

# **Evaluation of Education Maintenance Allowance Pilots: Young People Aged 16 to 19 Years Final Report of the Quantitative Evaluation**

**Centre for Research in Social Policy:**

**Sue Middleton**

**Kim Perren**

**Sue Maguire**

**Joanne Rennison**

**Institute for Fiscal Studies:**

**Erich Battistin**

**Carl Emmerson**

**Emla Fitzsimons**

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# CONTENTS

	<b>Page</b>
<b>EXECUTIVE SUMMARY</b>	
<b>1 INTRODUCTION</b>	<b>1</b>
1.1 The Policy Context of EMA	2
1.2 The National EMA Scheme	4
1.3 Scope of the Report	5
1.4 Design of the Statistical EMA Evaluation	6
1.4.1 Weighting and attrition	7
1.5 Analytic Strategy	9
1.5.1 Propensity Score Matching (PSM)	9
1.5.2 Strengths and weaknesses of PSM techniques	10
1.5.3 Strengths and weaknesses of descriptive analytic techniques	11
1.6 Measuring Achievement	12
1.6.1 Number of passes	14
1.6.2 Grade point scores	15
1.7 Measuring Socio-economic Group	17
<b>2 SUMMARY OF ESTIMATES OF THE IMPACT OF EMA ON DESTINATIONS AND RETENTION IN EDUCATION AT AGES 16 AND 17</b>	<b>20</b>
2.1 Introduction	21
2.2 The Impact of EMA on Young People's Destinations at Age 16	22
2.3 The Impact of EMA on Destinations and Retention in Education at Ages 16 and 17	25
2.3.1 Socio-economic Group	28
2.3.2 Year 11 achievement	30
2.4 The Impact of EMA on Destinations at 18	31
2.5 EMA and Attachment for Full-time Education over Three Years	33
2.5.1 Data and Outcomes	35
2.5.2 The effect of EMA on educational attachment	36
2.5.3 Descriptive analysis of attrition	39
<b>3 EMA AND YOUNG PEOPLE'S DESTINATIONS AT 18 YEARS</b>	<b>40</b>
3.1 The Impact of EMA on Destinations at 18 years	41
3.1.1 EMA and destination trajectories between ages 16 and 18	44
3.2 Destination Trends 16, 17 and 18 year olds: Descriptive Analysis	47
3.3 EMA, Socio-economic Group and Year 11 Achievement	50
3.3.1 The impact of EMA by socio-economic group	50
3.3.2 The impact of EMA by Year 11 achievement	57

<b>4</b>	<b>EMA AND YOUNG PEOPLE'S DESTINATIONS AT 19 YEARS</b>	<b>63</b>
4.1	The Destinations of Young People at 19 Years: Overview	65
4.1.1	Labour market experiences at 19 of 16 and 18 year old entrants	67
4.2	Destination Patterns of 16 to 19 year olds in EMA Pilot and Control Areas	74
4.2.1	Education	75
4.2.2	Work	76
4.2.3	NEET	78
4.3	The Impact of EMA on Destinations at 19 years	84
4.3.1	The impact of EMA on destinations at 19 years	84
4.4	Year 11 achievement and Socio-economic Group	87
4.4.1	Year 11 achievement	87
4.4.2	Socio-economic group (SEG)	92
<b>5</b>	<b>ACHIEVEMENT IN POST-16 EDUCATION</b>	<b>96</b>
5.1	Using Administrative Data on Qualifications	97
5.1.1	The choice of administrative data	98
5.2	The Impact of EMA on Attainment: PSM Analysis	104
5.2.1	Achievement at Level 3	105
5.2.2	Achievement at Levels 1 and 2	107
5.2.3	Conclusion	109
5.3	EMA and Achievement: Descriptive Analysis of Second Cohort	109
5.3.1	Year 11 attainment differences in the pilot and control areas	110
5.3.2	Achievement among EMA eligible young people in second cohort	111
5.4	Conclusion	118
5.4.1	PSM analysis	119
5.4.2	Descriptive analysis of:	119
5.4.2.1	All EMA eligible young people	119
5.4.2.2	EMA eligible young people by destination at age 16	122
5.4.2.3	Summary	125

**APPENDIX A PUBLISHED REPORTS**

**APPENDIX B THE EMA EVALUATION SURVEYS: DESIGN, SAMPLING AND RESPONSE RATES**

**APPENDIX C SUBGROUP TABLES**

## EXECUTIVE SUMMARY

### Chapter 1 Introduction

This is the fourth and final report of the longitudinal quantitative evaluation of the Education Maintenance Allowance (EMA) pilots. The evaluation was commissioned by the Department for Education and Skills (DfES) from a consortium of research organisations, led by the Centre for Research in Social Policy (CRSP), and including the National Centre for Social Research, the Institute for Fiscal Studies (IFS) and the National Institute for Careers Education and Counselling (NICEC).

The main aims of the evaluation were to assess the impact of the EMA pilots on participation, retention and achievement in post-16 full-time education. The pilots were introduced because of policy concerns about participation rates in post-16 education, particularly among young men and those from lower socio-economic groups, the proportion of young people who were not in education, employment or training (NEET) after the end of compulsory education, and low rates of retention in education at 17 and 18 years of age (**Chapter 1.1**). EMA was rolled out nationally in 2004 (**Chapter 1.2**).

The design of the statistical evaluation was a longitudinal cohort study, involving large surveys of random samples of young people in ten of the original 15 EMA pilot areas and 11 control areas. The findings in this report are based on analysis of all of the eight datasets produced from four interviews with two cohorts of young people (and their parents at Wave 1), conducted at annual intervals, when young people were 16, 17, 18 and 19 years of age (**Chapter 1.4**). Weights were constructed to correct for potential sources of bias arising from exclusions from the sample, differential response rates and attrition. Although no more severe than in other studies of this type, this attrition has implications for the robustness of the data, particularly with regard to Propensity Score Matching (PSM) analysis, which cannot use attrition weights (**Chapter 1.4.1**). The relative strengths and weaknesses of PSM and descriptive analytic techniques at this stage of a longitudinal evaluation are discussed further in **Chapter 1.5**.

Methods of measuring young people's qualifications achievements have been devised that take into account qualifications at Year 11, and progress since then in terms of advancement between educational levels and within the same level (**Chapter 1.6**). Socio-economic groups for the parents of young people in the sample were constructed using the Standard Occupational Classification (SOC) (**Chapter 1.7**).

## **Chapter 2 Summary of Estimates of the Impact of EMA on Destinations and Retention in Education**

Since this is the last report of the statistical evaluation of EMA, this chapter summarises 'best' estimates of the impact of EMA, produced by PSM techniques, on young people's initial destinations immediately after the end of compulsory education (when they were 16 years old) and on retaining young people in full-time education in subsequent years.

EMA increased participation in full-time education among eligible 16 year olds by 5.9 percentage points. This effect was particularly strong among young men (6.9 percentage points in urban areas). Young people seem to have been drawn into education who would otherwise have entered work or training (-3.4 percentage points) or the NEET group (-2.4 percentage points) (**Chapter 2.2**).

Among eligible young people, EMA increased the proportion who were in full-time education at both age 16 and 17 by 6.1 percentage points; again, the effect was particularly strong for young men (8.6 percentage points). The largest effect was on young people from socio-economic groups 4 and 5 (semi-skilled and unskilled workers and those not in work) with 9.1 percentage points more young people in the pilot areas from these groups in full-time education at both 16 and 17 than in the control areas (**Chapter 2.3.1**). EMA also had a substantial impact on young people who had been 'low' or 'moderate' achievers at the end of Year 11; 10.9 percentage points more moderate achievers, and 8.8 percentage points more low achievers were in education at both 16 and 17 in the pilot areas than among their controls (**Chapter 2.3.2**). EMA also increased retention in full-time education among young

men by 5.5 percentage points, that is the proportion in education at age 16 who were still in education at age 17 (**Chapter 2.3**).

For most income eligible young people living in the pilot areas, the EMA grant was only available for two years following the end of compulsory education. However, at the age of 18, more than two years after the end of Year 11, participation in education was 7.7 percentage points higher for eligible young men living in urban pilot areas than among their matched controls. In addition, the proportion of urban young men in the pilot areas who had been in education at all three waves (i.e. at age 16, 17 and 18) was 8.3 percentage points higher than among their matched controls (**Chapter 2.4**).

The destinations of young people in the urban areas were analysed for each of the ten academic terms covered by the surveys (i.e. up to the age of 19). EMA was shown to have also increased young people's 'attachment' to full-time education in that both young men and young women in the pilot areas spent more terms in education than those in the control areas. Across the first four post-16 terms, young men in the pilot areas spent around two per cent more of their time in education than their counterparts in the control areas. Across the first seven terms the gain for young men was around seven per cent. Across all ten terms the gain for young men was, again, around two per cent (**Chapter 2.5.2**). However, this analysis also indicated that young people who remained in full-time education across waves may have been disproportionately likely to remain in the survey, while those who followed other trajectories had an increased likelihood of dropping out. This differential attrition may undermine the robustness of the PSM estimates (**Chapter 2.5.3**).

The results from this chapter indicate that EMA had met the policy objectives of increasing participation and retention in full-time post-16 education and reducing the number of young people who became NEET. In addition, EMA had a disproportionate, positive, impact upon the destinations of specific target groups who tended to be under-represented in post-16 education, namely, young people from lower income families and young men.



### **Chapter 3 EMA and Young People's Destinations at 18 Years**

In this chapter, the destination trajectories of young people between the ages of 16 and 18 years are examined in greater detail.

PSM analysis was conducted on destinations and trajectories at age 18, broken down by socio-economic group and Year 11 attainment. At the age of 18, the impact of EMA was greatest on eligible young men from lower socio-economic groups, particularly 4 and 5. These seemed to be young men who would otherwise have been in work with training (-2.7 percentage points), or work without training (-1.8 percentage points), or the NEET group (-3.8 percentage points). By contrast young men from socio-economic groups 2 and 3 had been drawn into education more or less completely from work with training (-8.5 percentage points). EMA had significantly increased the proportion of young men from the middle (7.2 percentage points), and lowest (8.6 percentage points), socio-economic groups who were in full-time education at 16, 17 and 18. This was almost entirely the result of reductions in the proportions of young men who had not participated in education at all since the end of compulsory education (-6.0 and -7.3 percentage points respectively) (**Chapter 3.3.1**).

The findings in relation to Year 11 achievement are somewhat different to those found in earlier chapters. At the age of 18, EMA had the largest positive effect on education participation among eligible young men who had been high achievers at the end of year 11; 10.7 percentage points more high Year 11 achieving young men were in full-time education at 18 in the pilot areas than in the control areas. This was at the expense of participation in work with training, which was ten percentage points lower among this group of young men. However, EMA also had a large and positive effect on participation among young men in the moderate (6.8 percentage points), and low (8.7 percentage points) Year 11 achievement groups. Again, most of these young men seem to have been drawn from work with training. In addition, EMA has had a positive and significant impact on being in education at 16, 17 and 18 on both high (4.8 percentage points), and moderate (8.9 percentage points) Year 11 achievers, in part by reducing the proportions who would otherwise not have participated in any education post-16. Among those who were low Year 11

achievers, EMA seems to have increased the proportion who were in education at 16 and 17 and then left (8.8 percentage points), by reducing the proportion who would otherwise not have remained in education at all (-10.4 percentage points) (Chapter 3.3.2).

## **Chapter 4 EMA and Young People's Destinations at 19 years**

This chapter uses both PSM and descriptive techniques to examine eligible young people's destinations at the age of 19 years and their trajectories over the three years since they completed compulsory education.

Descriptive analysis is used to compare the circumstances at the age of 19 of two groups of young people: those who had entered the labour market at 16 and those who had spent two years in post 16 education before entering the labour market at 18. The aim is to assess the effect of two years of post-16 education on young people's initial labour market position and subsequent progression.

In general, 18 year old labour market entrants were more likely to be in higher status jobs at 19 than 16 year old entrants. Among 16 year old entrants 5.2 per cent were in managerial or professional jobs at the age of 19, compared with 15.6 per cent of 18 year old entrants at the age of 19. This may indicate that the 'added value' of remaining in post-16 education for two years outweighed any benefits that accrued by spending longer in the labour market. However, it should be borne in mind that early labour market entrants tended to have lower Year 11 attainment levels in comparison to their counterparts who chose to remain in education. In addition, few 18 year old labour market entrants were in skilled trades at the age of 19. This could reflect a preference among employers for recruiting younger school leavers into traditional apprenticeship trades, rather than adopting a more flexible approach to the age. Age-related pay rates, which are fixed by many trade associations, might be a factor in explaining this trend.

Among 18 year old labour market entrants, those who had entered government supported training were more likely to be in the same destination one year later (69.9 per cent) than those who had entered work with training (64.1 per cent), or,

particularly, those who had entered work without training (45.9 per cent). Almost one in ten 18 year old labour market entrants who had gone into work without training was NEET one year later (9.4 per cent).

Although the numbers of 18 year old entrants into GST were small, 29.2 per cent of these were in managerial or professional occupations at the age of 19, compared with only 2.5 per cent of those who had entered the labour market at 16 (**Chapter 4.1.1**).

The proportion of eligible young people who were NEET increased between the ages of 17 and 18, indicating that there is a sub-group of young people who failed to make successful transitions beyond post-16 education.

Among young people who were NEET at the age of 19, four groups were identified:

- 'long-term', (NEET from age 16 to 19);
- 'medium term', (NEET from age 17 to 19),
- 'short-term' (NEET from age 18 to 19); and
- 'NEET at 19' (those whose first entry to NEET was at age 19).

Young people in the control areas were more likely to have been 'long-term' NEET (23.2 per cent) than those in the pilot areas (14.2 per cent). A larger proportion of young people in the pilot areas (44.4 per cent) were NEET for the first time at 19 than in the control areas (38.7 per cent).

Among young people who had spent two years in post-16 education and who were then NEET at 18, 28.2 per cent remained NEET one year later. This was more likely among young people in the pilot areas (36 per cent) than in the control areas (20.4 per cent) (**Chapter 4.2.3**). This highlights the importance of ensuring that adequate levels of guidance and support are available to young people in the years following the end of compulsory education in order to ensure that the benefits associated with retention in post-16 education are not subsequently undermined.

The chapter includes a comparison of destinations and trajectories in the pilot and control areas. The descriptive analysis indicates that, at the age of 19, there was no

significant difference in the destinations of eligible young people in the pilot and control areas. PSM analysis confirms that, by the age of 19, EMA had ceased to have a statistically significant impact on participation in full-time education (**Chapter 4.3**).

Associations between destinations and young people's Year 11 achievement and socio-economic group are examined using weighted descriptive comparisons. The findings suggest that the lack of an EMA effect by the age of 19 was broadly consistent across Year 11 achievement groups and socio-economic groups (**Chapter 4.4**).

