsequent attainment. In addition, this kind of sensitivity analysis enables us to identify the kinds of young people who might be most receptive to vocational learning.

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<sup>1</sup> See, for example, Steedman, H. and Stoney, S. (2004) *Disengagement 14-16: Context and Evidence CEP Discussion Paper No. 654* [online]. Available: <http://cep.lse.ac.uk/pubs/download/dp0654.pdf>

<sup>2</sup> Ross, A., (2009) *Disengagement from education among 14 – 16 Year Olds*. Department for Children, Schools and Families DCSF-RR178. Available: <https://www.education.gov.uk/publications/RSG/Youthandadolescence/Page5/DCSF-RR178>

## 1.2 Data

We used five different samples from the Longitudinal Study of Young People in England (LSYPE) from survey waves 1 (age 13/14 or in Year 9 in 2003/04) to 5 (age 17/18 or in Year 13 in 2007/08) inclusive<sup>3</sup>. These samples incorporate young people presenting different characteristics of disengagement in Year 9, and reflect the following sample sizes:

- A combined measure of disengagement, which reflects an individual's combined attitudes, aspirations and behaviour (1474 individuals, or 10.9% of the population)<sup>4</sup>;
- young people who had underachieved at Key Stage 3<sup>5</sup> (1549 individuals, or 11.4% of the population);
- young people with attitudes to school at least one standard deviation below average (1441 individuals, or 10.6% of the population);
- young people who aspired to leave education and training at the age of 16 (1694 individuals, or 12.5% of the population); and
- young people who reported playing truant (1701 individuals, or 12.6% of the population).

Young people taking vocational courses in Year 10 were defined according to self-report in the LSYPE questionnaire. The young people were asked whether they were studying vocational courses in applied art and design, applied business, health and social care, leisure and tourism, manufacturing, engineering, hospitality and catering, applied science or applied information and communication. In the questionnaire, vocational courses were defined as being 'about specific work or jobs you might do after leaving school or about subjects and skills which will be useful to people in jobs'.

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<sup>3</sup> For further detail on this study please visit <https://www.education.gov.uk/lsype>

<sup>4</sup> As defined in a recent NatCen study exploring young people's disengagement from education, these young people had mixed aspirations for Year 12 but were very unlikely to aspire to continue to university, were far more likely to report playing truant than other young people and had especially poor attitudes towards school. For further details of these young people please see the original study which can be downloaded at <https://www.education.gov.uk/publications/RSG/Youthandadolescence/Page5/DCSF-RR178>

<sup>5</sup> This definition captures young people whose achievement at Key Stage 3 was at least one standard deviation below the mean score expected according to their achievement at Key Stage 2, i.e. suggesting a significant fall in attainment.

The vocational course subjects asked about in the LSYPE questionnaire reflect the titles of vocational GCSEs, and also match well with the titles of GNVQs that were offered at the time (GNVQs ceased to be offered in 2007). The LSYPE cohort analysed in this study completed Key Stage 4 in 2006, when there were still relatively few Vocationally Related Qualifications (VRQs) taken in schools at Key Stage 4. The results presented in this study will therefore largely relate to young people taking vocational GCSEs or GNVQs rather than VRQs.

### 1.3 Approach

In this first stage of analysis, designed to provide timely evidence to feed into the Wolf review<sup>6</sup>, we conducted a relatively simple examination of the relationship between vocational courses, young people's subsequent engagement and other educational outcomes. A further more detailed examination of this relationship can be found in Section Two.

LSYPE data follows the same cohort of young people over time, and the engagement measures examined have been repeatedly measured at several time points. This enabled us to explore and compare changes in the engagement of disengaged young people dependent on whether or they did or did not take vocational courses in Year 10. We achieved this by testing differences in levels of engagement between those young people who reported taking vocational courses (decided in Year 10) and those who did not in Years 9, 10, and 11<sup>7</sup>.

We also carried out a comparison of young people's attainment in Year 11, and subsequent destinations in Years 12 and 13 following compulsory education.

### 1.4 Results

#### Descriptive statistics

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<sup>6</sup> Wolf, A. (2011) *Review of vocational education – The Wolf report*. Department for Education DFE-00031 - 2011. Available: <https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DFE-00031-2011>

<sup>7</sup> By also examining differences in Year 9, i.e. prior to course uptake, we are able to get a measure of self-selection that might otherwise bias our findings, i.e. young people who opt for vocational courses may already be different in their level of disengagement than other young people, and this in turn may explain any subsequent differences found between the two groups.

We begin by describing the young people who comprise the different samples of disengaged young people used in this analysis, the proportion of those who then report taking vocational courses or not and the reasons they give for this decision.

The characteristics of disengaged young people in Year 9 from the LSYPE sample are presented below (all of these findings are significant at the 5% level):

- Young people who were disengaged according to the combined measure<sup>4</sup> were more likely to be male, white, have parents of lower socio-economic status and have poorly-qualified mothers.
- Young people who underachieved at Key Stage 3 were more likely to be male, of a minority ethnic group (particularly Pakistani, Bangladeshi or Black Caribbean), have parents of lower socio-economic status, and have mothers with fewer qualifications.
- Young people with poor attitudes to school were more likely to be male, white, have parents of lower socio-economic status and have poorly-qualified mothers.
- Young people who wanted to leave education and training at 16 were more likely to be male, white, have parents of lower socio-economic status and have poorly-qualified mothers.
- Young people who reported playing truant were more likely to be of mixed or Black Caribbean ethnicity, have parents of lower socio-economic status and have poorly-qualified mothers.
- All young people defined as disengaged using the definitions above were more likely to report taking vocational courses in Year 10 than young people who were not disengaged.

Overall, 33.8% of the LSYPE sample had reported taking vocational courses in Year 10. The proportions of disengaged and non-disengaged young people (using the combined definition) who took vocational courses are shown in Table 1.1 below. It is clear from this table that disengaged young people were significantly more likely to

take vocational courses than those who were not disengaged. This finding was replicated when using the other definitions of disengagement described above, in which young people were defined as disengaged according to their underachievement, poor school attitudes, wanting to leave education and training at 16 or playing truant.

**Table 1-1: Proportions of disengaged and non-disengaged young people who took vocational courses in Year 10**

	<b>Disengaged according to combined measure</b>	<b>Not disengaged according to combined measure</b>
<b>Took vocational courses in Year 10</b>	591 (41.4%)	3470 (32.4%)
<b>Did not take vocational courses in Year 10</b>	838 (58.6%)	7243 (67.6%)

We also explored the characteristics of disengaged young people who reported taking vocational courses to see whether they were likely to have background characteristics in common. We found that they were more likely to be from minority ethnic groups (particularly Indian, Pakistani and Bangladeshi), tended to have parents of lower socio-economic status and were more likely to have poorly-qualified mothers.

The analysis reported below looks at differences in engagement, attainment and destinations among disengaged young people who took vocational courses compared to those who did not. The report principally presents findings using the combined measure of disengagement – most of the results were similar across the definitions of disengaged young people and this was considered the most comprehensive measure of disengagement. However, there also follows a summary of the results across the other definitions of disengagement, as in some instances there were findings that appeared to be specific to those who show particular aspects of disengagement.

Finally we examined the reasons behind why some disengaged young people chose to take vocational courses in Year 10 whilst others did not. For reasons of brevity we report findings for the combined definition of disengagement only. By far the greatest reported reason for undertaking a vocational course was a belief that they

would enjoy the course (45 percent), followed by the view they would do well in the subject (24 percent), or that it would help/was needed for further training or employment (26/25 percent), or because it represented something different to what they were used to studying (18 percent). A minority were advised to do so by a teacher (11 percent), and a smaller minority reported having no choice in the matter (4 percent).

Among those who thought about taking a vocational course but decided against it, the vast majority, 51 percent, reported that they preferred to do other subjects. There were also small minorities who reported that their parents did not want them to study vocational courses (7 percent) or that their teachers had advised them against it (9 percent).

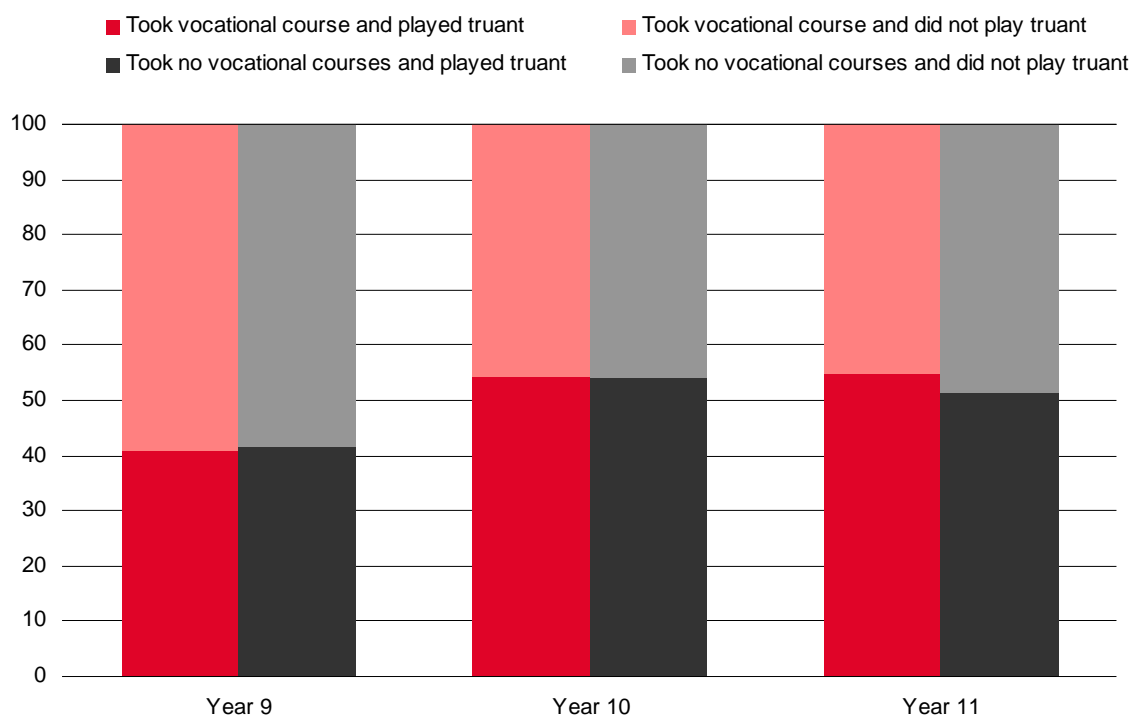
Among those who did not consider vocational courses at all, a sizeable 39 percent reported that they were unaware of the availability of such courses. This was followed by a reported lack of interest in vocational courses (27 percent), the fact that the school did not offer these courses (26 percent) and that they simply preferred to do other subjects (22 percent).