## **Chapter 5 Achievement in Post-16 Education**

Information on post-16 qualification attainment is derived from administrative data provided by the DfES rather than the young people's self-reports. This reflects the concern that young people might misreport the type, or the level, of qualification attained. However, for around 15 per cent of young people, inconsistencies between the two sources of information were so large that the cases had to be excluded from the analysis. Problems with data matching, and additional concerns surrounding the effect of attrition across the life of the panel, cast doubt on the robustness of the findings relating to post-16 achievement. There were fewer concerns over Cohort 2 than Cohort 1; consequently, all analysis in this chapter is based on Cohort 2 only. However, this raises additional concerns over the reduced sample size (**Chapter 5.1.1**).

The PSM analysis did not detect any statistically significant impact of EMA on post-16 attainment (**Chapter 5.2**). This appears to be inconsistent with the clear evidence that EMA has increased participation and retention in full-time post-16 education. This discrepancy may indicate that the analysis has been undermined by the Consortium's reliance upon data matched from two sources, namely the EMA survey database and administrative records of qualifications attained. It may also be the case that the set of variables used in the PSM matching procedure (matching up young people from the pilot and control areas) is not appropriate for examining education achievement in post-16 education. Variables were chosen that were

known to affect participation in post-16 education. Whilst these are also important determinants of attainment, there may be other variables that specifically affect attainment that have not been observed in our data.

At the ages of 16 and 17, EMA had no effect on participation in full-time education among eligible Year 11 high achievers in the pilot areas; consequently there is no expectation that EMA would influence attainment for these people. However, it must be remembered that the majority of eligible young people who remained in post-16 education were Year 11 high achievers. It is possible that modest gains among Year 11 lower achievers are being masked by the outcomes of the majority. In order to explore whether the effects of EMA might be restricted to certain groups of young people, descriptive analysis was performed separately on young people with differing Year 11 attainment.

Among Year 11 moderate achievers (between one and four GCSEs at grades A\*-C) and Year 11 low achievers (no GCSEs at grade C or above) there is some indication that EMA may have improved subsequent attainment. In the pilot areas, 17.3 per cent of moderate achieving EMA eligible young people had gained at least two A Levels (or their equivalent) by the age of 19 compared with 13.8 per cent of those in the control areas. Among Year 11 low achievers, only a minority of eligible young people had attained five or more GCSEs at grades A\*-C (or their vocational or occupational equivalent) by the age of 19; however, the rate was higher in the pilot areas than in the control areas (17.5 per cent and 12.6 per cent respectively). However, exploratory PSM analysis did not confirm these associations (**Chapter 5.3.2**).

## 1 INTRODUCTION

This is the fourth, and final, report in a series that has described the findings of the quantitative evaluation of the Education Maintenance Allowance (EMA) pilots. The evaluation, commissioned by the Department for Education and Skills (DfES), has been undertaken by a consortium of research organisations, led by the Centre for Research in Social Policy (CRSP). Other organisations in the consortium are the National Centre for Social Research, the Institute for Fiscal Studies (IFS) and the National Institute for Careers Education and Counselling (NICEC).

The EMA pilots were introduced to assess whether offering a monetary allowance to young people from low income families would encourage them to remain in education after the end of compulsory education. The structure of the pilots has been described in detail in previous evaluation reports but, in summary, young people in the pilot areas whose parents' incomes did not exceed £13,000 per annum were entitled to receive a weekly allowance of £30 or £40 per week (depending on the pilot area in which they lived) during term time. For those with a total parental income of between £13,000 and £30,000 (£20,000 for the London pilot), EMA was progressively tapered, down to a minimum of £5 per week. In addition, termly bonuses were available to all EMA recipients to encourage them to remain in education, and achievement bonuses for those who met their learning goals. Continued receipt of the allowance and the bonuses was dependant on young people complying with the terms of a learning agreement, signed by the young person, their parents and their school or college. This agreement laid down conditions relating to young people's attendance, behaviour and performance.

The main aims of the evaluation were to assess the impact of EMA on participation, retention and achievement in post-16 education. The statistical evaluation of EMA has formed just one element of a much larger exercise, involving a range of research methods, which has produced a raft of published evidence<sup>1</sup>.

Since this is the final report of the evaluation, it seems sensible to revisit the policy context that lay behind the piloting of EMA to provide a means of assessing whether

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<sup>1</sup> A full list of published reports can be found in Appendix A.

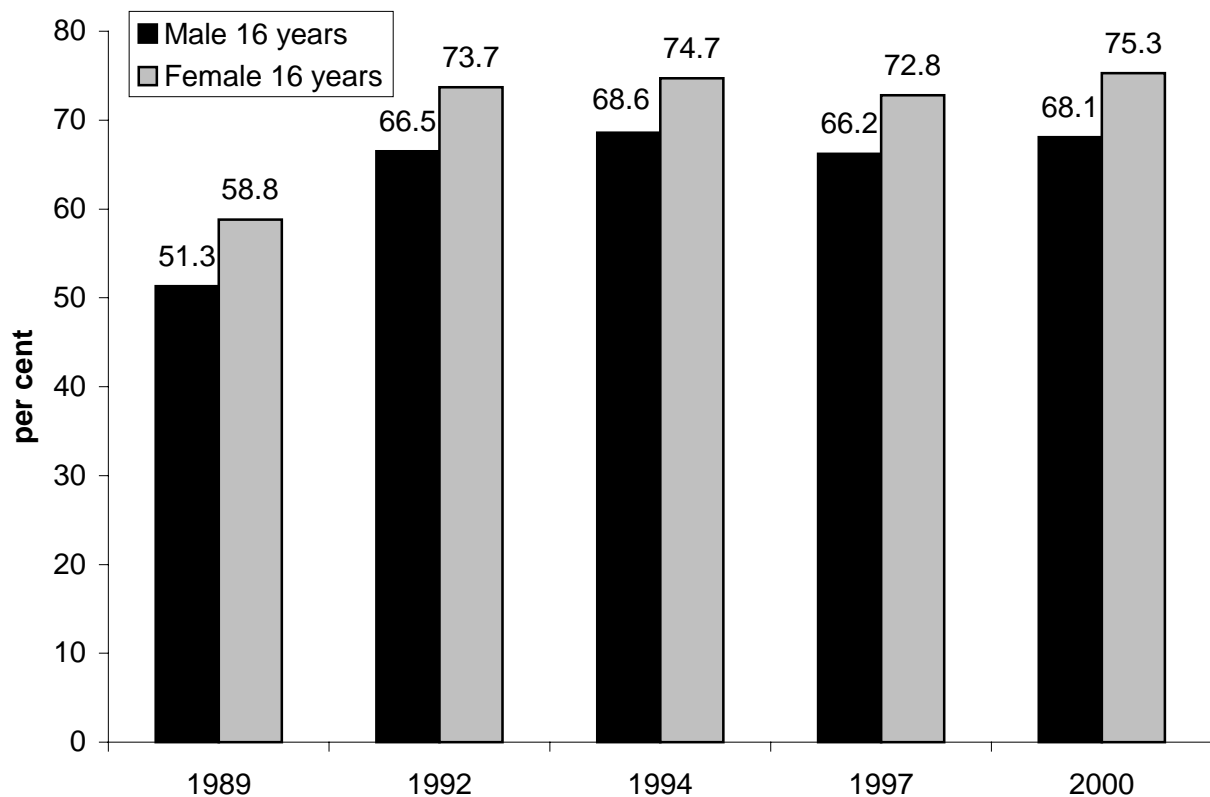
the evidence presented in subsequent sections suggests that EMA has met its policy goals. This is the subject of the next section of this chapter (Section 1.1), and is followed by a brief description of the national EMA scheme, which was rolled out in September 2004 (Section 1.2). Section 1.3 outlines the scope of this report. The remainder of the introduction explains the design of the EMA statistical evaluation (Section 1.4), and considers the weighting and analytic strategies that have been applied to the resulting data (Section 1.5). Finally, the approaches used to measuring achievement (Section 1.6), and socio-economic group (Section 1.7), are explained.

## **1.1 The Policy Context of EMA**

Following the end of compulsory education young people must decide whether to remain in full-time education or to enter the labour market. The UK experienced very large increases in participation in post-16 education in the later 1980s and early 1990s among 16, 17 and 18 year olds so that, by 1994, more than 70 per cent of 16 year olds were still in education, immediately after the end of compulsory education (Figure 1.1). However, the trend towards increasing participation seemed to have peaked by 1994, and then remained at around these levels. This was perceived to be a policy problem because the UK was still behind its main industrial competitors in terms of the proportions of young people remaining in post-16 education.

Underlying concerns about overall levels of participation in post-16 education were a number of particular concerns about what was happening **within** the post-16 group of young people. First, despite increases in participation among both young women and young men, women maintained their advantage of around seven percentage points over young men (Figure 1.1).

**Figure 1.1 Participation Rates in Post-16 Education by Gender**



Source: National Statistics 2001 <http://www.dfes.gov.uk/statistics/DB/SFR/index.html>

Secondly, there was concern that post-16 participation remained skewed towards the higher socio-economic groups. Among 16 year olds in 1998, well over four-fifths of young people whose parents were in professional or managerial occupations were in education, compared with less than one half of those whose parents were in unskilled manual occupations (Figure 1.2). Finally, the size of the group of young people who were classified as not in either education, employment or training (NEET) following the end of compulsory education remained stubbornly at around ten per cent. Again, this group was concentrated among young people whose parents were in unskilled manual occupations.

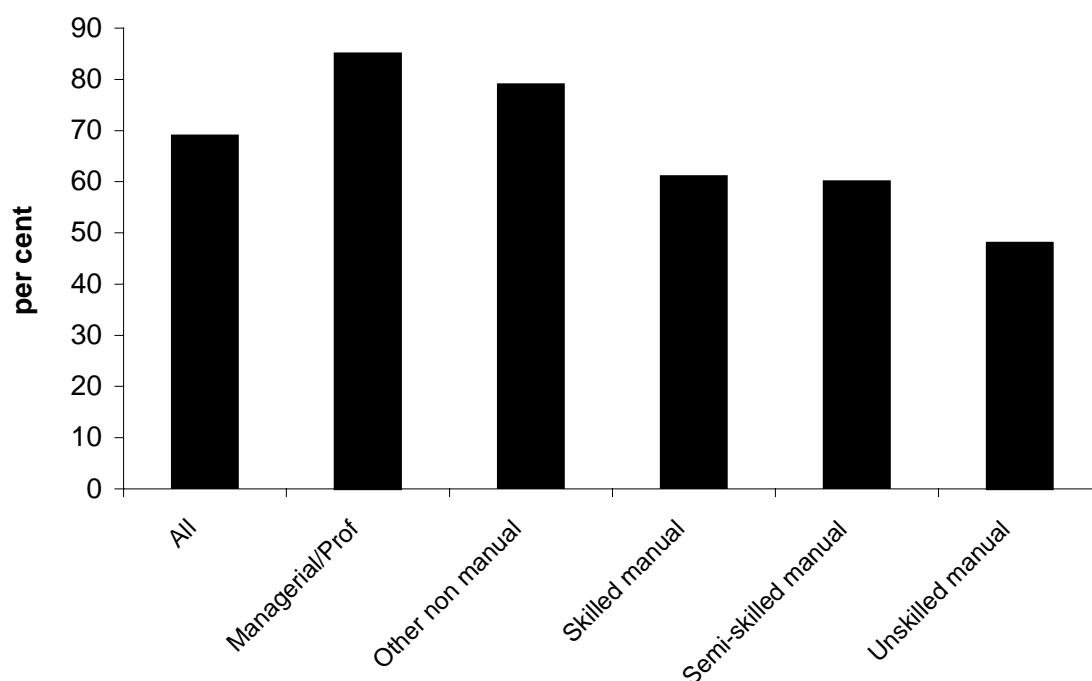
In addition to concerns about the proportions of young people who remained in education immediately after the end of compulsory education, there were also problems of retaining young people. By 1998, whilst participation in post-compulsory



education among 16 year olds had increased to 69.7 per cent, rates for 17 year olds (57.7 per cent) and, particularly, 18 year olds (37.1 per cent) were much lower.<sup>2</sup>

It was hoped that providing a financial incentive for young people to remain in education would impact on all these areas of policy concern, since financial considerations were thought to play a part in young people's decisions to leave education (Social Exclusion Unit, 1999).

**Figure 1.2 1998 Participation Rates in Post-16 Education by Socio-Economic Group**



Source: National Statistics, 2000

## 1.2 The National EMA Scheme

Earlier reports of the evaluation found that EMA had significantly increased participation and retention, and the Government took the decision in 2002 that EMA should be rolled out nationally. At the time of writing this had just occurred so that, since September 2004, all young people in England are entitled to claim EMA for up to three years once they have completed compulsory education. The scheme as

<sup>2</sup> National Statistics (2000), Table 1.

implemented is slightly different to that which was piloted. In summary, EMA is available to young people with household incomes of £30,000 or less in three bands, as shown in Box 1, which shows bands and thresholds for the first year of the national scheme, rather than being more finely tapered as in the pilot.

<b>BOX 1</b>	
<b>Household Income per annum</b>	<b>Weekly EMA</b>
Up to £19,630	£30
£19,631 - £24,030	£20
£24,031 - £30,000	£10

Bonuses will be paid in January and July and then in September of the following academic year. They are designed to act as a reward for making good progress with the course (as assessed by tutors) but also to reward retention after Christmas and Summer holidays. The July bonus can also be linked to attendance at exams. Some aspects of the national scheme are administered by a national assessment and payment body, and other aspects by schools and colleges themselves, instead of by LEAs as in the pilot scheme.

### **1.3 Scope of the Report**

The longitudinal quantitative evaluation, which has involved large samples of young people who finished compulsory education in the summers of 1999 and 2000, is now complete. This means that the evaluation can now complete its original objectives of estimating the impact of EMA on participation, retention and achievement in post-16 education. Since this is the final report of the quantitative evaluation, it begins with a summary of the published findings to date about the impact of EMA on participation and retention among young people up to the age of 18 (Chapter 2). Chapter 3 introduces additional analysis to give greater insight into the impact of EMA on participation and retention in post-16 education up to the age of 18. Chapter 4 extends this remit to the age of 19. Finally, Chapter 5 examines the qualifications

that young people achieved over the three years following the end of compulsory education.

#### **1.4 Design of the Statistical EMA Evaluation**

The design was a longitudinal cohort study, involving large surveys of random samples of young people in ten of the original 15 EMA pilot areas and 11 control areas<sup>3</sup>. A summary of the content of the questionnaires and details of the sampling method, sample sizes and response rates, and of the weighting procedure can be found in Appendix B to this report.

The findings in this report are based on analysis of all of the eight datasets produced from four interviews with two cohorts of young people (and their parents at Wave 1), conducted at annual intervals. These datasets are listed in Table 1.1, which also shows the year in which each wave of interviews began and the approximate age of the young people at the time of each interview. Throughout this report, these approximate ages are used in preference to the terminology of interview 'waves', since ages are simpler and easier to understand. Table 1.1 also shows the minimum length of time that had elapsed between the end of compulsory education and each survey wave.