Given the nature of these responses, in particular, the fact that there was little evidence of young people being hard pressed into selecting vocational options, this is unlikely to have any bearing on its impact on subsequent levels of engagement.

## Disengagement

Disengaged young people who reported taking at least one vocational course in Year 10 were no less likely to play truant (defined as skipping at least the odd day or class) than those who took no vocational qualifications. Although young people who took vocational courses were slightly more likely to have played truant by Year 11, this difference was not statistically significant (see Figure 1.1 below).

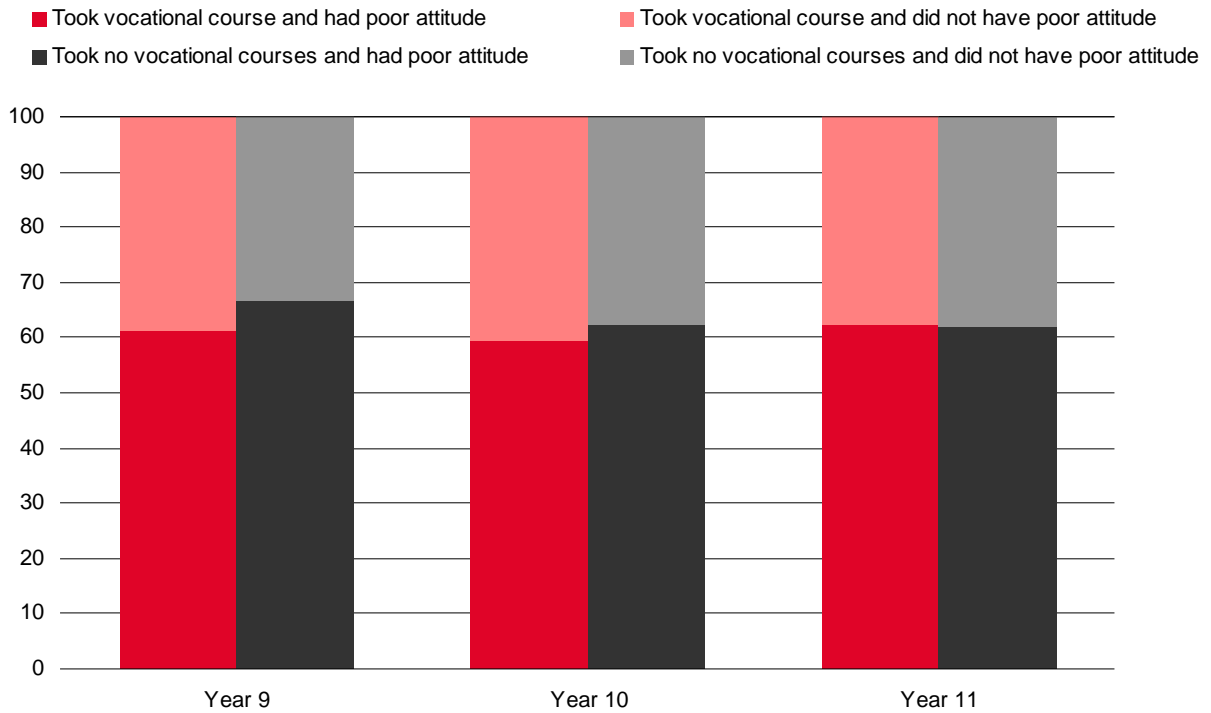
**Figure 1.1: Proportions of disengaged young people who played truant by vocational courses taken in Year 10**



In Year 9, disengaged young people who reported taking vocational courses in Year 10 were a little less likely to have poor attitudes to school than those who did not take vocational courses. However, this difference diminished over time, and by Year 11 young people taking vocational courses were slightly more likely to have poor attitudes to school (see Figure 1.2 below), although these differences were not statistically significant.

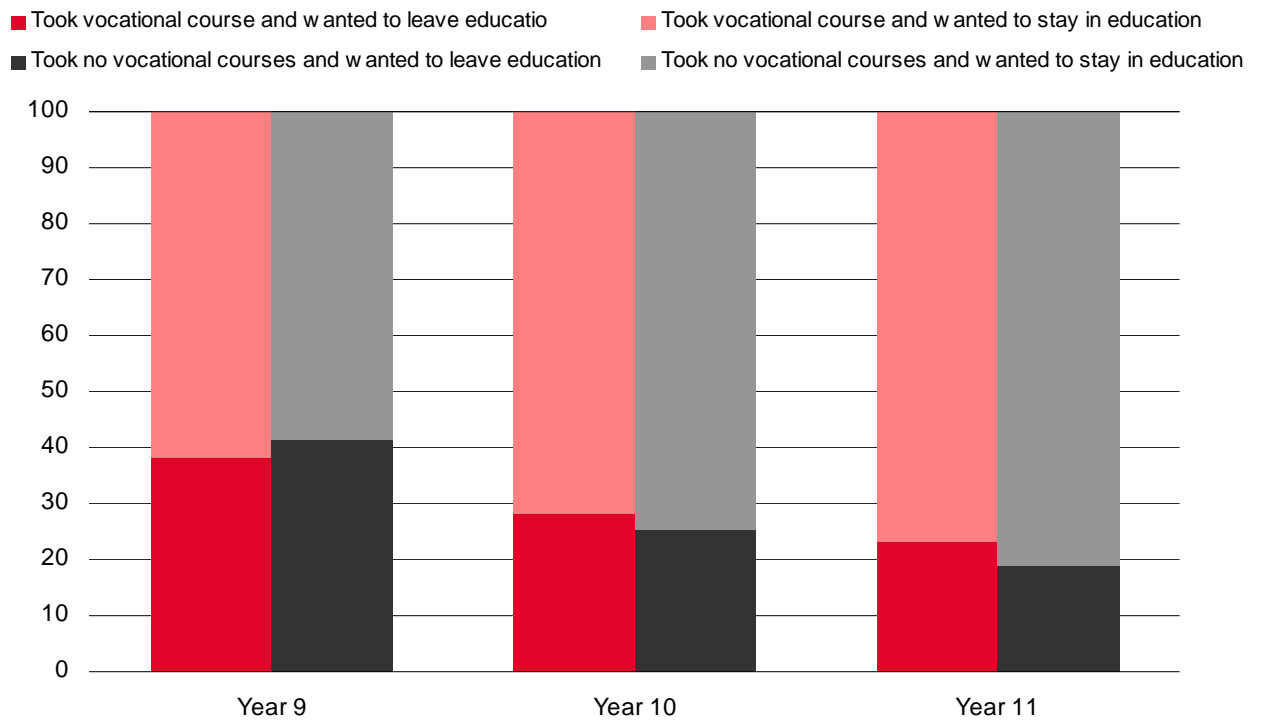


**Figure 1.2: Proportions of disengaged young people with poor attitudes to school by vocational courses taken in Year 10**



A similar pattern was seen in relation to aspiring to leave education and training at 16. Disengaged young people who took at least one vocational course in Year 10 were less likely than those who took no vocational courses to want to leave education/training at 16 when they were in Year 9, but by Year 11 they had become more likely to want to leave (see Figure 1.3 below). Again, these differences were not statistically significant.

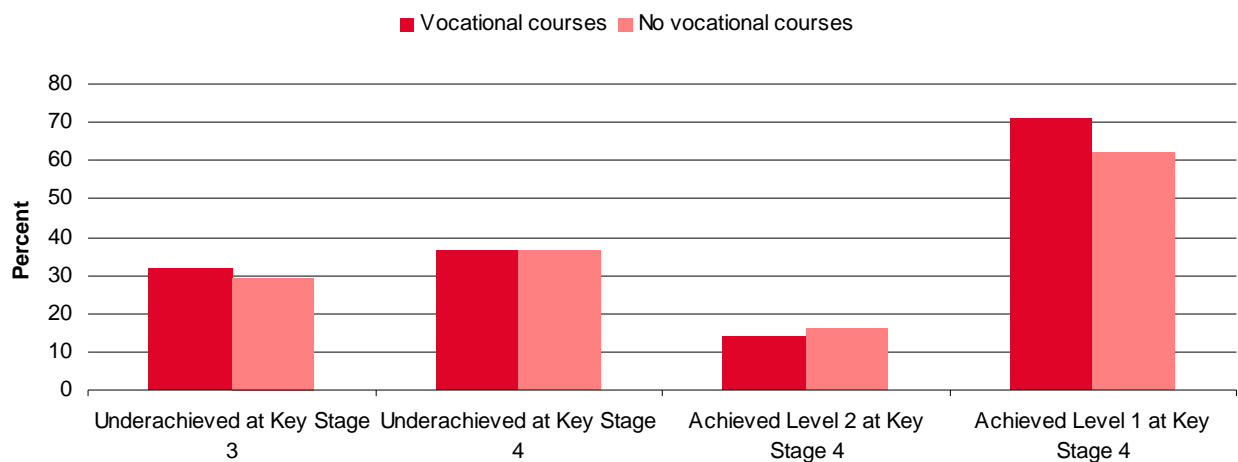
**Figure 1.3: Proportions of disengaged young people wanting to leave education and training at 16 by vocational courses taken in Year 10**



## Attainment

There was no difference in underachievement between those who did and did not take vocational courses. However, young people who reported taking vocational courses were more likely to have achieved Level 1 at Key Stage 4 compared to those who did not (statistically significant at the 5% level). The small difference in the likelihood of achieving Level 2 was not statistically significant (see Figure 1.4 below).