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<sup>3</sup> Details of how the control areas were selected can be found in Ashworth et al., (2001).

**Table 1.1 Datasets**

<b>Dataset</b>	<b>Survey Interviewing began in Autumn</b>	<b>Approximate Age of Young People</b>	<b>Approximate Time since Completing Compulsory Education</b>
<b>Cohort 1:</b>			
Wave 1	1999	16 years	3 months
Wave 2	2000	17 years	15 months
Wave 3	2001	18 years	27 months
Wave 4	2002	19 years	39 months
<b>Cohort 2:</b>			
Wave 1	2000	16 years	3 months
Wave 2	2001	17 years	15 months
Wave 3	2002	18 years	27 months
Wave 4	2003	19 years	39 months

#### 1.4.1 Weighting and attrition

Weights were designed to correct for potential sources of bias arising from restrictions on the sampling procedure and from possible differences in initial non-response, so that results could be produced that were representative of all young people in the pilot and control areas<sup>4</sup>.

All longitudinal studies of this nature suffer from the effects of attrition, that is, from young people leaving the sample between interview waves, and it should be noted that attrition from the EMA surveys was lower than in many other similar studies. If young people leaving the study are randomly distributed attrition is not problematic but this is rarely the case, so that weights need to be constructed to take account of non-random attrition. Such weights have been produced for the EMA survey data and were applied in all of the descriptive analyses reported in later chapters.

Unfortunately it is not possible to use attrition weights in Propensity Score Matching (PSM) analysis (see further below), and this causes particular problems for the final

<sup>4</sup> See Appendix B for further details.

stage of a longitudinal evaluation. Table 1.2 summarises these problems, showing the decline in sample sizes and percentages of the Wave 1 sample remaining across interview waves for each cohort.

**Table 1.2 Sample Sizes and Attrition<sup>5</sup>**

	Sample size		Percentage of Wave 1 Sample remaining	
	All	EMA eligible	All	EMA eligible
<b>Cohort 1:</b>				
Wave 1	9803	7559	100	100
Wave 2	7451	5567	76	74
Wave 3	5888	4365	60	58
Wave 4	4562	3308	47	44
<b>Cohort 2:</b>				
Wave 1	9827	7325	100	100
Wave 2	7585	5436	77	74
Wave 3	5780	4035	59	55
Wave 4	4476	3056	46	42

Between the first and second waves, 24 per cent of all young people in the survey were lost from Cohort 1 and 23 per cent from Cohort 2. By the third wave, around three-fifths of the original sample remained in the study (60 per cent in the first cohort and 59 per cent in the second cohort). By the fourth and final wave, fewer than half of the original interviewees remained (47 per cent in the first cohort and 46 per cent in the second cohort).

Among the subset of sample members who were eligible for EMA on income grounds, attrition was slightly higher at each wave for each cohort. By the fourth wave, 44 per cent of EMA eligible young people in the first cohort remained in the study; in the second cohort this figure fell to 42 per cent.

<sup>5</sup> This table excludes young people interviewed at the first wave whose EMA eligibility status could not be assessed due to incomplete household income data.

## **1.5 Analytic Strategy**

From the outset, the evaluation has adopted a dual approach to analysis, using both descriptive and 'matching' techniques. Details of the analytic strategy in relation to the selection of control areas, matching with pilot areas, and the individual matching procedures developed to take account of observed and unobserved compositional differences between the pilot and control areas have been published in Ashworth et al., 2001 and 2002.

The important points to note about the strategy are:

- The selection of LEA areas to participate in the EMA pilots was not random. Urban areas were chosen that were known to have relatively high levels of deprivation, low participation rates in post-16 education and low levels of attainment in Year 11 examinations. In other words, areas were chosen where EMA might be expected to have most impact. Other LEAs, displaying similar characteristics, were then chosen as control areas.
- Statistical techniques were developed to ensure that individuals in the pilot areas were as alike as possible to those in the control areas, in terms of characteristics known to be related to participation in post-16 education. In other words, differences were controlled statistically using matching procedures at two levels:
  - At the LEA level to match pilot areas with control areas in selecting the control areas;
  - At the individual level to control for differences in the composition of the population in pilot and control areas.

### **1.5.1 Propensity Score Matching (PSM)**

The essence of the matched individuals approach is to achieve a control group where each individual is as alike to their counterpart in the pilot areas as is possible using observed characteristics. In effect, the aim is to simulate the outcome that

would be expected had individuals been allocated randomly to the pilot<sup>6</sup> and control groups, i.e. the young people in the two groups would not be different from each other in any systematic way relevant to the outcome of interest.

This lack of systematic difference between the two groups is crucial only with respect to characteristics that are associated with the outcomes (participation, retention and achievement). Were the two groups different in terms of characteristics that are not associated with the outcomes, this would be unimportant for the analysis. However, the exclusion in the matching model of variables associated with outcomes, could, potentially, have important effects. Hence, great care was taken in selecting all known and available relevant variables relating to young people's decisions to participate in post-compulsory education for inclusion in the modelling.

Initial analysis showed that young people living in the pilot areas tended to be slightly more deprived, or were otherwise more likely to have characteristics associated with lower educational outcomes, than were their counterparts living in the control areas. Hence, the use of a matched individual approach was preferable for the impact analysis of outcomes, at least in the early stages of the evaluation.

### **1.5.2. Strengths and weaknesses of PSM techniques**

As in last year's report, it seems sensible to consider the relative strengths and weaknesses of PSM and descriptive analytic techniques as the evaluation reaches its conclusion. The consortium is confident of the robustness of findings from the PSM approach on participation and retention, at least in the first three waves of the study, and the model has enabled an impact analysis of EMA that would not otherwise have been possible in the absence of random assignment. There are, however, limitations to what can be achieved with this approach.

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<sup>6</sup> The same principle can be applied to matching individuals from two different EMA variants. However, individuals so matched will always differ from each other in the way that EMA is administered, so that if, e.g. LEA associated activities such as publicity and/or administrative efficiency affect the outcomes, the impact of the LEAs on the outcomes will differ between the two matched individual samples. Thus, the assumption is that LEAs in the control areas would operate in a manner similar to those in the pilot areas, with similar effects on the outcomes. In addition, when generalising to the national population, it is assumed that the practices of LEAs in the sample are representative of those that would occur in the national population.

First, the evaluation was specifically designed to control for influences on participation in post-16 education. It was not specifically designed to take into account differences in other destinations. For example, whilst the assumptions required for the model to distinguish FTE, from work, from NEET and, probably, work with training from work without training might be valid; we suspect that the assumptions required to identify the impact of EMA on differences between Work Based Training (Government Supported Training) and work with in-house training might be too strong. For example, it might well be the case that local characteristics which vary over time, might be particularly important in determining the training opportunities available to young people.

Secondly, PSM requires relatively large sample sizes to detect small effects. This becomes of particular concern as sample sizes decline across waves (see Table 1.2), and has had implications for the analysis of destinations of young people at the age of 19 (Wave 4) (Chapter 4) and for the analysis of achievement (Chapter 5). In addition, socio-economic groups have had to be combined in the PSM analysis (Chapters 2,3 and 4).

Thirdly, it may be that the characteristics that predict achievement in post-16 education are different/additional to those that predict participation and retention. This is of particular importance for this report and is discussed further in Chapter 5.

Finally, as mentioned above, it has not proved possible to use weights in the PSM analysis to take account of differential losses from the sample because it was not feasible to re-estimate the attrition weight every time the matching was carried out. Again, this has proved particularly problematic for this report and is discussed further in Chapter 2.4.

### **1.5.3 Strengths and weaknesses of descriptive analytic techniques**

All of the above highlights some of the advantages of the descriptive analysis that is included in this report. Descriptive techniques allow the data to be explored in greater detail and at a greater level of disaggregation; data can be weighted to account for attrition; and, the findings also provide a useful check on the direction of the findings from the PSM approach. (It is also the case that the evidence from the



quantitative analysis should be considered alongside the qualitative studies and the implementation reports produced by other elements of the evaluation).

However, the descriptive analysis cannot provide a measure of EMA effects; it simply suggests possible relationships. Differences between the pilot and control areas from the descriptive analysis should generally be smaller than from the PSM approach because the pilot areas were known to be more deprived than the control areas at the outset of the evaluation, and the descriptive analysis cannot control for this. What is encouraging is that the patterns emerging from the two approaches are so similar; almost invariably it is the magnitude of the differences identified between the two approaches that vary, not the direction of the findings.

All this, of course, makes the presentation of findings more difficult with, apparently, two 'different' sets of findings on the same issues. However, this should be viewed positively and PSM and descriptive analysis seen as complementary, rather than alternative, methods of analysis. In this report, as in previous years, the two analytic approaches reach the same conclusions, at least in broad terms.

## **1.6 Measuring Achievement**

This report was expected to provide the most robust evidence about the qualifications that young people had achieved during post-16 education, the subject of Chapter 5. But measuring educational achievement in Britain is not a simple matter, given the plethora of possible courses and qualifications that are available, and the different levels and grades that exist within these qualifications. This section explains the approach that the evaluation consortium has taken to measuring achievement and should be read in association with Chapter 5.

There are three main types of qualifications that young people can achieve prior to entry to higher education; academic, vocational and occupational, and each of these has three levels of attainment. The first task is to attempt to find a structure that allows the three types of qualification and their different levels to be directly compared. Table 1.3 shows the Qualifications and Curriculum Authority's (QCA) comparison of academic, vocational and occupational levels of qualifications.

**Table 1.3 Equivalence between Academic, Vocational and Occupational Qualifications**

Level of qualification	General	Vocationally related	Occupational	
5	<b>Higher level qualifications</b>			Level 5 NVQ
4				Level 4 NVQ
3 advanced level	A/AS Level	Free-standing mathematics units level 3	Vocational A level (Advanced GNVQ)	Level 3 NVQ
2 intermediate level	GCSE Grade A*-C	Free-standing mathematics units level 2	Intermediate GNVQ	Level 2 NVQ
1 foundation level	GCSE Grade D-G	Free-standing mathematics units level 1	Foundation GNVQ	Level 1 NVQ
Entry level	Certificate of (educational) achievement			

Source: Qualifications and Curriculum Authority (2002).

For almost all young people, Level 2 (intermediate level) is the highest level of qualification achievable by the end of Year 11 and Level 3 (advanced level) by the time young people have completed two years in post-compulsory education, when they are 18 or 19 years old.

It is important that the evaluation takes account of young people's achievements by the end of compulsory education (Year 11). Failure to do so could be problematic in considering the effect of EMA on achievement because many young people who have been drawn into post-16 education as a result of EMA were low achievers at Year 11. Their low achievement might 'dilute' the overall mean of the distribution of those remaining in full-time education so that it might appear, for example, that eligible young people in the pilot areas were performing worse post-16 than those in

the control areas. In other words, it is necessary to take Year 11 achievement into account in order to consider young people's **progress** in post-16 education.

However, measuring 'progress' in education post-16 is also problematic. It is relatively easy to identify those who have achieved at a higher level post-16 than they did at the end of Year 11 by comparing the maximum level achieved in Year 11 with that achieved subsequently. However, this is a very blunt instrument that takes no account, first, of the quality of achievement – there is a difference, for example, between two young people who have both progressed from Levels 2 to Level 3 where one has achieved one 'A' Level at Grade D and the other has achieved three 'A' Levels at Grade A. Secondly, measuring progress **between** the QCA levels takes no account of possible achievements in terms of increasing qualifications **within** the same level. A young person who achieved only one D-G Grade at Year 11 might have added further D-G grades to their qualifications post-16 and/or Level 1 GNVQ qualifications. Simple measurement of progress between levels will not account for either the extent of the progression or of achievements that do not involve moving up a level.

In short, there is no common measure that allows the qualifications and levels shown in Table 1.3 to be equated across Levels 1, 2 and 3. However, measures do exist that allow some equivalisation between GCSEs and GNVQs and between A Levels and Advanced GNVQs. It is possible to compare the **number** of passes at each level, and to compare the **value** of qualifications within levels (with the exception of NVQs), and between Levels 1 and 2, but it is not possible to compare the value of qualifications between levels 2 and 3.

Therefore, two main approaches have been adopted for measuring achievement in addition to movement between levels; number of passes and grade point scores. These have been used throughout the report.

### **1.6.1 Number of passes**

The formula used by DfES for converting GNVQ passes to GCSE passes is linked to the **type** of qualification (Part One or Full) and course **level** (Foundation or Intermediate). Table 1.4 demonstrates that Part One GNVQ passes are equivalent

to two GCSEs, whereas Full GNVQ passes are equivalent to four GCSEs. Once these calculations have been made, young people can be assigned to either Level 1 (D-G GCSE Grades) or Level 2 (A\*-C GCSE Grades). However, to refine this measure of achievement, in the descriptive analysis in Chapter 5 a further subdivision has been made between young people who achieved one to five A\*-C GCSE Grades and those who achieved five or more A\*-C GCSE Grades. The analyses in later chapters has also further subdivided young people according to their levels of achievement at the end of Year 11 into none, low, moderate and high achievers, defined as follows:

- **Non-achievers at Year 11** were those who had achieved no qualifications by the end of Year 11;
- **Low Year 11 achievers** achieved GCSEs or their vocational equivalents at D-G Grades;
- **Middle Year 11 achievers** gained one to four GCSEs or their vocational equivalents at Grades A\*-C;
- **High Year 11 achievers** gained five or more GCSEs or their vocational equivalents at Grades A\*-C.

**Table 1.4 GNVQ To GCSE Equivalent Pass Number Conversions**

<b>Qualification</b>	<b>Equivalent to Number of GCSEs</b>	<b>GCSE Grades</b>
<b>Full GNVQ</b>		
(Level 2) Intermediate	5	A*-C
(Level 1) Foundation	5	D-G
<b>Part One GNVQ</b>		
(Level 2) Intermediate	2	A*-C
(Level 1) Foundation	2	D-G

Source: Qualifications and Curriculum Authority (2002).

### **1.6.2 Grade point scores**

At Foundation Level and Levels 1 and 2, grade-point scores are assigned to the different grades that can be achieved, ranging from eight points for an A\* GCSE grade through to one-grade point for a G and zero for a fail (U). Scores are allocated

to GNVQ results in a similar way according to the level of the course (Foundation or Intermediate), the exam grading (Distinction, Merit, Pass) and whether it is a Full, Part One or other course (Table 1.5).

**Table 1.5 Value of Intermediate and Foundation GNVQ Grades**

<b>GNVQ Grade</b>	<b>Full GNVQ</b>	<b>Part One GNVQ</b>
Intermediate Distinction	30	15
Intermediate Merit	24	12
Intermediate Pass	20	10
Foundation Distinction	16	8
Foundation Merit	12	6
Foundation Pass	6	3

Source: Qualifications and Curriculum Authority (2002).

A similar system exists for assigning grade points at Level 3 to AS, A levels and Advanced GNVQs (AVCEs). For AS levels a grade A is assigned a value 5, which incrementally decreases to a value of 1 for a grade E. A level qualifications are worth twice the value of their corresponding AS grade. Scores for Advanced GNVQ (AVCE) grades are shown in Table 1.6.

**Table 1.6 Value Of Advanced GNVQ Grades**

<b>Advanced GNVQ (AVCE) Grade</b>	<b>Full Advanced GNVQ (AVCE)</b>	<b>Part One Advanced GNVQ (AVCE)</b>
Distinction	18	9
Merit	12	6
Pass	6	3

Source: Qualifications and Curriculum Authority (2002).

- In Chapter 5 young people's qualification achievements between the ages of 16 and 19 are measured according to:
- the highest level they had achieved (Levels 1, 2 or 3);

- whether they had crossed designated thresholds (where the Level 2 threshold is five GCSEs at grades A\*-C or equivalent and the Level 3 threshold is two A Levels or equivalent), and;
- the grade points they had achieved.

## **1.7 Measuring Socio-economic Group**

The report also includes analysis that takes into account the socio-economic group to which the parents of young people in the samples belonged at the time of their first interview.

The classification of socio-economic group (SEG) brings together people with similar social and economic status into 17 groups, three of which are subdivided. It is derived from an individual's occupational unit group (1990 SOC group), employment status and the size of establishment in which they work. A full description of the SEG classification is outlined in Table 1.7 and a detailed explanation of its derivation can be found in Office for National Statistics (1991). In order to examine the impact of EMA by SEG it was necessary to aggregate the 17 categories into five groups and the method used for this aggregation is also shown in Table 1.7.

The first survey interview collected detailed information on the 'responsible adults' in the household. These data allow all adults present in the household for whom information was available to be classified into both the initial 17 SEGs and into the five aggregated groups. (Information about absent fathers was not available). Household SEG was then allocated according to the aggregated SEG group of the household member with the highest aggregated SEG status (Group 1 being the highest and Group 5 being the lowest). The lowest SEG group (Group 5) consists entirely of households where no responsible adult was in employment<sup>7</sup>. In the PSM analysis Groups 2 and 3, and Groups 4 and 5 have been amalgamated so that these

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<sup>7</sup> If a responsible adult had retired, they were coded on the basis of the type of job they last did and were not treated as out of work.

analysis examine how the impact of EMA varied by these three broad SEG groups for Cohorts 1 and 2 at the start of Years 12 and 13<sup>8</sup>.

**Table 1.7 Construction of Aggregate Measures of Socio-Economic Group (SEG)**

<b>SEG – Full Classification</b>	<b>SEG – Aggregated classification</b>
1 Employers and managers in central and local government, industry, commerce, etc. – large establishments	Group 1 (Professionals and Managers)
Employers in industry, commerce, etc – large establishments	Group 1 (Professionals and Managers)
Managers in central and local government, industry, commerce, etc – large establishments	Group 1 (Professionals and Managers)
2 Employers and managers in industry, commerce, etc. – small establishments	Group 1 (Professionals and Managers)
Employers in industry, commerce, etc. – small establishments	Group 1 (Professionals and Managers)
Managers in industry, commerce, etc. – small establishments	Group 1 (Professionals and Managers)
3 Professional workers – self-employed	Group 1 (Professionals and Managers)
4 Professional workers – employees	Group 1 (Professionals and Managers)
5 Intermediate non-manual workers	Group 2 (Other non-manual workers)
Ancillary workers and artists	Group 2 (Other non-manual workers)
Foremen and supervisors non-manual	Group 2 (Other non-manual workers)
6 Junior non-manual workers	Group 2 (Other non-manual workers)
7 Personal service workers	Group 4 (Semi- and unskilled manual workers)
8 Foremen and supervisors – manual	Group 3 (Skilled manual workers)
9 Skilled manual workers	Group 3 (Skilled manual workers)
10 Semi-skilled manual workers	Group 4 (Semi- and unskilled manual workers)

<sup>8</sup> In the earlier SEG report a slightly different grouping was used which amalgamated Groups 1 and 2, then 3 and 4, and finally had Group 5 (unemployed) by themselves. A closer examination of the results in that report showed that the grouping needed to be changed to capture the most important features of how EMA impacts on different socio-economic groups.

11	Unskilled manual workers	Group 4 (Semi- and unskilled manual workers)
12	Own account workers (other than professional)	Group 3 (Skilled manual workers)
13	Farmers – employees and managers	Group 1 (Professionals and Managers)
14	Farmers – own account	Group 3 (Skilled manual workers)
15	Agricultural workers	Group 4 (Semi- and unskilled manual workers)
16	Members of armed forces	Group 4 (Semi- and unskilled manual workers)
17	Inadequately described and not stated occupations	
	Not in work	Group 5 (Not in work)

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## 2 SUMMARY OF ESTIMATES OF THE IMPACT OF EMA ON DESTINATIONS AND RETENTION IN EDUCATION

### Summary

#### At 16:

- EMA increased participation in full-time education among eligible 16 year olds by 5.9 percentage points.
- Young people were drawn into full-time education from work and training and, to a lesser extent, from the NEET group.
- PSM analysis indicates the national impact of EMA would be a 3.8 percentage point increase in participation at age 16.

#### At 16 and 17:

- EMA increased participation at both 16 and 17 by 6.1 percentage points.
- Most of the additional participation was among young people who would otherwise not have entered post-compulsory full-time education at all.
- EMA had the largest effect on young people from the lower socio-economic groups and on young people who had been moderate or low achievers at the end of Year 11.

#### At 18:

- EMA increased participation in education at age 18 by 7.7 percentage points among young urban men, who had been drawn mainly from work with training.
- EMA also increased retention in full-time education at 18 among those who had been in education at age 16 and 17.

#### Across all ten terms of the evaluation:

- EMA increased attachment to full-time education.
- Both young men and young women in urban pilot areas were spending more time in full-time education than in the control areas, when measured over four, seven and ten terms.
- These effects were particularly strong for young men in urban areas.

## 2.1 Introduction

This report is the fourth in a series that has described the effects of EMA since piloting began in September 1999, measured using data from the longitudinal surveys that have been described in Chapter 1. These reports have provided a mass of information about young people's choices and experiences as they move beyond compulsory education. In this, the last report in the series, it seems appropriate to provide a summary of some of the findings of earlier reports in the series and to offer an overview of the effect of EMA over the whole three years covered by the surveys. Therefore, this chapter focuses on the 'best' estimates of the impact of EMA produced by propensity score matching techniques (PSM) on:

- the initial decision that young people made about their destinations immediately after the end of compulsory education, when they were 16 years old (Section 2.2);
- the extent to which EMA also had an effect on retaining young people into a second year of post-16 education, when they were 17 years old (Section 2.3).

The results have all been produced using PSM techniques, since it is the view of the research team that these provide the best available estimates of the impact of EMA on participation in full-time education at 16 years and retention at 17 years. The PSM methodology used in this analysis is exactly the same as that used in the second and third year reports of the quantitative evaluation<sup>9</sup>. With the exception of Chapter 2.5, all of the results have been weighted to be representative of the whole population of young people in the EMA pilot areas, but it should be noted that it has not been possible to weight these results to take account of possible differential attrition between the survey waves.

Each table included in this section is a summary of a number of tables in the earlier reports and shows the percentage point differences observed between young people in the pilot areas and their matched controls. The findings have been published in greater detail in previous reports in the series (listed in Appendix A). These reports also include a raft of findings produced by descriptive analytic techniques which

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<sup>9</sup> For further details see Ashworth et al., 2002 and Middleton et al., 2003.

throws further light on, and provide greater depth to, the PSM estimates included here.

Previous reports have considered destinations at the age of 18 (i.e. three years after the end of compulsory education) utilising data from the first cohort of eligible young people. Here, this analysis has been updated to include data from Cohorts 1 and 2 combined (Chapter 2.4). Finally, in this chapter analysis is presented that examines the impact of EMA on young people's attachment to full-time education over the ten terms covered by the surveys (Chapter 2.5). This also throws further light on the potentially negative effects of attrition on the quality of estimates produced using PSM techniques, which should be read in conjunction with the earlier section on attrition in Chapter 1.

Throughout this report, approximate ages are used to denote the period of time elapsed since the end of compulsory education. Consequently, reference to economic activity at age 16 reflects the young person's status a few months after the end of Year 11 (even though a minority would have reached the age of 17 by this time). For those remaining in full-time education, 'age 16' refers to the early months of Year 12. Their status at age 17 relates to their activity approximately 12 months later. For students following a standard educational trajectory this equates with early in Year 13. Age 18 refers to the young person's situation approximately two and a quarter years after the end of compulsory education. For those who followed a standard high-achieving trajectory through post-16 education, this would be a few months after they sat A-Levels (or A2 levels) and, possibly, at the start of their first term in higher education. Finally, age 19 reflects the young person's situation about three and a quarter years after they completed compulsory education.

## **2.2 The Impact of EMA on Young People's Destinations at Age 16**

The data used in this section are taken from the first interview with young people which took place in the autumn or spring terms of the academic year following the end of compulsory education, that is, between September and March 1999 – 2000 (Cohort 1) and 2000 – 2001 (Cohort 2). EMA increased initial participation in post-compulsory full-time education across the two cohorts of young people in the pilot

areas who were eligible for EMA on income grounds (Table 2.1). Overall, participation was 5.9 percentage points higher for EMA eligible young people in the pilot areas than their matched controls. Further analysis suggested that the impact of EMA on eligible young people, if rolled out nationally, would be the same, at 5.9 percentage points (Ashworth et al., 2002, p.52). It seems that young people had been drawn into education from among both those who would otherwise have entered work, with or without training, and those who would have been classified as not in education, employment or training (NEET)<sup>10</sup>. The proportion of young people entering work or work-based training was 3.4 percentage points lower among pilots than controls, and the proportion becoming NEET was 2.4 percentage points lower.

The impact of EMA varied by both gender and the areas in which young people lived, with larger effects on young men. Participation in full-time education in urban areas increased by 6.9 percentage points among young men, with more than two-thirds of this increase (4.8 percentage points) coming from a reduction in the proportions entering work or work-based training<sup>11</sup>. However, the proportion of young men entering the NEET group was also 2.1 percentage points lower among the urban pilots than among their matched controls. The impact on participation among eligible young women was generally less than among young men, with young women being drawn into education who would otherwise have entered work or work-based training or become NEET.

It seems, therefore, that at least in terms of the initial decision to remain in full-time education, EMA had met its policy objective of increasing participation among young people from lower income families, of reducing the difference in participation between young women and young men, and of reducing the proportions of young people who became NEET.

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<sup>10</sup> At this early stage in the evaluation, PSM techniques did not differentiate between young people who entered work with training and those who entered work without training

<sup>11</sup> The results for rural areas are included here for completeness. However it should be noted that the standard errors for the rural results were high and it is the view of the research team that the results for rural areas are less reliable than for urban areas or overall. This is probably the result of having only one rural pilot and two rural control areas.

**Table 2.1 Impact of EMA on Initial Destinations of Eligible Young People at Age 16 by Gender and Location**

	cell per cent		
	Young Men	Young Women	All
<b>Urban</b>			
Full-time education	<b>6.9</b>	<b>4.8</b>	<b>5.8</b>
Work/Training	<b>-4.8</b>	-2.3	<b>-3.6</b>
NEET	-2.1	-2.4	<b>-2.3</b>
<b>Rural</b>			
Full-time education	7.1	5.2	6.1
Work/Training	-6.8	1.6	-2.3
NEET	-0.3	-6.8	-3.8
<b>All</b>			
Full-time education	<b>6.9</b>	<b>5.0</b>	<b>5.9</b>
Work/Training	<b>-4.9</b>	-2.0	<b>-3.4</b>
NEET	-1.0	-2.9	<b>-2.4</b>

Base: All EMA eligible young people at their first interview, aged 16 years, Cohorts 1 and 2 combined. Pilot weights applied. Figures in bold are significant at the five per cent level or less. 'All' is not necessarily a weighted average of the estimated impacts for men and women due to the methodology used.

Source: Ashworth et al., 2002, Tables 2.1-2.6.

Table shows the percentage point difference between pilot and control matched samples and reads, for example, that 6.9 percentage points more EMA eligible young pilot men were in education than among their matched controls.

Table 2.2 shows the estimated impact of EMA on participation in full-time education among all 16-year-olds, not just those who are estimated to be eligible for an award. The first three columns show the effect of EMA on young people living in the areas included in the evaluation. These results indicate that the availability of EMA increased participation in urban areas by 3.5 percentage points. The second set of columns shows the estimated impact of the policy when the results are weighted to the background characteristics of young people across England rather than just across the pilot areas. In urban areas, the availability of EMA would increase participation in full-time education at age 16 by 4.6 percentage points. The increase for the whole of England would be 3.8 percentage points.

**Table 2.2 Impact of EMA on Destinations at Age 16 by Gender and Location:  
Estimates weighted to pilot areas and English population**

cell per cent						
Pilot Weights				Population Weights		
	Young Men	Young Women	Overall	Young Men	Young Women	Overall
<b>Urban</b>						
FT Education	4.1	3.0	<b>3.5</b>	<b>5.3</b>	3.9	<b>4.6</b>
Work/Training	-2.7	-1.6	-2.2	-3.6	-2.3	<b>-2.9</b>
NEET	-1.4	-1.3	-1.4	-1.8	-1.6	-1.7
Sample size	4528	4511	9039	4528	4511	9039
Population size	33,551	33,181	66,732	408,178	393,037	801,215
<b>Rural</b>						
FT Education	5.7	3.6	4.6	2.6	1.9	2.3
Work/Training	-6.5	1.4	-2.4	-4.1	1.1	-1.6
NEET	0.7	-5.0	-2.2	1.5	-3.0	-0.6
Sample size	1022	997	2019	1022	997	2019
Population size	3,868	4,108	7,976	212,325	198,839	411,164
<b>All</b>						
FT Education	4.3	3.0	<b>3.7</b>	4.4	3.3	<b>3.8</b>
Work/Training	-3.1	-1.3	-2.2	-3.8	-1.2	-2.5
NEET	-1.2	-1.7	-1.5	-0.6	-2.1	-1.3
Sample size	5550	5508	11058	5550	5508	11058
Population size	37,419	37,289	74,708	620,503	591,876	1,212,379

Source: Table B.3 of second year report.

### **2.3 The Impact of EMA on Destinations at 16 and Retention at 17 among Eligible Young People**

This summary now considers whether EMA encouraged young people to remain in full-time education for a prolonged period of time following the end of compulsory education. It considers whether eligible young people were in full-time education in the months following the end of Year 11 (when they were 16) and additionally whether they were in full-time education a year later (at the age of 17).