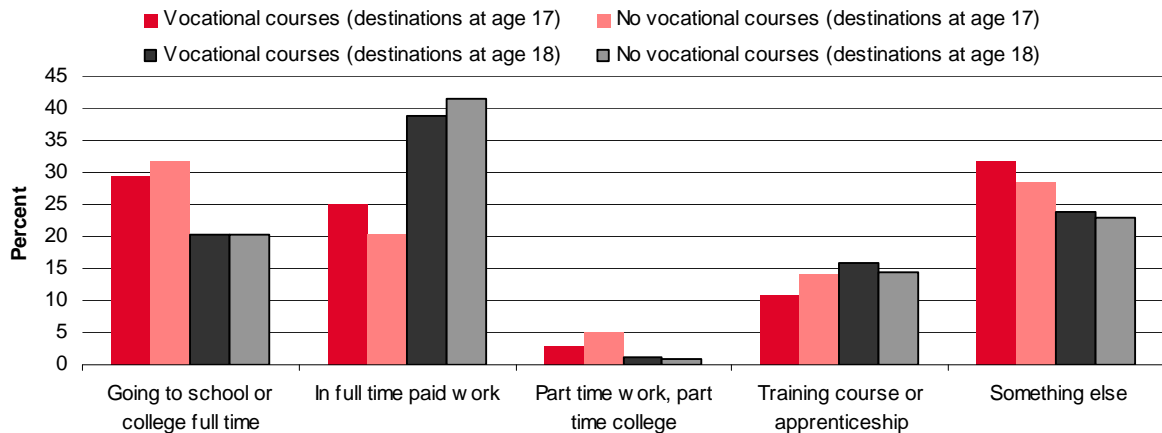
Figure 1.4: Attainment among disengaged young people by vocational courses taken in Year 10



## Destinations

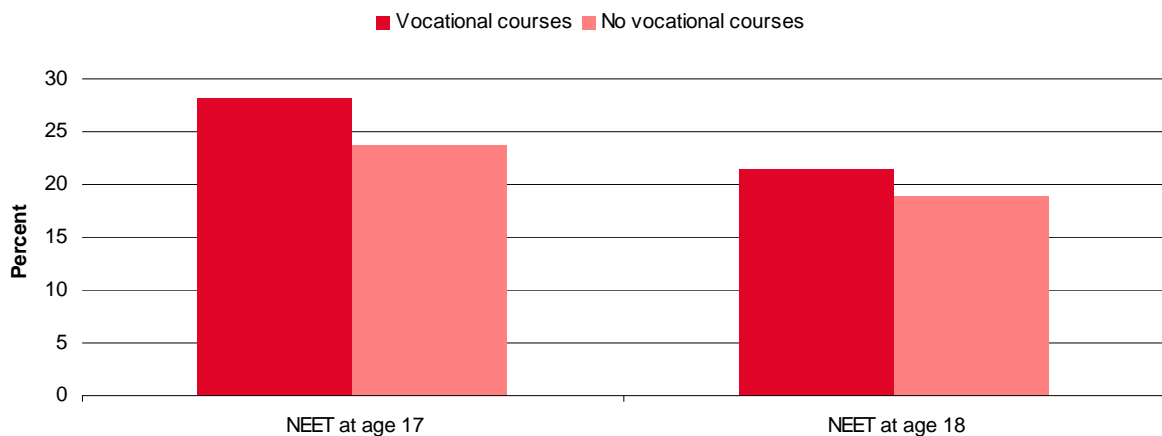
At age 17, the destinations of young people who had taken vocational courses in Year 10 were different (in a statistical sense) from those who took no qualifications, however substantively the differences were relatively minor. Disengaged young people who had reported taking vocational courses in Year 10 were less likely to be in full time education, in part-time work with part-time college, or on a training course or apprenticeship than those who took no vocational courses. Instead, these young people were more likely to be in full-time employment or doing something else. By age 18 these differences had disappeared (see Figure 1.5 below).

**Figure 1.5: Destinations of disengaged young people at ages 17 and 18 by vocational courses taken in Year 10**



At age 17, disengaged young people who had reported taking vocational courses in Year 10 were more likely to be NEET than those who had not, although this difference did not quite reach statistical significance. These young people were still more likely to be NEET at age 18, but the difference had diminished somewhat and no longer approached statistical significance (see Figure 1.6 below).

**Figure 1.6: Likelihood of being NEET for disengaged young people at ages 17 and 18 by vocational courses taken in Year 10**



Summary of the results for other definitions of disengagement:

- **Underachievement** – Among young people who underachieved at Key Stage 3, those who reported taking at least one vocational course in Year 10 were more likely to have played truant in Years 10 and 11 (statistically significant in Year 10), but showed no differences in their attitudes to school. They were

more likely to aspire to leave education and training at 16 when they were in Year 10, but this difference did not continue to Year 11. There was no difference in underachievement at Key Stage 4, but young people who took vocational courses were less likely to achieve Level 2 at Key Stage 4 (there was no difference in the likelihood of achieving Level 1). There was little difference in destinations at age 17 or 18, however, underachievers who took vocational courses were more likely to be NEET at age 17, but this difference did not quite reach statistical significance and had diminished by age 18.

- **Poor attitudes to school** – Among young people with poor attitudes, those who reported taking vocational courses became increasingly more likely to play truant from Years 9 to 11 (statistically significant in Year 11), although their attitudes to school showed little difference over the same time period. Those who took vocational courses were also increasingly more likely to want to leave education and training at 16 between Years 9 and 11 (statistically significant in Year 11) compared to those who did not. They were more likely to have underachieved at Key Stage 3 (although not at Key Stage 4), and less likely to achieve the Level 2 threshold at Key Stage 4 (although there was no difference in the likelihood of achieving Level 1). There were slight, although not statistically significant, differences in their destinations. Young people who took vocational courses were more likely to be NEET, but this difference diminished between the ages of 17 and 18 and was not statistically significant.
- **Wanting to leave education and training at 16** – Young people with low aspirations who reported taking vocational courses became increasingly more likely to truant from Year 9 through to 11 (statistically significant in Year 11). They showed signs of increasing poor attitudes over time although these differences were not statistically significant. They also remained more likely to want to leave education at 16, although this difference had disappeared by Year 11. There was little difference in levels of underachievement, however young people who took vocational courses, were less likely to achieve Level 2 at Key Stage 4 but more likely to achieve Level 1 than those who took none. There were slight differences in destinations whereby young people taking vocational courses were more likely to be in fulltime work than furthering their education or training although differences were not statistically significant.

They were also more likely to be NEET, but this difference diminished between the ages of 17 and 18 and was again, not statistically significant.

- **Truancy** – Among young people who had reported playing truant in Year 9, those who also reported taking vocational courses were increasingly more likely to play truant in Years 10 and 11. However, there was no significant difference in their likelihood of having poor attitudes to school or a desire to leave education and training at 16. Those who took vocational courses were slightly more likely to underachieve at Key Stage 3 (although not at Key Stage 4), and were less likely to achieve the Level 2 threshold at Key Stage 4 (although there was no difference in the likelihood of achieving Level 1). They were also less likely to be in full time education and more likely to be in full time work or NEET at ages 17 and 18. However, at age 18, they were also more likely to be in part-time education and part-time work, or on a training course or an apprenticeship.

## 1.5 Conclusions

The analysis reported here represents a first look at the relationship between vocational courses, young people's subsequent engagement and other educational outcomes. We compared levels of engagement, attainment and destinations between disengaged young people who reported taking at least one vocational course in Year 10 and those who did not, examining differences in Years 9, 10, 11. Our study also provides a brief description of the characteristics of disengaged young people, the proportions of those who take vocational courses and their reasons for their choices.

Results show that disengaged young people tend to be male and of lower social position, with poorly-qualified mothers. Ethnic groups tend to differ in their disengagement. White young people were more likely to have poor attitudes to school and to want to leave education and training at 16, whilst young people from minority ethnic backgrounds (especially Pakistani, Bangladeshi, Black Caribbean and Mixed race young people) were more likely to underachieve and/or play truant. Disengaged young people were also more likely to select vocational courses in Year

10 than other young people. The reasons that disengaged young people gave for selecting vocational courses were both strategic and self-rewarding, i.e. they were needed for their future study or employment, because they thought they would do well in the subject, or because they simply felt they would enjoy studying them.

In general, few statistically significant differences in outcomes were found between disengaged young people who did and did not report taking vocational courses in Year 10, although this may be at least in part due to small sample sizes. Nevertheless, there was a tendency (albeit slight and in most cases non-significant) for young people who took vocational courses to become more disengaged between Year 9 and Year 11, particularly in terms of truancy and wanting to leave education and training at the age of 16. This suggests that taking vocational courses in Year 10 does not appear to increase engagement among previously disengaged young people, however these relationships required further investigation using more sophisticated statistical models.

There was little difference in levels of attainment between those taking vocational and academic courses, although overall young people who took vocational courses were more likely to achieve Level 1 at Key Stage 4 and in many instances less likely to achieve Level 2<sup>8</sup>. This may indicate that, whilst disengaged young people who take vocational courses are less likely to become high achievers, they are more likely to reach a minimum standard of achievement which they may not have otherwise reached. For some young people, vocational courses may therefore provide a better means of achieving basic qualifications.

Disengaged young people who took vocational qualifications were less likely to be in full-time education at ages 17 (and in some cases 18), and were more likely to be in full-time work. There was also some indication that disengaged young people who had taken vocational courses were more likely to be NEET at the age of 17 and 18, although in many cases these differences were not statistically significant. Nevertheless, what this does suggest is that vocational courses are not reducing the risk of disengaged young people having the poorest educational outcomes.