This analysis defined four mutually exclusive trajectories that young people could have taken between the ages of 16 and 17:

- in full-time education at both time points (Education – Education);
- in full-time education at 16 but in a different destination at 17 (Education – Other);
- in full-time education at 17 having been in a different destination at 16 (Other – Education);
- in destination other than full-time education at both 16 and 17 (Other – Other).

This analysis produces two sets of figures. First it compares the trajectories of eligible young people in the pilot and control areas. Secondly, it calculates the retention rate in full-time education. The retention rate identifies, out of the group of young people who were in full-time education at the age of 16, the proportion who were still in full-time education at the age of 17 years.

EMA had a positive impact on participation in full-time education at both age 16 and age 17 years (Education – Education), with 6.1 percentage points more young people in the pilot areas being in education at both time points than their matched controls (Table 2.3). The impact was particularly strong for young men, among whom 8.6 percentage points more were in education in both years than in the control areas. Weighting the results to the characteristics of those across England we find a larger impact of the EMA on the proportion of young people in education at both age 16 and 17 (+7.1 percentage points).

It seems that EMA also had a positive impact on retaining young people, particularly young men, in education into a second year beyond the end of compulsory education. Whilst the overall retention rate, defined as the proportion of those in full-time education at the age of 16 who were still in full-time education when they were 17, did not reach statistical significance, for young pilot men the retention rate was 5.5 percentage points higher than for their matched controls. It seems that this increase in retention was largely the result of encouraging those who would otherwise have spent only one year in education (Education – Other) to remain in education for a second year. For young women the retention effects were much more modest, with the only significant impact of EMA being on the proportion who

did not participate in post-compulsory education at all (Other – Other), a significant difference of 4.5 percentage points between young women in the pilot and control areas.

The retention rate was also significantly higher among young people in the urban pilots, at four percentage points. Again, it seems that this was largely caused by a statistically significant reduction of 3.5 percentage points in the proportions of young people who did not participate at all in post-16 education (Other – Other).

**Table 2.3 The Impact of EMA on Destinations at 16 and Retention at 17 among Eligible Young People, by Gender and Location**

	cell per cent					
	Young men	Young Women	Urban	Rural	All	
					Pilot	National
Education–Education	<b>8.6</b>	3.8	<b>5.4</b>	<b>12.2</b>	<b>6.1</b>	<b>7.1</b>
Education – Other	<b>-4.0</b>	0.3	-2.1	0.3	-1.7	-1.0
Other – Education	-0.4	0.4	0.2	-0.9	0.0	-0.2
Other – Other	-4.2	<b>-4.5</b>	<b>-3.5</b>	<b>-11.6</b>	<b>-4.4</b>	<b>-5.9</b>
Retention rate (for those in education at 16 and 17)	<b>5.5</b>	1.0	<b>4.0</b>	1.2	3.2	<b>3.1</b>

Base: All EMA eligible young people who were interviewed at both 16 and 17 years of age. Combined cohorts. Pilot weights applied. Figures in bold are significant at the five per cent level or less.

Source: Middleton et al., 2003, Tables 2.1 and 2.2.

Table shows the percentage point difference between pilot and control matched samples and reads, for example, that 8.6 percentage points more EMA eligible young pilot men were in education at both the ages of 16 and 17 years than among their matched controls.

Estimates of the impact of EMA on retention following a national roll out suggest that the introduction of EMA would significantly increase retention by 3.1 percentage points.



### 2.3.1 Socio-economic group

A summary of PSM estimates of the impact of EMA according to the socio-economic group (SEG) of the young people's parents, on young people's destinations at the age of 16 and 17 and on retaining young people in education between these two time points is shown in Table 2.4<sup>12</sup>. For the purposes of this analysis SEGs 2 and 3, and 4 and 5 have been combined to allow sufficient numbers for robust estimates to be produced.

EMA has apparently had by far the largest impact on participation in full-time education among young people from the lower socio-economic groups. Amongst groups 2 and 3, EMA increased the proportions in education at both 16 and 17 years by 6.4 percentage points and the increase for groups 4 and 5 was even larger at 9.1 percentage points. For young people from these lowest SEGs, this increase in participation was largely the result of a significant reduction, of 7.4 percentage points, in the proportions who would otherwise not have participated in post-compulsory education at all (Other – Other). For groups 2 and 3 the draw was from both those who would not have experienced any post-16 education at all (-3.1 percentage points Other – Other) and those who would otherwise have spent just one year in post-16 education (-2.8 percentage points Education – Other).

The analysis by gender shows that the impact of EMA was, again, particularly strong among young men. Among young men from groups 4 and 5, 10.4 percentage points more of those in the pilot areas participated in full-time education at both time points compared with their matched controls. This was largely the result of a decrease in the proportion who would otherwise have left education at the end of compulsory schooling (-8.2 percentage points Other – Other). Among young women from groups 4 and 5, the associations were similar but less pronounced. In the pilot areas, 7.8 percentage points more young women from SEGs 4 and 5 were in education at both time points, compared with their counterparts in the control areas; correspondingly, 6.7 percentage points fewer were in 'other' destinations at both times.

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<sup>12</sup> A description of the derivation of SEG is included in Chapter 1 of this report.

Among young men from SEGs 2 and 3, the figure for participating in education at both age 16 and age 17 was 9.6 percentage points higher in the pilot areas than in the control areas. Among young women from these backgrounds, the differences were smaller and not statistically significant at conventional levels.

The impact of EMA on retention, defined as the proportion of young people who were in full-time education at the age of 16 years who were still in full-time education at 17 years, was only significant for young people from SEGs 2 and 3, at 4.8 percentage points, and particularly for young men (eight points). In all respects, EMA appears to have had no impact on eligible young people from the highest socio-economic group.

**Table 2.4 The Impact of EMA on Destinations at 16 and Retention at 17 among Eligible Young People, by Socio-Economic Group**

	cell per cent								
	SEG Group 1			SEG Group 2 & 3			SEG Group 4 & 5		
	Men	Women	All	Men	Women	All	Men	Women	All
<b>Education – Education</b>	1.9	-2.2	-0.1	<b>9.6</b>	3.3	<b>6.4</b>	<b>10.4</b>	<b>7.8</b>	<b>9.1</b>
<b>Education – Other</b>	-2.8	4.5	0.8	<b>-4.6</b>	-0.9	- <b>2.8</b>	-0.5	-1.7	-1.1
<b>Other – Education</b>	-0.2	0.7	-0.2	-0.3	-0.8	- 0.6	-1.7	0.6	-0.5
<b>Other – Other</b>	1.1	-3.0	-0.9	<b>-4.7</b>	-1.5	- <b>3.1</b>	<b>-8.2</b>	<b>-6.7</b>	<b>-7.4</b>
<b>Retention rate (for those in education at 16 and 17)</b>	3.3	-4.8	-0.7	<b>8.0</b>	1.7	<b>4.8</b>	4.4	4.5	4.5

Base: All EMA eligible young people who were interviewed at both 16 and 17 years of age. Combined cohorts. Pilot weights applied. Figures in bold are significant at the five per cent level or less.

Source: Middleton et al., 2003, Tables 3.2-3.4.

Table shows the percentage point difference between pilot and control matched samples and reads, for example, that 6.4 percentage points more EMA eligible young people from SEG groups 2 and 3 in the pilot areas were in education at both the ages of 16 and 17 years than among their matched controls.

It seems, therefore, that EMA met its policy goals of improving retention in full-time education, at least between the ages of 16 and 17 years, and of reducing the participation gap between those from the higher and lower socio-economic groups.

### 2.3.2 Year 11 achievement

Finally, the impact of EMA on destinations at 16 and 17 years and on retention in education is summarised taking into account young people's levels of achievement at the end of compulsory education (Year 11)<sup>13</sup>. This is important, since levels of Year 11 achievement are known to impact directly on the likelihood that a young person will remain in post-16 education (Payne, 1998). For the purposes of PSM analysis, young people were divided into three groups:

- **Low Year 11 achievers** were those who had achieved no qualifications or GCSEs or their vocational equivalents at Grades A\*-C;
- **Moderate Year 11 achievers** gained one to four GCSEs or their vocational equivalents at Grades A\*-C;
- **High Year 11 achievers** gained five or more GCSEs or their vocational equivalents at Grades A\*-C.

EMA had the strongest effect on low and moderate Year 11 achievers (Table 2.5). Among moderate achievers, EMA increased the proportion staying in full-time education at both 16 and 17 years of age by 10.9 percentage points; among low achievers the increase was 8.8 percentage points. The draw for moderate achievers was from those who would otherwise have spent just one year in post-16 full-time education (-6.3 percentage points Education – Other), and from those who would not have entered post-16 education at all (-4.9 percentage points Other – Other). For low achievers the gain in participation was almost entirely from a reduction in the proportion who would not have experienced any post-16 education (-6.7 percentage points Other – Other). The impact was similar for both young men and young women.

EMA also improved the retention rate in full-time education for young people in both the moderate (ten percentage points) and low (7.6 percentage points) achievement

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<sup>13</sup> The method used to measure Year 11 achievement is described in Chapter 1 of this report.

groups. Again, this was significant for both young men and young women among moderate achievers and low achieving young men, but not for young women who were low achievers at the end of Year 11.

**Table 2.5 The Impact of EMA on Destinations at 16 and Retention at 17 among Eligible Young People, by Year 11 Achievement**

	cell per cent								
	High Yr 11 Achievers			Moderate Year 11 Achievers			Low Year 11 Achievers		
	Men	Women	All	Men	Women	All	Men	Women	All
<b>Education – Education</b>	<b>4.7</b>	1.0	2.7	<b>11.7</b>	<b>10.3</b>	<b>10.9</b>	<b>8.6</b>	<b>9.1</b>	<b>8.8</b>
<b>Education – Other</b>	-2.1	0.0	-1.0	-5.2	<b>-7.2</b>	<b>-6.3</b>	-2.9	2.3	-0.6
<b>Other – Education</b>	<b>1.0</b>	-0.5	0.2	-0.5	1.0	0.3	-2.6	-0.1	-1.5
<b>Other – Other</b>	<b>-3.6</b>	-0.5	-2.0	-6.0	-4.0	<b>-4.9</b>	-3.0	<b>-11.3</b>	<b>-6.7</b>
<b>Retention rate (for those in education at 16)</b>	2.5	0	1.2	<b>9.4</b>	<b>10.6</b>	<b>10.0</b>	<b>10.4</b>	4.0	<b>7.6</b>

Base: All EMA eligible young people who were interviewed at both 16 and 17 years of age. Combined cohorts. Pilot weights applied. Figures in bold are significant at the five per cent level or less.

Source: Middleton et al., 2003, Tables 3.7-3.9.

Table shows the percentage point difference between pilot and control matched samples and reads, for example, that 8.8 percentage points more EMA eligible young people who were low achievers at the end of Year 11 were in education at both the ages of 16 and 17 years than among their matched controls.

## 2.4 The Impact of EMA on Destinations at 18

This section summarises the relationship between EMA and participation and retention in post-16 full-time education when eligible young people were approximately 18 years of age. Data are drawn from the third wave of interviews, that is, at the start of the third year following the end of compulsory education. By this point most young people would no longer be eligible for EMA because the grant was usually available for up to two years in the pilot scheme. Young people could therefore have completed a maximum of two years in post-16 education. In other

words, this was the point at which those who had followed the conventional academic route of taking two years to complete Level 3 qualifications (A2 qualifications or their vocational equivalent) would be expected to have either entered higher education or left full-time education. However, recognising that some young people drawn into education by EMA would require more than two years in post-16 education to achieve Level 3, the focus is on young people who were in any form of post-16 education.

Table 2.6 shows the impact of EMA on destinations at the age of 18 among those who had been eligible for EMA at the age of 16. Most of these young people would have no longer been eligible for an award, as these were generally only available for the first two years following the end of compulsory education. Despite this we find that 7.7 percentage points more young men in urban areas were in full-time education in the pilot areas compared to their matches in the control areas. These were largely drawn from work with training.

**Table 2.6 Impact of EMA on Destinations at Age 18**

	cell per cent		
	Young Men	Young Women	All
<b>Urban</b>			
Education	<b>7.7</b>	-0.7	<b>3.5</b>
Work:	<b>-8.5</b>	-1.8	<b>-5.1</b>
With training	<b>-7.4</b>	-3.4	<b>-5.4</b>
Without training	-1.0	1.5	0.3
NEET	0.7	2.5	1.6
% of population eligible	65.9	67.6	66.8

Base: All EMA eligible young people who were interviewed at ages 16, 17 and 18 years. Cohorts 1 and 2 combined.

Note: Pilot weights applied. Figures in bold are significant at the five per cent level or less.

Table 2.7 shows how retention rates, and pathways through full-time education were affected by the availability of EMA. Compared with their counterparts in the control areas, young men living in the urban pilot areas, registered an 8.3 percentage point

increase in the rate of participation in full-time education in each of the three years since the end of Year 11.

**Table 2.7 The Impact of EMA on Destinations and Retention in Full-time Education between the Ages of 16 and 18**

			cell per cent
	Young Men	Young Women	All
<b>Urban</b>			
Retention rate	1.4	-4.4	-1.6
Educ Educ Educ	<b>8.3</b>	-1.3	<b>3.5</b>
Educ Educ Other	3.4	3.8	3.6
Other Other	<b>-8.4</b>	-1.8	<b>-5.1</b>
Alternative paths	-3.4	-0.8	-2.1

Base: All EMA eligible young people who were interviewed at ages 16, 17 and 18 years. Cohorts 1 and 2 combined.

Note: Pilot weights applied. Figures in bold are significant at the five per cent level or less.

## **2.5 EMA and Attachment to Full-time Education over Three Years**

This chapter has so far presented the ‘best’ estimates of the impact of EMA on participation and retention in post-16 education among young people at the ages of 16, 17 and 18 years. The analysis has been based on young people’s reported activity at the time of each interview. In other words, young people’s participation in education has been measured at just one point in the academic year, ignoring the possibility that young people might move into and out of education (and other destinations) within an academic year. Indeed, there is evidence of movements between education and non-education activities (work, unemployment, other) within academic years (see Attanasio, Fitzsimons and Meghir (2005)).

Young people in the EMA surveys were also asked at each interview about their main activity in each term of the preceding year. Therefore, information is available for four waves of data for both cohorts of young people, when they were 16, 17, 18 and 19 years of age, describing their destinations at ten points in time. In other words, a complete sequence of individual choices through time, covering post-

compulsory education as well higher education and work decisions, is available. This allows an analysis to be undertaken, using propensity score matching (PSM) techniques, of the impact of EMA on young people's attachment to education throughout the three years or so of the surveys.