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<sup>8</sup> This was most evident when young people were defined as disengaged according to their attitudes to school or by their truancy behaviour

The results presented here are based on a relatively simple exploration of the relationship between vocational courses, young people's subsequent engagement and other educational outcomes. In the next section we explore this relationship further using more sophisticated statistical techniques to ascertain whether the differences we've identified here remain once any pre-existing differences and other potentially confounding factors are properly accounted for.



## **2. Outcomes for disengaged young people who take vocational courses in Year 10 – a re-examination of this relationship using more sophisticated statistical methods**

### **2.1 Overview**

The preceding section explored the educational outcomes of disengaged young people, comparing levels of engagement, attainment and the destinations of those who reported taking at least one vocational course in Year 10 with those who took no vocational courses. The aim was to test whether vocational courses represent a promising way of re-engaging disengaged young people and improving their educational outcomes.

The analysis, which used bivariate statistics to examine the relationship between vocational courses, educational outcomes and time, suggests that disengaged young people who took at least one vocational course in Year 10 showed slightly more signs of disengagement over time, differing destinations, and a greater likelihood of being NEET. However, these differences were very small in magnitude and many were not statistically significant.

Our analysis provided a ‘first look’ into the relative impact of vocational type courses and was useful to the extent that it enabled us to provide timely evidence for the Wolf review. However, since first submitting our analysis we were able to explore this relationship in more detail using more sophisticated statistical methods.

### **2.2 Data and approach**

LSYPE data follows the same cohort of young people over time, and the outcome variables we examine have been repeatedly measured at several time points. This enabled us to explore and compare changes in the engagement of disengaged young people over time to see whether this related to subject choice in Year 10. Our earlier analysis achieved this by testing differences in the average level of

engagement among those who reported taking vocational courses relative to those who did not in Years 9, 10, and 11.

Here we use multi-level modelling for panel data which enables us to go one step further and compare individual trajectories of engagement over time, testing whether taking a vocational course is associated with a subsequent change in trajectory. Whilst the difference in these two approaches may appear quite subtle, the latter represents a more powerful test of change over time enabling us to properly account for any pre-existing differences in levels of engagement.

Furthermore, the approach allowed us to take account of a number of other factors that could be masking any effect associated with vocational courses. For example, there is evidence to suggest that boys are more likely to disengage than girls. If boys are also more likely to take vocational courses, then it may be their gender that explains any subsequent difference in disengagement and not their choice of course. The controls used include gender, ethnicity, social class, tenure, family type, mothers highest qualification, SEN, disability, whether or not the respondent had been bullied and key stage two average point score.

Finally, the models presented below include school as well as pupil effects (or multiple levels) which take account of the fact that individual pupils have been sampled within schools. Pupils in the same school are likely to be more similar to one another and our modeling accounts for this. Overall, including socio-demographic, pupils and school effects enabled us to conclude with confidence the degree to which taking a vocational qualification influences levels of disengagement, because we have considered a variety of other explanations.

In order to assess the effect of taking vocational courses in Year 10 the analysis of each outcome was carried out in two steps.

For the first step, taking a vocational course and year group were considered as predictors, accounting for pupil and school effects. This allowed us to determine whether levels of engagement changed significantly over time and whether taking a vocational qualification was a significant predictor of engagement. Pupil and school

effects accounted for any differences in outcome attributable to particular schools or individual pupil changes over time. The hypothesis that disengaged young people who took vocational courses have different trajectories over time compared to those who did not, was assessed through the interaction between year group (time) and course selection.

In a second step we included any significant socio-demographic characteristics and other potentially confounding factors<sup>9</sup>, which means that any changes in the disengagement outcomes attributable to other factors such as gender and ethnicity have been controlled for<sup>10</sup>.

Again, the sample of disengaged young people used for this analysis was defined using the more comprehensive combined measure of disengagement.<sup>11</sup> However, we also re-examined some of our results using 'poor attitudes to school' to define our subgroup of disengaged young people. Our earlier analysis had identified some significant results when defining the disengaged group in terms of their attitudes to school<sup>11</sup>. As a final test we re-estimated the analysis using a count of the number of vocational courses the young person reported studying. This enabled us to assess whether studying more than one vocational course made a difference.

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<sup>9</sup> Stepwise fixed effect models were run to identify significant covariates. The final models included significant covariates only.

<sup>10</sup> A number of the factors examined had missing values for some young people, therefore a variable was computed identifying young people with missing data. This variable was then entered into each of the stepwise regressions to ensure that all young people were retained in the analysis regardless of missing data. As the variable was not statistically significant we could be confident that missing data was not affecting the results and was therefore dropped from the final analysis.

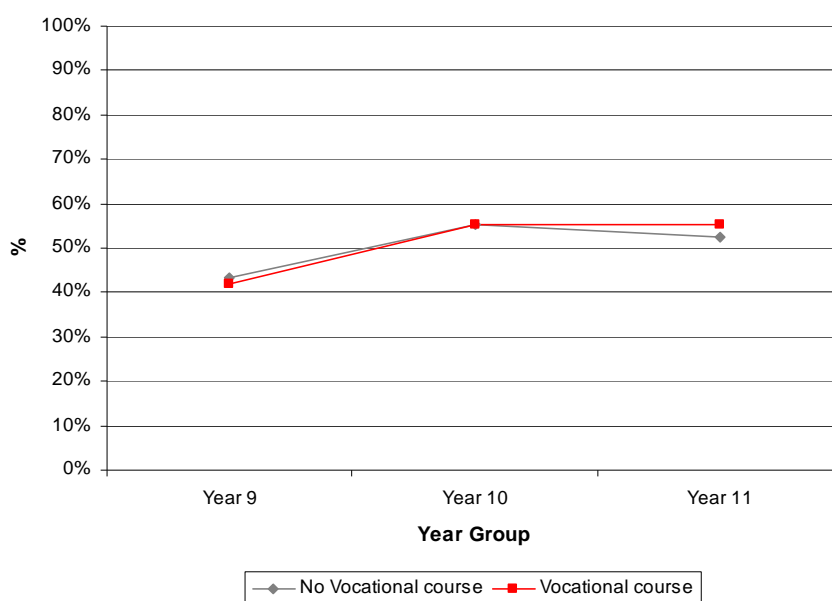
<sup>11</sup> These were young people whose attitudes were one standard deviation below average.

## 2.3 Results

### Disengagement

Figure 2.1 below shows change over time in truancy rates among disengaged young people who reported taking at least one vocational course in Year 10, compared to those who did not. There is very little difference between our two groups but the findings suggest non-vocational course participants were slightly more likely to truant than vocational course participants in Year 9 but by Year 11 this situation was reversed. However, this difference is not statistically significant. In other words, there was no evidence to suggest that this trend was prevalent in the wider population of secondary school pupils (see table A1 in the Appendix).

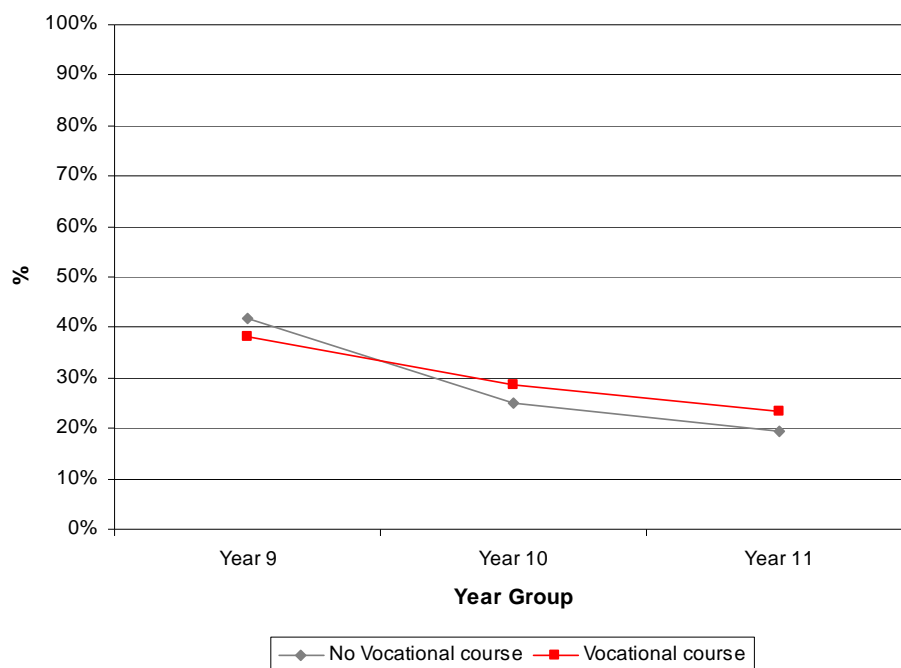
**Figure 2.1: Proportion of disengaged young people who played truant by vocational courses taken in Year 10**



The analysis was repeated for young people defined as disengaged according to their attitudes to school. There were significant differences in reported rates of truancy between young people who did and did not take vocational courses. However, these differences existed prior to course selection and were therefore unrelated to subject choice (results not shown).

Figure 2.2 below presents change over time in the aspiration to leave education and training post Year 11. Again, those who reported taking at least one vocational course in Year 10 are compared to those who took none. The figure demonstrates three key trends, the first two of which are not statistically significant (see table A2 in the Appendix): First an absolute fall in the rates of disengaged young people aspiring to leave education and training (not significant); second, a difference in the aspirations of those who took vocational qualifications and those who did not (also not significant); third, those who selected vocational courses were less likely to want to leave education and training when in Year 9 but became more likely to want to leave in Year 10 (i.e. once they had started vocational training). This third trend is statistically significant.

**Figure 2.2: Proportion of disengaged young people wanting to leave education and training at 16 by vocational courses taken in Year 10**

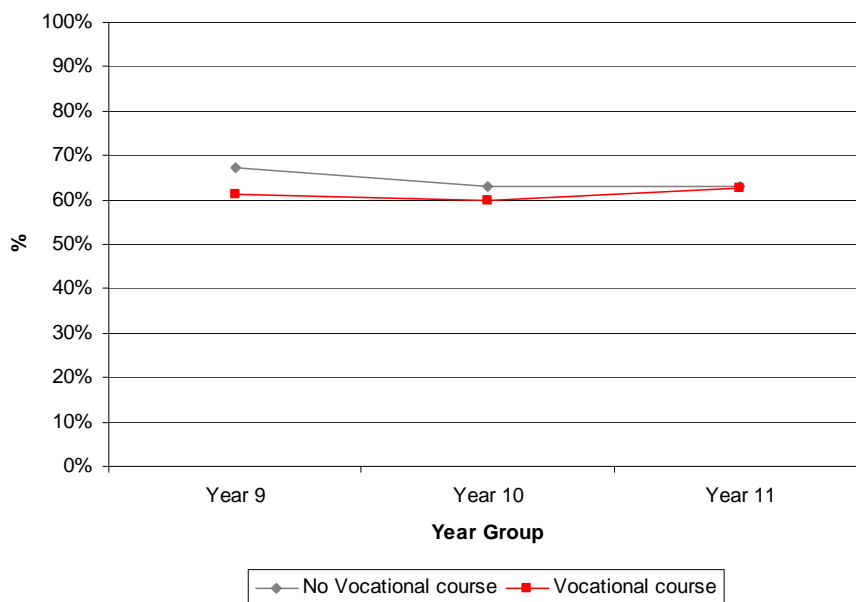


However, once socio-demographic and other factors were taken into account, which include gender, ethnicity, social class and Key Stage 2 average point scores, the trend is no longer statistically significant. Therefore we can be confident that any differences in aspirations between non-vocational and vocational course participants over time are not attributable to taking vocational courses in Year 10.

Again, the analysis was repeated for young people defined as disengaged according to their attitudes to school. Overall the conclusions did not differ from the analysis above (results not shown).

Figure 2.3 below presents change over time in the proportion of disengaged young people who had poor attitudes to school<sup>12</sup>. Again the separate trends are given for disengaged young people who reported taking at least one vocational course in Year 10 and those who did not.

**Figure 2.3: Proportion of disengaged young people with poor attitudes to school by vocational courses taken in Year 10**



In Year 9 a higher proportion of non-vocational course participants had poor attitudes to school when compared to vocational course participants; however, by Year 11 the proportions were similar for the two groups. Despite this observed difference the trend is not statistically significant (see table A3 in the Appendix).

The outcome ‘had a poor attitude to school’ was derived from a continuous measure which summarizes young people’s responses across ten attitudinal questions. We also repeated our analysis using the original continuous measure, which better

<sup>12</sup> Poor attitudes were defined as being 1 standard deviation below the mean

captures the full range of attitudes to see whether this altered our conclusions. There were no discernable differences between the two models in terms of the impact of vocational course. However, year group was significant in the second model suggesting that attitudes improved over time among all disengaged young people (results not shown).

## Attainment

We also examined the impact of vocational courses on young people's Key Stage 4 attainment, repeating the analysis we had previously carried out but within a multivariate framework. Two separate analyses were performed. First, an examination of the relationship between taking at least one vocational course and achieving Key Stage 4 Level 1, and second, an examination of the relationship between vocational study and achieving Key Stage 4 Level 2. Again we controlled for a range of socio-demographic and other factors including an adjustment for prior attainment (Key Stage 2 scores) so that any prior differences in ability were accounted for.

**Table 2-1: Attainment models: Proportion of disengaged young people achieving Level 1**

Achieved Level 1 threshold (5 or more GCSE and equivalents at grades A*-G)	Estimate	N	Standard Error	Odds
Constant	-2.78		0.660	0.06
<i>Vocational course participation: Not taken a vocational course in year 10</i>		627		
Vocational course participation: Taken a vocational course in year 10	<b>0.53</b>	460	0.150	1.69
<i>Gender: Male</i>		707		
Gender: Female	<b>-0.73</b>	390	0.156	0.48
<i>Social Class: Managerial &amp; professional</i>		200		
Social Class: Intermediate	<b>1.11</b>	365	0.352	3.02
Social Class: Routine & manual	<b>0.79</b>	439	0.312	2.19
Social Class: Long-term unemployed	<b>0.49</b>	75	0.296	1.64
<i>Disability: Does not have a disability or long term illness / health problem</i>		886		
Disability: Has a disability or long term illness / health problem	<b>-0.60</b>	213	0.175	0.55
<i>Tenure: Owned outright</i>		99		
Tenure: Being bought on a mortgage/bank loan	<b>-0.54</b>	529	0.334	0.58
Tenure: Shared ownership (owns & rents property)	<b>0.65</b>	9	1.108	1.91
Tenure: Rented from a Council or New Town	<b>-1.08</b>	294	0.351	0.34
Tenure: Rented from a Housing Association	<b>-0.91</b>	105	0.390	0.40
Tenure: Rented privately	<b>-0.45</b>	62	0.443	0.64
Tenure: Rent free or other arrangement	<b>-1.94</b>	12	0.757	0.14
<i>Family Type: Married couple</i>		595		
Family Type: Cohabiting couple	<b>-0.19</b>	128	0.234	0.83
Family Type: Lone parent	<b>-0.71</b>	370	0.168	0.49
KS2 average points score	<b>0.18</b>	1,037	0.021	1.19

**BOLD** Indicates significant covariate

*ITALICS* Indicate categorical variable reference categories

NOTE: Only variables that were identified as significant in a stepwise logistic regression were included in the final model. All covariates have been tested for significance as a whole measure, therefore the bold markings relate to the whole variable not individual categories.

Table 2.1 above shows that the odds of disengaged young people achieving the Level 1 threshold is 1.7 times greater among those who reported taking at least one vocational course in Year 10 compared to those who took none.<sup>13</sup>

Table 2.2 below presents the results for Level 2 achievement and shows that whilst the odds of achieving Level 2 is 1.2 times greater among disengaged young people who took vocational courses, this finding is not statistically significant, suggesting no differences in the likelihood of young people achieving Key Stage 4 Level 2.

**Table 2-2: Attainment models: Proportion of disengaged young people achieving Level 2**

Achieved Level 2 threshold (5 or more GCSE and equivalents at grades A*-C)	Estimate	N	Standard Error	Odds
Constant	-11.35		1.087	0.00
<i>Vocational course participation: Not taken a vocational course in year 10</i>		627		
Vocational course participation: Taken a vocational course in year 10	0.19	460	0.197	1.21
<i>Tenure: Owned outright</i>		99		
Tenure: Being bought on a mortgage/bank loan	<b>-0.47</b>	529	0.291	0.63
Tenure: Shared ownership (owns & rents property)	<b>-0.18</b>	9	0.934	0.84
Tenure: Rented from a Council or New Town	<b>-1.59</b>	294	0.407	0.20
Tenure: Rented from a Housing Association	<b>-1.80</b>	105	0.584	0.17
Tenure: Rented privately	<b>-0.77</b>	62	0.508	0.46
Tenure: Rent free or other arrangement	<b>0.17</b>	12	0.932	1.18
<i>Family Type: Married couple</i>		595		
Family Type: Cohabiting couple	<b>-0.07</b>	128	0.344	0.94
Family Type: Lone parent	<b>-0.75</b>	370	0.261	0.47
KS2 average points score	<b>0.40</b>	1,037	0.039	1.49

**BOLD** Indicates significant covariate

*ITALICS* Indicate categorical variable reference categories

NOTE: Only variables that were identified as significant in a stepwise logistic regression were included in the final model. All covariates have been tested for significance as a whole measure, therefore the bold markings relate to the whole variable not individual categories.

Our earlier analysis suggests the odds of achieving Level 2 were significantly lower among young people who reported taking vocational courses when we used a different approach to identifying the subsample of disengaged young people. This was most notable when examining young people who had poor attitudes to education, or reported truant behaviour. However, this effect disappeared once we accounted for other potentially confounding factors.

## Destinations

In a final step we explored young people's destinations in Year 12 and Year 13. Our earlier bivariate analysis provide some evidence of differing destinations between disengaged young people who reported taking at least one vocational course in Year

<sup>13</sup> Stepwise fixed effect models were run to identify significant covariates. Covariates included were: gender, ethnicity, social class, family type, tenure, mother's highest qualification, SEN, disability status, whether or not the pupil had been bullied in the last 12 months in Year 9 and Key Stage 2 attainment. The final models included significant covariates only.



10 and those who did not. For example, at age 17, our earlier findings suggest those who had taken vocational courses in Year 10 were less likely to be in full-time education, part-time education or training, and more likely to be in full-time work although these differences had disappeared by age 18. There was also some evidence that they were more likely to be NEET at both 17 and 18.

In order to be more confident that these findings are attributable to subject choice we repeated our analysis taking into account socio-demographic characteristics or other factors that may otherwise explain these differences in destinations.

Tables B1 – B5 in Appendix B present the destination models for Year 12 and Year 13. What the results clearly demonstrate is that once differences in socio-demographic characteristics and other factors have been accounted for, whether or not a young person has taken a vocational qualification in Year 10 is not a significant predictor of *any* of the destinations examined<sup>14</sup>. This evidence suggests that the options that young people choose post Year 11 are unlikely to be dependent on their choice of vocational or non-vocational subjects in Year 10.

### **Number of vocational courses studied**

As a final test of the relationship between the impact of vocational courses on young people's subsequent engagement we repeated the analysis described above using a count of the total number of vocational courses young people reported studying. In essence, we tested whether we were able to identify an affect when allowing for greater engagement in the vocational curriculum. The results support our findings presented above. We found no evidence to suggest that studying more vocational courses made a difference to young people's levels of engagement, attainment or subsequent destinations except in terms of achieving Key Stage Four Level 1 (results not shown).

## **2.4 Conclusions**

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<sup>14</sup> The Year 12 and Year 13 destination variables were used to derive binary outcomes for each of the destination models. The sample size was too small for the 'part time work, part time college' destination to be able to conduct a meaningful analysis.