This analysis also provides a useful and simple way of explaining the important issue of attrition from the sample through time. The introduction to this report has already raised concerns about the possible effect of attrition on estimates of the impact of EMA derived from PSM, which cannot take account of attrition. In this analysis of attachment to full-time education the complete sequence of choices at each of the ten time points is observed for less than half (46 per cent) of the original EMA sample (for both cohorts), as on average the rate of attrition is 18 per cent between waves of interviews. Clearly, this is of concern as inferences may be based on a select group of individuals, i.e. those who have chosen to continue in the sample. To take an example, the sample used to estimate the percentage of individuals in full-time education in year 1 is different from the sample used to estimate participation in full-time education in year 2, and so on for subsequent waves. Therefore, transitions into and out of education from wave to wave can only be assessed using different samples of individuals.

This section addresses both of these issues. First, "best" estimates of the effect of EMA on attachment to education over the ten terms are provided. This is followed by an examination of the effect of attrition, which compares the same outcome for different sub-samples, each of which is more and more depleted as a result of attrition.

### **2.5.1 Data and outcomes**

Throughout this section three different outcomes are considered:

- *Outcome 1:* number of terms in full-time education from September of Wave 1 through September of Wave 2 (0 through 4)
- *Outcome 2:* number of terms in full-time education from September of Wave 1 through September of Wave 3 (0 through 7)

- *Outcome 3*: number of terms in full-time education from September of Wave 1 through September of Wave 4 (0 through 10)

Table 2.8 presents a summary of the data collection and shows that the three outcomes are observed for different groups of young people, depending on the wave in which the data were collected. Outcome 1 is available for individuals who were re-interviewed in Wave 2 (at age 17 years); outcome 2 is available for those who were re-interviewed in Wave 3 (at age 18 years), and outcome 3 for those who were re-interviewed in Wave 4 (at age 19 years). It is worth re-emphasising that the composition of each successive sample varies because of attrition from one wave to the next. It follows that all outcomes are observed only for some young people. Each of outcomes 1, 2 and 3 are available for people who were re-interviewed in Wave 4. For people who were re-interviewed in Wave 3 but not in Wave 4, outcome 3 is missing. Where young people were re-interviewed at Wave 2 but not in subsequent waves, the only available outcome is outcome 1. In addition to attrition attributable to the loss of young people from the survey, as numbers diminish, it becomes progressively more difficult to obtain suitable matches for the PSM analysis.



**Table 2.8 Data Summary**

Year	Term	Wave data collected	Number of terms	Outcome
1	1 (September)	1	0-1	
	2 (February)	2	0-2	
	3 (May)	2	0-3	
2	4 (September)	2	<b>0-4</b>	<b>1</b>
	5 (February)	3	0-5	
	6 (May)	3	0-6	
3	7 (September)	3	<b>0-7</b>	<b>2</b>
	8 (February)	4	0-8	
	9 (May)	4	0-9	
4	10 (September)	4	<b>0-10</b>	<b>3</b>

### 2.5.2 The effect of EMA on educational attachment

This section discusses ‘best’ estimates of the effect of EMA on attachment to full-time education. These estimates exploit the maximum amount of information that is available at each wave and are reported separately for young men and young women. The ‘best’ estimate of outcome 1 is based on all individuals who were re-interviewed in wave 2; that of outcome 2 is estimated using all individuals who were re-interviewed in wave 3; and the ‘best’ estimate of outcome 3 is estimated using all individuals who were re-interviewed in wave 4. These ‘best’ estimates are shown in boldface text in Table 2.9 and are positioned along the main diagonal. All estimates are unweighted.

Young people in the pilot areas appeared to be more attached to full-time education than those in the control areas. The first outcome is positive for both young men and young women. Young men in the pilot areas spent on average 0.07 more terms in education during the first four terms of post-compulsory education. This suggests that young men in the pilot areas were spending around two per cent more of their time in education compared to their counterparts in the control areas across the four

terms ( $0.07 \div 4$ ). For young women in the pilot areas the corresponding figure was four per cent.

Young people in the pilot areas also had higher longer-term attachment to full-time education than those in the control areas, as shown by outcome 2 (which covers between 0 and 7 terms). This outcome not only covers the 'normal' period of two years of post-compulsory second-level education, but is also informative as to whether individuals entered higher education (in term 7). The proportion of time spent in full-time education by pilot young men was around seven per cent higher than for their counterparts in the control areas ( $0.47 \div 7$ ), and for pilot young women, this figure was around four per cent ( $0.26 \div 7$ ).

Finally, outcome 3 (which ranges between 0 and 10 terms), potentially includes the first four terms in higher education, as well as six terms in initial post-16 education. For this outcome, the proportion of time spent in full-time education by young men in the pilot areas was around two per cent higher than for controls ( $0.23 \div 10$ ), whilst for young women in the pilot areas, this figure was close to zero ( $0.02 \div 10$ ).

**Table 2.9 Attachment to Full-time Education among Eligible Young People in Urban Areas by Re-interview Status, by Gender**

		Re-interviewed in wave 2	Re-interviewed in wave 3	Re-interviewed in wave 4
<b>Urban Males</b>				
<b>Outcome 1</b> (number of terms in education from Sept wave 1 through Sept wave 2)	Pilot	2.71	2.87	2.90
	Control	2.64	2.62	2.81
	Effect	<b>0.07</b>	0.25	0.09
<b>Outcome 2</b> (number of terms in education from Sept wave 1 through Sept wave 3)	Pilot	-	4.51	4.58
	Control		4.04	4.38
	Effect		<b>0.47</b>	0.20
<b>Outcome 3</b> (number of terms in education from Sept wave 1 through Sept wave 4)	Pilot	-	-	5.74
	Control			5.51
	Effect			<b>0.23</b>
<b>Sample size</b> <i>Percentage of original sample</i>		2,531 76%	1,905 59%	1,442 46%
<b>Urban Females</b>				
<b>Outcome 1</b> (number of terms in education from Sept wave 1 through Sept wave 2)	Pilot	3.04	3.13	3.19
	Control	2.88	2.96	3.13
	Effect	<b>0.16</b>	0.17	0.06
<b>Outcome 2</b> (number of terms in education from Sept wave 1 through Sept wave 3)	Pilot	-	4.89	5.01
	Control		4.63	4.90
	Effect		<b>0.26</b>	0.11
<b>Outcome 3</b> (number of terms in education from Sept wave 1 through Sept wave 4)	Pilot	-	-	6.27
	Control			6.25
	Effect			<b>0.02</b>
<b>Sample size</b> <i>Percentage of original sample</i>		2,607 78%	1,960 61%	1,498 47%

Notes: Sample size refers to matched individuals from both cohorts 1 and 2. Effects are unweighted. For cohort 1, wave 1=1999, wave 2=2000, wave 3=2001, wave 4=2002. For cohort 2, wave 1=2000, wave 2=2001, wave 3=2002, wave 4=2003.

### 2.5.3 Descriptive analysis of attrition

The remainder of Table 2.9 offers an insight into the possible effects of differential attrition on the quality of data available for analysis across time. It is possible that young people who remained in full-time education in the years following the end of Year 11 may have been more inclined to remain in the evaluation than those who followed other trajectories. It is also plausible that those living in the pilot areas were more motivated to remain in the survey than those in the control areas.

It appears to be the case that young people who participated in full-time education became over-represented in the sample at successive waves. For any given outcome, this can be seen by comparing proportions across columns. Taking urban males in the pilot areas, and outcome 1, as an example, among those who were re-interviewed at Wave 2, the mean number of terms spent in full-time education was 2.71. However, when the sample is restricted to those who were re-interviewed at Wave 3, this figure rises to 2.87. Among those re-interviewed at Wave 4 it rises again to 2.90. This upward pattern holds for all outcomes for young men in the pilot areas; among young women it holds for all outcomes in the pilot and control areas.

While both pilot and control areas display this upward trend, it appears that attrition differs according to area (i.e. pilot or control). This can be seen by comparing the 'effects' figures across columns, for a given outcome. For example, for outcome 1, for young men, our "best" estimate of the pilot/control effect is two per cent ( $0.07 \div 4$ ). However, if inferences were based on young people who were re-interviewed in wave 3, the corresponding figure would be around six per cent ( $0.25 \div 4$ ), while for those who were re-interviewed in wave 4, it would be around two per cent ( $0.09 \div 4$ ). It is also worth noting that the pattern of attrition appears to be different for young men and young women (as can be seen by comparing the pattern of outcome 1 effects, for example, across men and women).

### 3 EMA AND YOUNG PEOPLE'S DESTINATIONS AT 18 YEARS

#### Summary

##### At 18:

- EMA increased participation in education among young men living in urban areas. The draw was predominantly from work with training.
- Among young men, there was evidence of an EMA impact across all socio-economic groups and all levels of Year 11 attainment.
- Among young men, the largest effect was among Year 11 high achievers.
- There was no evidence of an EMA effect among young women.

##### At 16, 17 and 18:

- EMA increased participation at all three time points among urban young men by 8.3 percentage points. This increase came from amongst those who would otherwise have not participated at all in post-16 education.
- The increase in participation at all three time points was particularly strong for young men from SEGs 4 and 5 who would otherwise not have participated in post-16 education at all.
- EMA increased participation at all three time points among young people who had been 'high', 'moderate' and 'low' achievers at the end of Year 11.

In this chapter, the results of both descriptive and PSM analysis are reported. First, the impact of EMA on participation and retention in full-time education at 18 years is examined (Chapter 3.1) and, secondly, descriptive analysis is used to examine the trends in education participation across the years from 16 to 18 in greater detail, with particular reference to the alternative destinations from which EMA appears to have drawn young people (Chapter 3.2). Finally, Chapter 3.3 describes the impact of EMA according to young people's socio-economic group and their level at achievement at the end of compulsory education (Year 11).

### **3.1 The Impact of EMA on Destinations at 18 years**

This section focuses on the impact of EMA on participation and retention in full-time education at the age of 18 years using propensity score matching techniques (PSM). While summary statistics relating to this theme were included in Chapter 2, this analysis explores the association between EMA availability and retention in full-time education in greater depth. The analysis combines information from eligible young people in both Cohorts 1 and 2 of the evaluation who were interviewed in the first three waves of the survey, that is, at ages 16, 17 and 18 years, and who were eligible for EMA on income grounds at the first interview when they were 16 years old. The outcome variables examined for destinations are:

- full-time education;
- work with training<sup>14</sup>;
- work without training; and
- not in education, employment or training (NEET).

Results in Table 3.1 are presented separately for young men and young women, in both urban and rural areas. However it should be noted that, throughout, the focus is on results for urban areas. As reported in earlier chapters, the sample sizes in rural areas were relatively small from the outset of the evaluation, and this is of particular concern for this analysis because of the disproportionately high attrition

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<sup>14</sup> See Section 3.2 for the results of descriptive analysis which breaks work with training down further into government supported training (GST) and work with in-house training.

from the sample in rural areas between the second and third interviews with young people. This has important implications for the quality of the matching procedure<sup>15</sup>.

The findings continue the trends described in the previous chapter in that in the urban areas EMA continued to have a positive, and statistically significant effect on the percentage of young people who were in full-time education at age 18 years, more than two years after the end of compulsory education (Table 3.1). Most young people who had spent two years in post-16 education would have exhausted their entitlement to EMA by this point, so that this continued effect of EMA is encouraging. The breakdown by gender shows that, again in common with the findings in previous years summarised in Chapter 2, this was entirely driven by a positive impact on the percentage of young men still in education at the start of the third year of post-16 education. Young people who have been drawn into education as a result of EMA by the age of 18 are those who would otherwise have participated in work with training in the absence of EMA. Overall, EMA had no significant effect on young women.

To give more detail, education participation rates among young men in pilot urban areas were 7.7 percentage points higher than in control areas, whilst participation in work with training was 7.4 percentage points lower. Both these effects are statistically significant at conventional levels. For young women, on the other hand, there were no discernible impacts of EMA on the percentage who were in education, work or NEET at the age of 18 years. When the results for young men and young women were combined, the effect on participation in education in urban areas was 3.5 percentage points, again a statistically significant result. The decrease in the proportions of young people in urban areas participating in work with training was even higher, at 5.4 percentage points.

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<sup>15</sup> In order to illustrate the severity of the common support problems, the reader is alerted to the fact that for Cohort 1 in rural areas, only five per cent of individuals in pilot areas could be used. This means that only five per cent of controls would be used (corresponding to only 13 individuals by wave 3!) to estimate the counterfactual outcome for 67 per cent of pilot individuals (corresponding to 218 individuals by wave 3), and this could result in very misleading estimates.

**Table 3.1 Impact of EMA on Destinations at Age 18**

	<b>per cent</b>								
	<b>Men</b>			<b>Women</b>			<b>All</b>		
	<b>Pilot</b>	<b>Control</b>	<b>Increase</b>	<b>Pilot</b>	<b>Control</b>	<b>Increase</b>	<b>Pilot</b>	<b>Control</b>	<b>Increase</b>
<b>Urban</b>									
Education	42.8	35.1	<b>7.7</b>	41.8	42.4	-0.7	42.3	38.8	<b>3.5</b>
Work:	34.8	43.2	<b>-8.5</b>	33.0	34.8	-1.8	33.9	39.0	<b>-5.1</b>
With training	23.4	30.8	<b>-7.4</b>	18.7	22.1	-3.4	21.0	26.4	<b>-5.4</b>
Without training	11.3	12.4	-1.0	14.3	12.8	1.5	12.8	12.6	0.3
NEET	22.5	21.7	0.7	25.2	22.7	2.5	23.8	22.2	1.6
Sample size	1,859			1,924			3,783		
%total population	65.9			67.6			66.8		
<b>Rural</b>									
<b>Education</b>	36.7	36.3	0.4	42.7	56.6	-13.9	40.0	47.3	-7.3
Work:	40.2	48.0	-7.8	33.1	24.1	9.0	36.3	35.1	1.3
With training	22.7	37.0	-14.3	18.7	11.8	6.9	20.5	23.4	-2.9
Without training	17.5	11.0	6.5	14.4	12.3	2.1	15.8	11.7	4.1
NEET	23.1	15.7	7.4	24.2	19.3	4.9	23.7	17.7	6.1
Sample size	452			484			936		
% total population	68.1			73.3			70.8		
<b>All</b>									
<b>Education</b>	42.2	35.2	<b>7.0</b>	41.9	44.1	-2.2	42.1	39.7	2.4
Work:	35.3	43.7	<b>-8.4</b>	33.0	33.6	-0.6	34.1	38.6	<b>-4.5</b>
With training	23.3	31.4	<b>-8.1</b>	18.7	20.9	-2.2	21.0	26.1	<b>-5.1</b>
Without training	12.0	12.2	-0.3	14.3	12.7	1.6	13.1	12.5	0.6
NEET	22.5	21.1	1.4	25.1	22.3	2.8	23.8	21.7	2.1
Sample size	2,311			2,408			4,719		
% total population	66.2			68.3			67.3		

Base: All EMA eligible young people who were interviewed at ages 16, 17 and 18 years. Cohorts 1 and 2 combined. Pilot weights applied.

Note: Matched samples only. Figures in bold are significant at the five per cent level or less, based on bootstrapped confidence intervals from 1,000 replications.



### 3.1.1 EMA and destination trajectories between ages 16 and 18

Table 3.2 shows the destinations trajectories of young people across the first three waves of interviews, that is, when they were 16, 17 and 18 years. Again, data from young people in Cohorts 1 and 2 have been combined and the results refer only to the sample of young people who were successfully re-interviewed at the age of 18. The table also displays the 'retention rate' in education by age 18 years: that is the proportion of individuals who remained in full-time education at the start of the third year of post-compulsory education who had also been in full-time education in the previous two years.

As in earlier reports, and as described in Chapter 2, four mutually exclusive and exhaustive trajectories were defined that capture all of the possible transitions that young people could have made. These trajectories are:

- Education at each of ages 16, 17 and 18 years;
- Education at each of ages 16 and 17 years, and some other activity at age 18 years;
- Other activity at each of ages 16, 17 and 18 years; and,
- Other trajectories.

Results are again reported by gender and area of residence. As might be expected from the results shown in Table 3.1, EMA has been more effective in increasing education participation in all three years among young men in urban areas. Again, the results for young women are not statistically significant from zero.<sup>16</sup> In urban areas, when the results for young men and young women were combined, there were smaller, but still significant, positive effects on staying on in full-time education until the start of the third year after the end of compulsory education.

Urban young men living in pilot areas were 8.3 percentage points more likely to have been in education at the start of all of the three years after the end of compulsory education than their equivalent controls, confirming the results in Chapter 2.5 which showed that young men in the pilot areas were more likely to be in full-time education across the ten terms covered by the surveys. Participation in non-

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<sup>16</sup> For reasons discussed in Section 3.1, the focus is on the results for urban areas and, for this reason, figures for rural areas are italicised in the table.

education activities for all three years was correspondingly lower in pilot than in control areas, by 8.4 percentage points. This suggests that those young men who were drawn by EMA into continuous education, for at least three years following the end of compulsory education, might not have participated in education at all in the absence of EMA. Confirming the preliminary findings in last year's report<sup>17</sup>, EMA has had no discernible impact on the attachment of young women to full-time education across the three waves of interviews.

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<sup>17</sup> Middleton et al., (2003).

**Table 3.2 Impact of EMA on Destination Trajectories and Retention in Education at Ages 16, 17 and Age 18**

	per cent								
	Men			Women			All		
	Pilot	Control	Increase	Pilot	Control	Increase	Pilot	Control	Increase
<b>Urban</b>									
Retention rate	64.5	63.1	1.4	60.2	64.6	-4.4	62.3	63.9	-1.6
Educ Educ Educ	40.5	32.2	<b>8.3</b>	39.3	40.5	-1.3	39.9	36.4	<b>3.5</b>
Educ Educ Other	22.2	18.8	3.4	26.0	22.2	3.8	24.1	20.5	3.6
Other Other Other	21.4	29.7	<b>-8.4</b>	18.2	20.0	-1.8	19.8	24.9	<b>-5.1</b>
Alternative paths	15.9	19.3	-3.4	16.5	17.3	-0.8	16.2	18.3	-2.1
<b>Rural</b>									
Retention rate	49.1	54.9	-5.8	51.2	78.2	<b>-27.0</b>	50.2	67.0	<b>-16.8</b>
Educ Educ Educ	34.3	36.2	-1.9	39.9	56.5	-16.6	37.3	47.1	-9.9
Educ Educ Other	35.6	31.0	4.6	37.4	18.0	<b>19.4</b>	36.6	24.0	<b>12.6</b>
Other Other Other	13.5	25.2	-11.7	9.3	5.4	3.9	11.2	14.5	-3.3
Alternative paths	16.7	7.7	<b>9.0</b>	13.3	20.0	-6.7	14.9	14.4	0.5
<b>All</b>									
Retention rate	61.5	61.5	0.0	58.4	67.3	<b>-8.9</b>	59.9	64.5	<b>-4.6</b>
Educ Educ Educ	39.9	32.6	<b>7.3</b>	39.3	42.4	-3.0	39.6	37.5	2.1
Educ Educ Other	23.6	20.0	3.5	27.3	21.7	5.6	25.4	20.9	<b>4.6</b>
Other Other Other	20.6	29.3	<b>-8.7</b>	17.2	18.3	-1.1	18.9	23.8	<b>-4.9</b>
Alternative paths	16.0	18.1	-2.1	16.2	17.6	-1.4	16.1	17.9	-1.8

Base: All EMA eligible young people who were interviewed at ages 16, 17 and 18 years. Cohorts 1 and 2 combined. Pilot weights applied.

Note: Matched samples only. Figures in bold are significant at the five per cent level or less, based on bootstrapped confidence intervals from 1,000 replications.

### 3.2 Destination Trends at ages 16, 17 and 18: Descriptive Analysis

This section explores, in more detail, trends in the destinations of young people between the ages of 16 and 18 years using descriptive analytic techniques. The aim is to demonstrate the extent to which increases in post-16 education participation and retention rates, which have been observed in EMA pilot areas, were the result of a 'pull' away from other destinations. In particular, the focus is on work with training which can be separated into government supported training and employer based (in-house) training, work without training and the group of young people not in education, employment or training (NEET).

Table 3.3 outlines the destinations of the combined cohort sample of eligible young people between the ages of 16-18. For this analysis data have been weighted to account for differential attrition across survey waves, as well as to be representative of all young people in the pilot areas, although it cannot account for differences between the characteristics of young people in the pilot and control areas, as is the case with PSM.

Among 16 year olds, 75.9 per cent of young people in EMA pilot areas were in full-time education, compared with 72.2 per cent in control areas<sup>18</sup>. The higher rate of post-16 education participation in EMA pilot areas resulted largely from fewer young people entering work without training (-1.8 percentage points) and the NEET group (-2.5 percentage points). The availability of EMA in pilot areas appears to have had very little impact on the proportion of young people entering government supported training, which included both Modern Apprenticeships and National Traineeships<sup>19</sup>; in both EMA pilot and control areas, 6.4 per cent of 16 year olds..

The trend in relation to increased levels of post-16 education participation rates in EMA pilot areas continued among 17 year olds. While the overall proportion of young people remaining in education fell among all 17 year olds in both EMA pilot

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<sup>18</sup> Analysis of the data using the matched sample approach (PSM) found a larger impact of EMA. There was a 5.9 percentage point difference in post-16 education rates at the age of 16 among eligible young people between pilot and control areas (Chapter 2).

<sup>19</sup> National Traineeships formed part of government supported training provision in 1999 when the first wave of interviews for the first cohort of young people in the EMA survey was conducted.

and control areas, which is consistent with national trends, more young people in EMA pilot areas stayed in full-time education. Among EMA eligible 17 year olds in the sample, 64.1 per cent remained in education in pilot areas compared with 61.5 per cent in control areas, a statistically significant difference of 2.6 percentage points<sup>20</sup>. At 17 the increase in the proportion of young people remaining in education in EMA pilot areas seems to be the result of fewer young people entering work without training (-1.9 percentage points) and, to a lesser extent, work with training (-0.7 percentage points). Once again, increased levels of full-time participation in post-16 educational had a minimal effect on the proportion of young people entering government supported training (-0.3 per cent).

Finally, a difference in the proportion in full-time education remained between pilot and control areas among 18 year olds, although the gap had narrowed. In EMA pilot areas, 40.5 per cent of 18 year olds remained in education compared with 37.6 per cent in control areas<sup>21</sup>. As in the PSM analysis, the difference between pilots and controls in the proportions of young people remaining in education has been maintained by the age of 18, even though most young people's entitlement to EMA would have run out by this point. The difference of 2.9 percentage points between pilot and control areas observed in this descriptive analysis was largely the result of fewer young people in EMA pilot areas entering work with training (-3.5 percentage points). This confirms the findings of the PSM analysis in Table 3.1, which also found that most of the 'draw' into education at the age of 18 years was from work with training (-5.1 percentage points).

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<sup>20</sup> Analysis of the data using the matched sample approach (PSM) found a larger impact of EMA. There was a 6.2 percentage point difference in post-16 education rates at the age of 17 among eligible young people between pilot and control areas (Middleton et al., 2003).

<sup>21</sup> By this point the PSM showed a slightly smaller impact of EMA than this descriptive analysis, although the difference is very small: 2.4 percentage points (Table 3.1) compared with 2.9 percentage points (Table 3.3).

**Table 3.3 Destinations of 16-18 Year Olds in EMA Pilot and Control Areas**

	column per cent								
	16 Year Olds (Year 12)			17 Year Olds (Year 13)			18 Year Olds (Year 14)		
	Pilot	Control	Diff %	Pilot	Control	Diff %	Pilot	Control	Diff %
FTE	75.9	72.2	3.7	64.1	61.5	2.6	40.5	37.6	2.9
GST	6.4	6.4	0.0	6.8	6.5	0.3	6.5	5.8	0.7
Work: in house trn	2.8	2.3	0.5	8.1	8.8	-0.7	19.2	22.7	-3.5
Work: no trn	6.5	8.3	-1.8	10.9	12.8	-1.9	17.3	17.8	-0.5
NEET	8.4	10.9	-2.5	10.2	10.4	-0.2	16.5	16.1	0.4
Unweighted N	3935	2396		3938	2400		3922	2395	

Base: EMA eligible young people who took part in all of the first three survey interviews when they were 16, 17 and 19 years old. Cohorts 1 and 2 combined. Pilot and attrition weights applied.

### **3.3 EMA, Socio-Economic Group and Year 11 Achievement**

This final section of the chapter uses PSM techniques to assess the impact of EMA on young people from different socio-economic backgrounds (Section 3.3.1) and with different levels of achievement at the end of Year 11 (Section 3.3.2). The same methodology is used as in the previous report<sup>22</sup>, and the derivation of socio-economic group and of Year 11 achievement can be found in the introduction to this report.

#### **3.3.1 Impact of EMA by socio-economic group**

Table 3.4 shows the impact of EMA on destinations at age 18, by socio-economic group (SEG) and gender, for young people who took part in all three interviews<sup>23</sup>. As in the previous chapter, socio-economic groups have had to be collapsed to ensure sufficient numbers are available for robust analysis. Group 1 contains young people from relatively high socio-economic backgrounds, whilst groups 4 and 5 comprise young people from the lowest socio-economic backgrounds. As in Table 3.1, the destination variables are full-time education, work (further disaggregated into work with and without training), and NEET.

First, comparisons between matched pilot and control young people in destinations across SEGs show that those from the higher SEGs were more likely to have remained in full-time education, with participation in education decreasing as the results move down the socio-economic scale. Participation in work was highest for young people from the middle socio-economic groups, and this higher participation was specifically in work with training. The proportion in the NEET group was noticeably higher for individuals from the lowest SEGs.

The effect of EMA on destinations is measured by comparing outcomes within each group, across pilots and controls. In line with previous results in this chapter, Table 3.4 shows a positive and significant effect of EMA on education participation for young men only. For young men, the size of the effect was similar in the highest and lowest socio-economic groups (8.1 and 8.2 percentage points respectively) while for

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<sup>22</sup> Middleton et al., 2003.

<sup>23</sup> Comparisons by urban/rural areas are not feasible due to the small sample sizes.

the middle group, it was 6.4 percentage points. Due to variations in group size, the difference among the highest group is not statistically significant at conventional levels, while for the other two sets, the difference is statistically significant at the five per cent level. For the middle group, this represents a statistically significant draw from work with training.

For young women the impact of EMA on participation in education, whilst positive, was small and not significantly different from zero for any of the three SEGs.



**Table 3.4 Impact of EMA on Destinations at Age 18 by Socio-Economic Group**

	per cent								
	Men			Women			All		
	Pilot	Control	Increase	Pilot	Control	Increase	Pilot	Control	Increase
<b>Group 1</b>									
<b>Education</b>	49.1	41.0	8.1	55.4	54.5	0.8	52.2	47.6	4.6
Work:	32.3	42.3	-10.0	28.6	32.4	-3.8	30.5	37.4	<b>-7.0</b>
With training	22.1	27.4	-5.2	18.8	18.5	0.2	20.5	23.0	-2.6
Without training	10.1	14.9	-4.8	9.8	13.8	-4.0	10.0	14.4	-4.4
NEET	18.6	16.7	1.9	16.1	13.1	3.0	17.4	15.0	2.4
Sample size	406			383			789		
%total population	35.6			37.1			36.3		
<b>Groups 2 &amp; 3</b>									
<b>Education</b>	41.5	35.1	<b>6.4</b>	43.7	41.6	2.2	42.6	38.4	<b>4.3</b>
Work:	39.9	48.2	<b>-8.4</b>	35.7	41.3	-5.6	37.8	44.7	<b>-7.0</b>
With training	27.2	35.7	<b>-8.5</b>	20.8	23.2	-2.4	24.0	29.4	<b>-5.4</b>
Without training	12.6	12.5	0.1	14.9	18.1	-3.2	13.8	15.3	-1.6
NEET	18.6	16.7	2.0	20.6	17.1	3.5	19.6	16.9	2.7
Sample size	1,209			1,229			2,438		
% total population	67.9			70.9			69.4		
<b>Groups 4 &amp; 5</b>									
<b>Education</b>	38.8	30.6	<b>8.2</b>	37.4	33.9	3.5	38.1	32.3	<b>5.8</b>
Work:	33.4	37.9	-4.5	31.9	35.1	-3.1	32.7	36.5	-3.8
With training	20.9	23.6	-2.7	16.9	19.6	-2.7	18.8	21.5	-2.7
Without training	12.6	14.3	-1.8	15.1	15.5	-0.4	13.8	14.9	-1.1
NEET	27.8	31.6	-3.8	30.7	31.1	-0.3	29.3	31.3	-2.0
Sample size	882			942			1,824		
% total population	95.6			96.0			95.8		

<b>All</b>									
Education	41.2	33.6	7.5	41.9	39.3	2.7	41.6	<b>36.5</b>	<b>5.1</b>
Work:	35.7	42.3	-6.7	32.9	37.0	-4.1	34.3	39.7	<b>-5.4</b>
With training	23.4	28.6	-5.2	18.6	20.8	-2.3	21.0	24.7	<b>-3.7</b>
Without training	12.3	13.7	-1.5	14.4	16.3	-1.9	13.3	15.0	-1.7
NEET	23.2	24.0	-0.9	25.2	23.7	1.5	24.2	23.9	0.3
Sample size	2,497			2,554			5,051		
% total population	66.2			68.3			67.3		

Base: All EMA eligible young people who were interviewed at ages 16, 17 and 18 years. Cohorts 1 and 2 combined. Pilot weights applied.

Note: Matched samples only. Figures in bold are significant at the five per cent level or less, based on bootstrapped confidence intervals from 1,000 replications.