In general, the analysis presented here supports the findings of our previous analysis. That is, there was no evidence to suggest that studying vocational courses in Year 10 helps to re-engage young people who are disengaged from education. Our previous analysis identified a slight tendency for young people who reported taking vocational courses to become more disengaged between Year 9 and Year 11. We found some further evidence of this using more sophisticated statistical methods, however this disappeared once socio-demographic characteristics and other factors were taken into account.

This analysis did support the finding that young people who reported taking vocational courses were more likely to achieved Level 1 at Key Stage 4 (although there were no differences in Level 2 achievement). This may indicate that disengaged young people who take vocational courses are more likely to reach a minimum standard of achievement which they may not have otherwise reached. However we must consider that equivalences between different types of qualification may contribute to this finding which is something we were not able to explore here. Our analysis found no relationship between the reported study of vocational courses from Year 10 and subsequent destinations at age 17 or 18.

Overall the results presented here do not support the practice of offering disengaged young people vocational courses to help re-engage them with their education, or improving subsequent destinations, aside from evidence that it may help some achieve Level 1 qualifications at Key Stage 4.

However, we cannot entirely reject the idea that vocational courses may help foster improvement for some young people under some circumstances for a number of reasons. Firstly, the data comes from a cohort of young people who began their Key Stage 4 studies in 2004/05, early on in the expansion of the 14-19 curriculum and prior to the very broad roll out of new vocational type qualifications. It is therefore possible that today's experience of vocational education, including its methods of teaching, assessment and curriculum are different to those we were able to examine in this research. Second, it is also possible that vocational study may be of more benefit to young people who are less disengaged than those that we studied here. Nevertheless, for the type of vocational courses and the particular kinds of

disengaged young people that were examined, there appears to have been little impact, at least in the relatively short term.

### **3. Outcomes for young people who took vocational courses in Year 12 among those who did not achieve the academic requirements for A levels**

#### **3.1 Overview**

In addition to the benefits that a vocational curriculum might offer for improving the educational outcomes of disengaged young people during Key Stage 4, it is also suggested that following a vocational rather than academic pathway in Year 12 may improve subsequent outcomes for lower achieving young people. At the request of the Department for Education we investigated the hypothesis that young people with borderline attainment are more likely to remain in education and training if they follow vocational as opposed to academic pathways at age 16/17. As an outcome for this analysis, we used the likelihood of young people being 'Not in Employment, Education or Training' (NEET) at the age of 18.

#### **3.2 Data and approach**

For this analysis, our aim was to identify and track the experiences of young people who were on the border of suitability for studying A levels in Years 12 and 13 (borderline was defined here as having achieved 1-4 A\*-C grades at GCSE). We then examined the likelihood of these young people being NEET at age 18 according to whether they took academic or vocational courses in Year 12. Young people who did not continue their education or training at age 17 were excluded from the analysis entirely.

For our Year 12 analysis, young people taking vocational courses were again defined according to LSYPE questions, but in Year 12 the courses were not specifically denoted as vocational, and instead the young people were asked about individual course types they were studying. The courses defined as 'vocational' for this analysis included: AVCEs (formerly Vocational A levels), Key Skills qualifications, Basic Skills qualifications, GNVQs, NVQs, Edexcel, BTEC or LQL qualifications, OCR qualifications, City and Guilds qualifications or any other

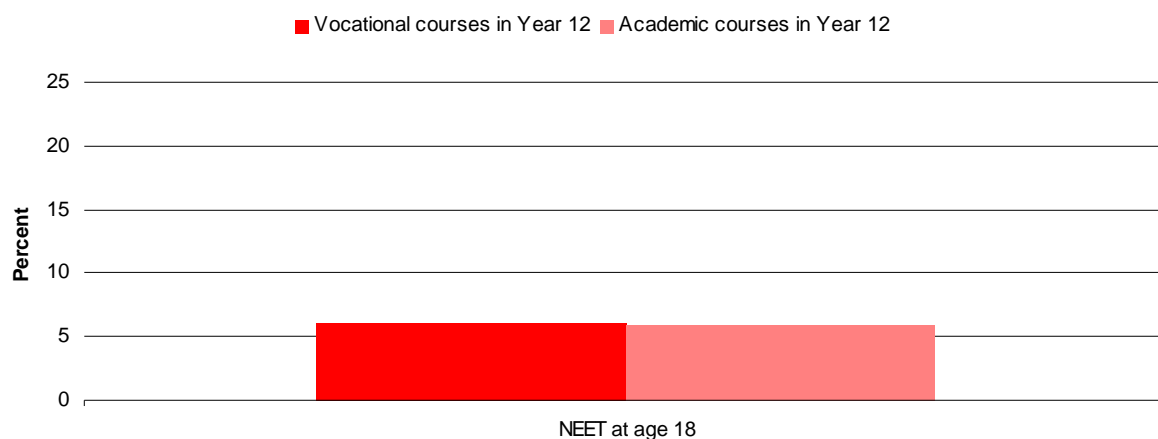
specifically named vocational courses. All A levels, AS levels or GCSEs were defined as non-vocational.

The main outcome for our analysis was whether the young person was NEET at the time of interview when they were aged 18. In addition, we also explored the total number of months that individuals had been NEET during the last 12 months between June 2008 and May 2009 (when the main activity for the Wave 6 interview was recorded). Again, our analysis included controls for other potential confounders including gender, parental social class, ethnic group and mother's highest educational qualification.

### 3.3 Key findings

In the LSYPE dataset, 2771 pupils (20.5%) were borderline A level students at Key Stage 4. The results of our analyses show that academically struggling young people who took vocational courses were no more or less likely to be NEET at age 18 than those who took academic courses (see Figure 3.1 below)..

**Figure 3.1: Likelihood of being NEET for disengaged young people at age 18 by vocational courses taken in Year 12**



We also carried out a multiple logistic regression analysis in order to see whether young people who took vocational courses at Year 12 were more likely to be NEET at age 18 after controlling for a range of other factors. The results of this model demonstrate no relationship between taking vocational courses and being NEET at age 18 taking account of their gender, parental social class, ethnic group and mother's highest educational qualification.

In a final step, we carried out a multiple linear regression analysis examining the relationship between young people’s chosen pathways and the total number of months during the previous 12 that were spent as NEET (all young people were aged 17-18 during these 12 months). The results show that young people who took vocational courses had slightly shorter periods of being NEET on average than those who took academic courses (they had on average 0.16 months less time spent NEET than those who took academic courses) both before and after adjustment for gender, ethnic group, parental social class and mother’s highest qualification. However this relationship was not statistically significant (see Table 3.1 below).

**Table 3-1: Results of multiple linear regression showing relationship between taking vocational courses and number of months spent NEET at age 17-18**

	<b>Coefficient</b>	<b>95% Confidence Intervals</b>
<b>Unadjusted</b>	-0.16	-0.45-0.14
<b>Adjusted</b>	-0.17	-0.49-0.14

### **3.4 Conclusions**

We found that young people who did not attain the standard academic requirement for A levels were no more likely to be NEET at the age of 18 if they followed vocational pathways or academic ones. There was no difference even after adjustment for gender, ethnic group, parental social class and mother’s highest qualification. There was also no difference when measured in terms of the total number of months spent being NEET at ages 17-18.

It therefore appears that taking vocational courses offers little benefit to borderline students in terms of their likelihood of becoming NEET. However, it is of course possible that these courses may benefit the young people in other ways that were not explored in this study, or may benefit them in terms of being NEET later in their lives.

## Appendix A

**Table A 1: Outcome: Proportion of disengaged young people who played truant (Final model)**

TRUANCY	Model I - Random Effect				Model II - Covariates			
	Estimate	N	Standard Error	Odds	Estimate	N	Standard Error	Odds
<b>Fixed effects</b>								
Constant	-0.521		0.140	0.594	-1.253		0.345	0.286
<i>Year Group: Year 9</i>		979				979		
Year Group: Year 10	<b>0.807</b>	1,032	0.155	2.241	<b>0.824</b>	1,032	0.163	2.280
Year Group: Year 11	<b>0.702</b>	1,043	0.155	2.018	<b>0.712</b>	1,043	0.162	2.037
<i>Vocational course participation: Not taken a vocational course in year 10</i>		581				581		
Vocational course participation: Taken a vocational course in year 10	0.039	436	0.213	1.040	0.033	436	0.219	1.033
<i>Interaction: Year 9 * Taken a vocational course in year 10</i>		957				957		
Interaction: Year 10 * Taken a vocational course in year 10	-0.102	1,026	0.240	0.903	-0.044	1,026	0.251	0.957
Interaction: Year 11 * Taken a vocational course in year 10	0.102	1,017	0.241	1.107	0.251	1,017	0.253	1.285
<b>Covariates</b>								
<i>Ethnicity: White</i>						954		
Ethnicity: Non-white					<b>0.554</b>	89	0.289	1.740
<i>SEN: Does not have a SEN</i>						630		
SEN: Has ever been identified as having an SEN					<b>-0.516</b>	400	0.167	0.597
<i>Disability: Does not have a disability or long term illness / health problem</i>						830		
Disability: Has a disability or long term illness / health problem					-0.340	196	0.207	0.711
<i>Bullied: Has not been bullied in any way in the last 12 months</i>						419		
Bullied: Has been bullied in the last 12 months					<b>0.440</b>	533	0.161	1.553
<i>Mothers highest qualification: Mother has no qualifications</i>						308		
Mothers highest qualification: Level 1 & below					<b>0.270</b>	132	0.252	1.309
Mothers highest qualification: GCSE A-C or equivalent					<b>0.251</b>	309	0.205	1.286
Mothers highest qualification: GCE A-Level or equivalent					<b>-0.116</b>	97	0.285	0.890
Mothers highest qualification: Higher education below degree					<b>1.052</b>	67	0.350	2.862
Mothers highest qualification: Degree or equivalent					<b>-0.284</b>	25	0.541	0.753
Mothers highest qualification: Mother not present					<b>0.060</b>	51	0.478	1.062
Mothers highest qualification: Other qualification					<b>0.723</b>	18	0.556	2.060
<i>Family Type: Married couple</i>						554		
Family Type: Cohabiting couple					<b>0.741</b>	122	0.264	2.097
Family Type: Lone parent					<b>0.491</b>	340	0.191	1.633
Family Type: No parents in the household					<b>1.976</b>	19	0.866	7.217
<i>Tenure: Owned outright</i>						90		
Tenure: Being bought on a mortgage/bank loan					0.092	499	0.167	1.097
Tenure: Shared ownership (owns & rents property)					-1.146	6	0.298	0.318
Tenure: Rented from a Council or New Town					0.419	268	0.984	1.521
Tenure: Rented from a Housing Association					0.531	105	0.325	1.701
Tenure: Rented privately					0.139	55	0.374	1.150
Tenure: Rent free or other arrangement					-0.143	12	0.429	0.867
<b>Random effects</b>								
Pupil	<b>1.836</b>	3,054	0.124	6.273	<b>1.698</b>	3,054	0.127	5.463
School	<b>0.660</b>	2,910	0.170	1.934	<b>0.566</b>	2,910	0.182	1.762

**BOLD** Indicates significant covariates  $P < 0.10$

*ITALICS* Indicate categorical variable reference categories

NOTE: Only variables that were identified as significant in a stepwise logistic regression were included in the final model. All covariates have been tested for significance as a whole measure, therefore the bold markings relate to the whole variable not individual categories.

**Table A 2: Final Model: Outcome: Proportion of disengaged young people wanting to leave education and training at 16**

ASPIRATIONS	Model I - Random Effect				Model II - Covariates			
	Estimate	N	Standard Error	Odds	Estimate	N	Standard Error	Odds
<b>Fixed effects</b>								
Constant	-0.486		0.113	0.615	1.675		0.518	5.337
<i>Year Group: Year 9</i>		429				429		
<i>Year Group: Year 10</i>	-1.035	250	0.152	0.355	-1.096	250	0.163	0.334
<i>Year Group: Year 11</i>	-1.527	197	0.161	0.217	-1.524	197	0.171	0.218
<i>Vocational course participation: Not taken a vocational course in year 10</i>		816				816		
<i>Vocational course participation: Taken a vocational course in year 10</i>	-0.288	197	0.171	0.750	-0.275	197	0.183	0.759
<i>Interaction: Year 9 * Taken a vocational course in year 10</i>		1,082				1,082		
<i>Interaction: Year 10 * Taken a vocational course in year 10</i>	<b>0.440</b>	975	0.228	1.553	0.480	975	0.245	1.616
<i>Interaction: Year 11 * Taken a vocational course in year 10</i>	<b>0.539</b>	1,013	0.237	1.715	0.385	1,013	0.256	1.470
<b>Covariates</b>								
<i>Gender: Male</i>						658		
<i>Gender: Female</i>					<b>-0.265</b>	360	0.144	0.767
<i>Ethnicity: White</i>						946		
<i>Ethnicity: Non-white</i>					<b>-0.525</b>	92	0.254	0.592
<i>Social Class: Managerial &amp; professional</i>						190		
<i>Social Class: Intermediate</i>					<b>-0.095</b>	344	0.202	0.909
<i>Social Class: Routine &amp; manual</i>					<b>0.257</b>	403	0.196	1.293
<i>Social Class: Long-term unemployed</i>					<b>-0.358</b>	60	0.338	0.699
<i>Social Class: No parents in the HH</i>					<b>0.746</b>	18	0.601	2.108
<i>KS2 average points score</i>					<b>-0.087</b>	957	0.019	0.917
<b>Random effects</b>								
Pupil	<b>1.306</b>	3,132	0.108	3.690	<b>1.287</b>	3,132	0.116	3.620
School	<b>0.433</b>	2,975	0.120	1.542	<b>0.457</b>	2,975	0.126	1.580

**BOLD** Indicates significant covariates  $P < 0.10$

*ITALICS* Indicate categorical variable reference categories

NOTE: Only variables that were identified as significant in a stepwise logistic regression were included in the final model. All covariates have been tested for significance as a whole measure, therefore the bold markings relate to the whole variable not individual categories.

**Table A 3: Final Model: Outcome: Proportion of disengaged young people with poor attitudes to school (Binary)**

ATTITUDES - BINARY VARIABLE	Model I - Random Effect				Model II - Covariates			
	Estimate	N	Standard Error	Odds	Estimate	N	Standard Error	Odds
<b>Fixed effects</b>								
Constant	0.833		0.129	2.301	0.716		0.135	2.045
<i>Year Group: Year 9</i>		763				763		
<i>Year Group: Year 10</i>	-0.082	736	0.164	0.921	-0.080	736	0.164	0.923
<i>Year Group: Year 11</i>	-0.239	781	0.160	0.787	-0.236	781	0.161	0.790
<i>Vocational course participation: Not taken a vocational course in year 10</i>		439				439		
<i>Vocational course participation: Taken a vocational course in year 10</i>	-0.185	320	0.189	0.831	-0.211	320	0.188	0.809
<i>Interaction: Year 9 * Taken a vocational course in year 10</i>		745				745		
<i>Interaction: Year 10 * Taken a vocational course in year 10</i>	-0.059	732	0.249	0.943	-0.085	732	0.249	0.918
<i>Interaction: Year 11 * Taken a vocational course in year 10</i>	0.148	759	0.246	1.160	0.129	759	0.246	1.137
<b>Covariates</b>								
<i>Gender: Male</i>						493		
<i>Gender: Female</i>					<b>0.261</b>	273	0.128	1.298
<i>Ethnicity: White</i>						722		
<i>Ethnicity: Non-white</i>					0.353	59	0.222	1.424
<b>Random effects</b>								
Pupil	<b>0.992</b>	2,280	0.122	2.697	<b>0.969</b>	2,280	0.123	2.634
School	<b>0.403</b>	2,181	0.403	1.496	<b>0.409</b>	2,181	0.122	1.506

**BOLD** Indicates significant covariates  $P < 0.10$

*ITALICS* Indicate categorical variable reference categories

NOTE: Only variables that were identified as significant in a stepwise logistic regression were included in the final model. All covariates have been tested for significance as a whole measure, therefore the bold markings relate to the whole variable not individual categories.



**Table A 4: Final Model: Outcome: Proportion of disengaged young people with poor attitudes to school (Continuous)**

ATTITUDES - CONTINUOUS VARIABLE	Model II - Random Effect			Model III - Covariates		
	Estimate	N	Standard Error	Estimate	N	Standard Error
<b>Fixed effects</b>						
Constant	8.240		0.880	-7.487		2.580
<i>Year Group: Year 9</i>		763			763	
Year Group: Year 10	<b>-1.008</b>	736	1.125	<b>-2.066</b>	736	1.026
Year Group: Year 11	<b>-2.253</b>	781	1.125	<b>-3.434</b>	781	1.026
<i>Vocational course participation: Not taken a vocational course in year 10</i>		439			439	
Vocational course participation: Taken a vocational course in year 10	-0.668	320	1.326	0.585	320	1.183
<i>Interaction: Year 9 * Taken a vocational course in year 10</i>		745			745	
Interaction: Year 10 * Taken a vocational course in year 10	2.673	732	1.724	0.995	732	1.589
Interaction: Year 11 * Taken a vocational course in year 10	1.325	759	1.724	-0.228	759	1.589
<b>Covariates</b>						
<i>Gender: Male</i>					493	
Gender: Female				-0.758	273	0.765
<i>Ethnicity: White</i>					722	
Ethnicity: Non-white				<b>-4.121</b>	59	1.288
<i>Family Type: Married couple</i>					429	
Family Type: Cohabiting couple				<b>-2.894</b>	91	1.191
Family Type: Lone parent				<b>-0.912</b>	244	0.818
Family Type: No parents in the household				<b>2.956</b>	11	3.282
KS2 average points score				<b>0.773</b>	730	0.098
<b>Random effects</b>						
Pupil	<b>7.982</b>	2,280	0.665	<b>5.317</b>	2,280	0.738
School	<b>3.224</b>	2,181	0.884	<b>2.068</b>	2,181	1.062

**BOLD** Indicates significant covariates  $P < 0.10$

*ITALICS* Indicate categorical variable reference categories

NOTE: Only variables that were identified as significant in a stepwise logistic regression were included in the final model. All covariates have been tested for significance as a whole measure, therefore the bold markings relate to the whole variable not individual categories.

## Appendix B

**Table B 1: Final Model: Outcome: Proportion of disengaged young people who were NEET in Year 12 and Year 13**

NOT IN EMPLOYMENT EDUCATION OR TRAINING	Year 12				Year 13			
	Estimate	N	Standard Error	Odds	Estimate	N	Standard Error	Odds
<b>Fixed effects</b>								
Constant	-1.05		0.497	0.35	-2.34		0.449	0.10
<i>Vocational course participation: Not taken a vocational course in year 10</i>		517				465		
<i>Vocational course participation: Taken a vocational course in year 10</i>	0.24	379	0.166	1.28	-0.03	320	0.190	0.97
<b>Covariates</b>								
<i>Social Class: Managerial &amp; professional</i>		159						
<i>Social Class: Intermediate</i>	<b>-0.98</b>	293	0.394	0.38				
<i>Social Class: Routine &amp; manual</i>	<b>-0.85</b>	372	0.340	0.43				
<i>Social Class: Long-term unemployed</i>	<b>-0.31</b>	61	0.313	0.73				
<i>Tenure: Owned outright</i>		83				76		
<i>Tenure: Being bought on a mortgage/bank loan</i>	<b>0.39</b>	431	0.394	1.47	<b>0.55</b>	391	0.458	1.73
<i>Tenure: Rented from a Council or New Town</i>	<b>0.88</b>	234	0.406	2.42	<b>1.27</b>	189	0.469	3.58
<i>Tenure: Rented from a Housing Association</i>	<b>0.85</b>	98	0.445	2.34	<b>1.19</b>	79	0.505	3.28
<i>Tenure: Other arrangement</i>	<b>0.85</b>	67	0.473	2.34	<b>0.82</b>	61	0.545	2.27
<i>Family Type: Married couple</i>		487						
<i>Family Type: Cohabiting couple</i>	<b>0.60</b>	104	0.253	1.82				
<i>Family Type: Lone parent</i>	<b>0.32</b>	308	0.192	1.37				
<i>Mothers highest qualification: Mother has no qualifications</i>		281						
<i>Mothers highest qualification: Level 1 &amp; below</i>	<b>-0.57</b>	116	0.248	0.57				
<i>Mothers highest qualification: GCSE A-C or equivalent</i>	<b>-0.57</b>	269	0.206	0.57				
<i>Mothers highest qualification: GCE A-Level or equivalent</i>	<b>-0.39</b>	86	0.284	0.68				
<i>Mothers highest qualification: Higher education and above or other qualification</i>	<b>-1.45</b>	56	0.414	0.23				
<i>Disability: Does not have a disability or long term illness / health problem</i>						637		
<i>Disability: Has a disability or long term illness / health problem</i>					<b>-0.64</b>	152	0.267	0.53
KS2 average points score					<b>-0.26</b>	744	0.449	0.10

**BOLD** Indicates significant covariates  $P < 0.10$

*ITALICS* Indicate categorical variable reference categories

NOTE: Only variables that were identified as significant in a stepwise logistic regression were included in the final model. All covariates have been tested for significance as a whole measure, therefore the bold markings relate to the whole variable not individual categories.

**Table B 2: Final Model: Outcome: Proportion of disengaged young people who were in Full Time Education in Year 12 and Year 13**

FULL TIME EDUCATION	Year 12				Year 13			
	Estimate	N	Standard Error	Odds	Estimate	N	Standard Error	Odds
<b>Fixed effects</b>								
Constant	-1.04		0.164	0.35	-1.55		0.513	0.21
<i>Vocational course participation: Not taken a vocational course in year 10</i>		653				653		
<i>Vocational course participation: Taken a vocational course in year 10</i>	-0.05	484	0.141	0.95	-0.14	484	0.181	0.87
<b>Covariates</b>								
<i>Gender: Male</i>		740				740		
<i>Gender: Female</i>	<b>-0.29</b>	407	0.141	0.75	<b>-0.43</b>	407	0.178	0.65
<i>Social Class: Managerial &amp; professional</i>						203		
<i>Social Class: Intermediate</i>					<b>0.31</b>	381	0.435	1.37
<i>Social Class: Routine &amp; manual</i>					<b>-0.26</b>	460	0.421	0.77
<i>Social Class: Long-term unemployed</i>					<b>0.37</b>	79	0.397	1.45
<i>Mothers highest qualification: Mother has no qualifications</i>		360						
<i>Mothers highest qualification: Level 1 &amp; below</i>	<b>-0.10</b>	148	0.228	0.90				
<i>Mothers highest qualification: GCSE A-C or equivalent</i>	<b>0.21</b>	332	0.176	1.24				
<i>Mothers highest qualification: GCE A-Level or equivalent</i>	<b>0.55</b>	107	0.230	1.73				
<i>Mothers highest qualification: Higher education and above or other qualification</i>	<b>0.69</b>	73	0.277	2.00				
<i>Tenure: Owned outright</i>						101		
<i>Tenure: Being bought on a mortgage/bank loan</i>					<b>-0.30</b>	543	0.328	0.74
<i>Tenure: Rented from a Council or New Town</i>					<b>-0.71</b>	310	0.367	0.49
<i>Tenure: Rented from a Housing Association</i>					<b>0.09</b>	120	0.394	1.10
<i>Tenure: Other arrangement</i>					<b>0.37</b>	87	0.414	1.45
<i>Disability: Does not have a disability or long term illness / health problem</i>						927		
<i>Disability: Has a disability or long term illness / health problem</i>					<b>0.75</b>	224	0.198	2.12

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**Table B 3: Final Model: Outcome: Proportion of disengaged young people who were in Full Time Work in Year 12 and Year 13**

FULL TIME WORK	Year 12				Year 13			
	Estimate	N	Standard Error	Odds	Estimate	N	Standard Error	Odds
<b>Fixed effects</b>								
Constant	-2.69		0.435	0.07	-0.76		0.151	0.47
<i>Vocational course participation: Not taken a vocational course in year 10</i>		653				653		
Vocational course participation: Taken a vocational course in year 10	<b>0.16</b>	484	0.162	1.18	-0.12	484	0.137	0.88
<b>Covariates</b>								
<i>Gender: Male</i>		740						
Gender: Female	<b>0.37</b>	407	0.171	1.45				
<i>Social Class: Managerial &amp; professional</i>		203						
Social Class: Intermediate	<b>0.44</b>	381	0.455	1.55				
Social Class: Routine & manual	<b>0.76</b>	460	0.426	2.13				
Social Class: Long-term unemployed	<b>0.30</b>	79	0.425	1.36				
<i>Mothers highest qualification: Mother has no qualifications</i>		360				360		
Mothers highest qualification: Level 1 & below	<b>0.64</b>	148	0.247	1.91	<b>0.08</b>	148	0.213	1.08
Mothers highest qualification: GCSE A-C or equivalent	<b>0.57</b>	332	0.213	1.77	<b>0.53</b>	332	0.167	1.69
Mothers highest qualification: GCE A-Level or equivalent	<b>-0.02</b>	107	0.318	0.98	<b>-0.09</b>	107	0.245	0.92
Mothers highest qualification: Higher education and above or other qualification	<b>0.23</b>	73	0.375	1.26	<b>0.25</b>	73	0.286	1.28
<i>Family Type: Married couple</i>						609		
Family Type: Cohabiting couple					<b>-0.48</b>	138	0.222	0.62
Family Type: Lone parent					<b>-0.42</b>	394	0.152	0.66
<i>Disability: Does not have a disability or long term illness / health problem</i>						927		
Disability: Has a disability or long term illness / health problem					<b>-0.37</b>	224	0.176	0.69

**BOLD** Indicates significant covariates  $P < 0.10$

*ITALICS* Indicate categorical variable reference categories

NOTE: Only variables that were identified as significant in a stepwise logistic regression were included in the final model. All covariates have been tested for significance as a whole measure, therefore the bold markings relate to the whole variable not individual categories.

**Table B 4: Final Model: Outcome: Proportion of disengaged young people who were in Full Time Training in Year 12 and Year 13**

FULL TIME TRAINING	Year 12				Year 13			
	Estimate	N	Standard Error	Odds	Estimate	N	Standard Error	Odds
<b>Fixed effects</b>								
Constant	-1.86		0.212	0.16	-2.21		0.244	0.11
<i>Vocational course participation: Not taken a vocational course in year 10</i>		653				653		
Vocational course participation: Taken a vocational course in year 10	-0.28	484	0.193	0.75	0.13	484	0.199	1.14
<b>Covariates</b>								
<i>Gender: Male</i>		740				740		
Gender: Female	<b>0.52</b>	407	0.207	1.69	<b>0.81</b>	407	0.234	2.24
<i>Disability: Does not have a disability or long term illness / health problem</i>		927						
Disability: Has a disability or long term illness / health problem	<b>0.51</b>	224	0.226	1.66				
<i>SEN: Does not have a SEN</i>		691						
SEN: Has ever been identified as having an SEN	<b>-0.49</b>	464	0.201	0.61				
<i>Bullied: Has not been bullied in any way in the last 12 months</i>		463						
Bullied: Has been bullied in the last 12 months	<b>-0.50</b>	600	0.190	0.60	<b>-0.60</b>	463	0.200	0.55
KS2 average points score					<b>0.37</b>	600	0.111	1.45

**BOLD** Indicates significant covariates  $P < 0.10$

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**Table B 5: Final Model: Outcome: Proportion of disengaged young people who were doing something else full time in Year 12 and Year 13**

FULL TIME OTHER	Year 12				Year 13			
	Estimate	N	Standard Error	Odds	Estimate	N	Standard Error	Odds
<b>Fixed effects</b>								
Constant	-0.85		0.449	0.43	-1.66		0.128	0.19
<i>Vocational course participation: Not taken a vocational course in year 10</i>		653				653		
Vocational course participation: Taken a vocational course in year 10	0.06	484	0.147	1.07	-0.13	484	0.168	0.88
<b>Covariates</b>								
<i>Social Class: Managerial &amp; professional</i>		203						
Social Class: Intermediate	<b>-0.60</b>	381	0.344	0.55				
Social Class: Routine & manual	<b>-0.59</b>	460	0.304	0.55				
Social Class: Long-term unemployed	<b>-0.12</b>	79	0.283	0.88				
<i>Tenure: Owned outright</i>		101						
Tenure: Being bought on a mortgage/bank loan	<b>0.48</b>	543	0.351	1.61				
Tenure: Rented from a Council or New Town	<b>0.82</b>	310	0.363	2.27				
Tenure: Rented from a Housing Association	<b>0.98</b>	120	0.396	2.67				
Tenure: Other arrangement	<b>1.02</b>	87	0.415	2.76				
<i>Mothers highest qualification: Mother has no qualifications</i>		360						
Mothers highest qualification: Level 1 & below	<b>-0.45</b>	148	0.223	0.63				
Mothers highest qualification: GCSE A-C or equivalent	<b>-0.44</b>	332	0.185	0.65				
Mothers highest qualification: GCE A-Level or equivalent	<b>-0.28</b>	107	0.255	0.76				
Mothers highest qualification: Higher education and above or other qualification	<b>-0.91</b>	73	0.303	0.40				
<i>Disability: Does not have a disability or long term illness / health problem</i>						927		
Disability: Has a disability or long term illness / health problem					<b>-0.48</b>	224	0.227	0.62
KS2 average points score					<b>-0.19</b>	1,076	0.085	0.82

**BOLD** Indicates significant covariates  $P < 0.10$

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