For young women, whilst the pattern of the effect of EMA was similar to that for young men in the sense that participation was larger among young women in pilots than controls particularly for the lower SEGs, these differences between pilots and control areas were much lower than for young men and none were statistically significant from zero.

The results for the sample as a whole, irrespective of gender, show that EMA has had a positive and significant effect on participation in full-time education for young people from SEGs 2 and 3, and from SEGs 4 and 5, of 4.3 and 5.8 percentage points respectively. For young people from groups 2 and 3, this has been at the expense of work with training, where participation was significantly lower among pilot young people, by 5.4 percentage points.

The analysis by SEG continues by examining the effect of EMA both on retention and on various destination trajectories, at ages 17 and 18. Table 3.5 shows the results, by gender and socio-economic group, for young people who took part in all three interviews. As in Section 3.2, four mutually exclusive and exhaustive trajectories were constructed which capture all of the transitions that young people might have made.

Again, the only observed impact of EMA was on young men in the middle and lowest SEGs. More specifically, EMA has significantly increased the proportion of young men from the middle and lowest SEGs who were in education at the start of all three consecutive years since the end of compulsory education. This positive effect was almost entirely the result of reductions in the proportions of young men who had not participated in education at all since the end of compulsory education (Other - Other - Other). For young women, the impact of EMA on retention and trajectories was, again, not significantly different from zero. Combining the results for young men and young women, the overall results show a similar pattern to that for young men, but are of lower magnitudes. As was pointed out in relation to Table 3.2, the retention rate is statistically the same for pilots and controls, and this applies regardless of the young person's SEG.

The largest impact of EMA was on young men in the lowest SEG. Young men in the pilot areas were 8.6 percentage points more likely to have remained in education continually than their matched controls. For the middle SEGs of young men, the observed impact of EMA was slightly lower at 7.2 percentage points. As expected, given that there seems to have been no discernible impact for young women, the overall results when young men and young women are combined show a positive and significant EMA effect which is, however, lower than the effect found for young men alone.

**Table 3.5 Impact of EMA on Retention and Trajectories at Age 16, 17 and Age 18 by Socio-Economic Group**

	per cent								
	Pilot	Men Control	Increase	Pilot	Women Control	Increase	Pilot	All Control	Increase
<b>Group 1</b>									
Retention rate	63.0	58.1	4.9	67.0	65.4	1.5	64.9	61.7	3.3
Educ Educ Educ	46.3	39.6	6.7	53.6	53.1	0.5	49.9	46.2	3.7
Educ Educ Other	27.2	28.5	-1.4	26.5	28.0	-1.6	26.8	28.3	-1.5
Other Other Other	15.1	20.2	-5.2	8.2	11.0	-2.9	11.7	15.7	-4.0
Alternative paths	11.5	11.6	-0.1	11.8	7.9	3.9	11.6	9.8	1.9
<b>Groups 2 &amp; 3</b>									
Retention rate	61.3	60.2	1.2	58.0	58.8	-0.8	59.7	59.5	0.2
Educ Educ Educ	39.3	32.0	<b>7.2</b>	41.1	39.4	1.8	40.2	35.7	<b>4.5</b>
Educ Educ Other	24.8	21.2	3.5	29.8	27.6	2.2	27.3	24.4	2.9
Other Other Other	18.9	24.9	<b>-6.0</b>	14.1	15.9	-1.8	16.5	20.4	<b>-3.9</b>
Alternative paths	17.1	21.9	-4.8	15.0	17.1	-2.1	16.0	19.5	<b>-3.5</b>
<b>Groups 4 &amp; 5</b>									
Retention rate	62.1	56.4	5.7	57.0	58.2	-1.2	59.5	57.3	2.1
Educ Educ Educ	36.2	27.6	<b>8.6</b>	34.2	31.5	2.7	35.2	29.6	<b>5.6</b>
Educ Educ Other	22.1	21.3	0.7	25.9	22.7	3.2	24.0	22.0	2.0
Other Other Other	24.1	31.3	<b>-7.3</b>	22.2	26.3	-4.1	23.1	28.8	<b>-5.7</b>
Alternative paths	17.6	19.7	-2.1	17.8	19.5	-1.7	17.7	19.6	-1.9
<b>All</b>									
Retention rate	61.9	58.5	3.4	59.0	59.6	-0.6	60.4	59.0	1.4
Educ Educ Educ	38.7	30.8	<b>7.8</b>	39.2	37.1	2.1	38.9	34.0	<b>4.9</b>
Educ Educ Other	23.7	22.2	1.5	27.4	25.2	2.2	25.6	23.7	<b>1.9</b>
Other Other Other	21.0	27.5	<b>-6.5</b>	17.5	20.6	-3.1	19.2	24.0	<b>-4.8</b>
Alternative paths	16.6	19.5	-2.9	16.0	17.2	-1.2	16.3	18.3	-2.0

Base: All EMA eligible young people who were interviewed at ages 16, 17 and 18 years. Cohorts 1 and 2 combined. Pilot weights applied.

Note: Matched samples only. Figures in bold are significant at the five per cent level or less, based on bootstrapped confidence intervals from 1,000 replications.

These findings confirm those in earlier reports, summarised in the previous chapter, that EMA has had its largest effect on young people from the lowest socio-economic groups, particularly on young men.

### **3.3.2 Impact of EMA by Year 11 achievement**

This section examines whether EMA had a differential impact on young people according to their achievement at the end of Year 11. As in the previous chapter, young people have been divided into three groups: high achievers (those who achieved five or more A\*-C GCSE/GNVQ passes at the end of Year 11); moderate achievers (achieved one to four A\*-C GCSE/GNVQ passes); and, low achievers (D-G grade GCSE/GNVQ or no qualifications)<sup>24</sup>.

Table 3.6 below displays the results for the impact of EMA on destinations at age 18 years, separately for young men and women. All of the young people included had taken part in all three interviews. The findings from this analysis are somewhat different to those summarised in the previous chapter, where EMA was shown to have had little effect on young people who were high achievers at the end of Year 11 in the first two years following the end of compulsory education. By this point, two years after the end of compulsory education, EMA had the largest positive effect on education participation among young men who were high achievers in Year 11. However, the effect on young men was broadly similar - and positive – across all Year 11 achievement groups. For young women, however, the effects of EMA on destinations were less clear-cut and less consistent across groups (see further below).

Among high achieving young men in the pilot areas education participation was 10.7 percentage points higher than for their controls. This was at the expense of participation in work with training, which was ten percentage points lower for pilot young men. The effect on participation in education was also positive and significant for young men in the Year 11 moderate achieving group, amongst whom young men in the pilots were 6.8 percentage points more likely to be in education than controls. Again, extra participation in full-time education seems to have been drawn from full-

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<sup>24</sup> The method used to derive these scores is described in the introduction.

time work with training, participation in which was 9.2 percentage points lower for young men living in pilot areas. The pattern was the same for young men in the lowest Year 11 achievement group, amongst whom the difference in participation in education between pilots and controls was 8.7 percentage points, whilst participation in work with training was 8.8 percentage points lower in pilot than in control areas.

As mentioned above, it seems that EMA had no discernible impact on the destinations of young women. However, when educational achievement at the end of Year 11 is taken into account, there seems to be some differential activity between pilots and controls, for both Year 11 moderate and low achieving young women. If there is a positive EMA effect for young women, it seems to be concentrated on the moderate achievers, although the differences are not statistically significant. Additionally, the increased participation among young women moderate achievers had not apparently come entirely from one single other destination category, as was the case for young men and work with training. Instead, most of the increased participation for this group of young women came from among those who would otherwise have entered work without training, but the draw into education also came from other destinations. The results for Year 11 low achieving young women suggest that EMA has had a negative effect on their participation in education. However, this figure is not statistically different from zero. Among this group of young women there seems to have been a statistically significant increase in the percentage entering work without training.

**Table 3.6 Impact of EMA on Destinations at Age 18 by Year 11 Achievement**

	per cent								
	Pilot	Men Control	Increase	Pilot	Women Control	Increase	Pilot	All Control	Increase
<b>High Achievers</b>									
<b>Education</b>	62.1	51.4	<b>10.7</b>	59.4	58.7	0.7	60.7	55.3	<b>5.4</b>
Work:	23.9	35.1	<b>-11.2</b>	27.3	27.9	-0.6	25.7	31.3	<b>-5.6</b>
With training	15.8	25.7	<b>-10.0</b>	16.9	15.4	1.5	16.4	20.2	<b>-3.9</b>
Without training	8.2	9.4	-1.2	10.4	12.5	-2.1	9.4	11.0	-1.7
NEET	14.0	13.5	0.5	13.3	13.4	-0.1	13.6	13.4	0.2
Sample size	1,066			1,237			2,303		
%total population	54.7			56.1			55.4		
<b>Moderate Achievers</b>									
<b>Education</b>	39.7	32.8	<b>6.8</b>	34.9	27.0	7.9	37.0	29.7	<b>7.4</b>
Work:	41.7	49.9	<b>-8.2</b>	40.0	46.3	-6.3	40.8	47.9	<b>-7.2</b>
With training	29.2	38.4	<b>-9.2</b>	24.0	26.1	-2.1	26.4	31.7	<b>-5.3</b>
Without training	12.5	11.5	1.0	16.0	20.2	<b>-4.2</b>	14.4	16.2	<b>-1.8</b>
NEET	18.7	17.3	1.4	25.1	26.7	-1.6	22.2	22.4	-0.2
Sample size	758			868			1,626		
%total population	68.8			80.6			74.7		
<b>Low Achievers</b>									
<b>Education</b>	23.9	15.2	<b>8.7</b>	21.9	27.0	-5.1	23.0	20.4	2.6
Work:	42.7	50.4	<b>-7.7</b>	34.0	35.8	-1.7	38.8	43.9	-5.1
With training	26.2	35.0	<b>-8.8</b>	15.2	21.9	-6.7	21.3	29.2	<b>-7.9</b>
Without training	16.4	15.4	1.1	18.8	13.8	<b>5.0</b>	17.5	14.7	2.8
NEET	33.5	34.5	-1.0	44.1	37.3	6.8	38.2	35.7	2.5
Sample size	673			458			1,131		
%total population	84.3			86.2			85.1		



<b>All</b>									
Education	41.0	32.2	8.8	39.8	38.4	1.5	40.4	35.3	<b>5.1</b>
Work:	36.3	45.3	-9.0	33.7	36.6	-2.9	35.0	40.9	<b>-5.9</b>
With training	23.7	33.0	-9.3	18.9	21.1	-2.2	21.3	27.0	<b>-5.7</b>
Without training	12.6	12.3	0.3	14.8	15.6	-0.7	13.7	13.9	-0.2
NEET	22.8	22.6	0.2	26.5	25.1	1.4	24.6	23.8	0.8
Sample size	2,497			2,563			5,060		
%total population	66.2			68.3			67.3		

Base: All EMA eligible young people who were interviewed at ages 16, 17 and 18 years. Cohorts 1 and 2 combined. Pilot weights applied.

Note: Matched samples only. Figures in bold are significant at the five per cent level or less, based on bootstrapped confidence intervals from 1,000 replications.

The analysis by Year 11 achievement next examines the effect of EMA on both retention and on various destination trajectories, at ages 17 and 18 years. Table 3.7 shows the results, by gender and Year 11 achievement, for young people who were interviewed at ages 16, 17 and 18 years. The four mutually exclusive and exhaustive destination trajectories defined in Section 3.2 are used to capture all of the transitions that young people might make.

Overall, it is among those young people who were high or moderate achievers at the end of Year 11 that the EMA has had a positive and significant impact on being in education at all three interviews, that is, when young people were 16, 17 and 18 years of age. The increase among high Year 11 achievers was 4.8 percentage points, and among moderate achievers 8.9 percentage points. Among those who were low Year 11 achievers, EMA seems to have increased the proportion of young people who were in education at 16 and 17 and then dropped out, rather than the proportion who were in education at all three time points. The proportion of this group in education for the first two interviews, but not in education at the time of the third interview, increased by 8.8 percentage points as a result of EMA.

Looking at the impact by gender, again, there is stronger evidence of a consistent positive impact of EMA among young men. The percentage of young men who were in full-time education at all three interviews, at ages 16, 17 and 18 years, increased across all Year 11 achievement groups. Among Year 11 high achievers, the proportion in education at all three points increased by 10.7 percentage points; among previous moderate achievers the increase was ten percentage points; and, among previous low achievers an increase of 8.6 percentage points was observed.

Again, among young women the overall picture is less clear, although there is evidence that young women with low Year 11 achievement were more likely to continue in full-time education for two years as a result of EMA, but not to continue further into a third year of post-16 education. This is shown by the fact that EMA increased the proportion of Year 11 low achieving young women who were in education at 16 and 17, but not at 18, by 6.3 percentage points (Educ - Educ - Other).

**Table 3.7 Impact of EMA on Retention at Ages 17 and 18 Years by Year 11**

	per cent								
	Pilot	Men Control	Increase	Pilot	Women Control	Increase	Pilot	All Control	Increase
<b>High Achievers</b>									
Retention rate	69.9	62.2	<b>7.7</b>	66.7	67.0	-0.3	68.2	64.8	3.4
Educ Educ Educ	60.4	49.6	<b>10.7</b>	57.3	57.8	-0.5	58.7	54.0	<b>4.8</b>
Educ Educ Other	26.0	30.2	-4.2	28.6	28.5	0.2	27.4	29.3	-1.9
Other Other Other	5.7	9.6	<b>-3.9</b>	5.8	5.2	0.6	5.7	7.3	<b>-1.5</b>
Alternative paths	8.0	10.5	-2.6	8.3	8.6	-0.3	8.1	9.5	-1.4
<b>Moderate Achievers</b>									
Retention rate	59.9	53.6	6.4	51.2	44.8	6.4	55.3	48.9	6.4
Educ Educ Educ	37.3	27.3	<b>10.0</b>	32.5	24.6	<b>7.9</b>	34.7	25.9	<b>8.9</b>
Educ Educ Other	24.9	23.7	<b>1.3</b>	31.1	30.4	0.7	28.3	27.3	<b>1.0</b>
Other Other Other	19.5	26.4	<b>-6.9</b>	18.4	22.5	-4.2	18.9	24.3	<b>-5.4</b>
Alternative paths	18.3	22.6	<b>-4.3</b>	18.0	22.5	-4.5	18.2	22.5	<b>-4.4</b>
<b>Low Achievers</b>									
Retention rate	51.7	58.7	-7.0	48.9	64.4	<b>-15.5</b>	50.6	61.0	-10.4
Educ Educ Educ	20.6	12.0	<b>8.6</b>	19.4	25.2	-5.8	20.1	17.9	2.2
Educ Educ Other	19.2	8.5	<b>10.8</b>	20.3	14.0	<b>6.3</b>	19.7	10.9	<b>8.8</b>
Other Other Other	37.1	50.9	<b>-13.7</b>	34.8	41.1	<b>-6.3</b>	36.1	46.5	<b>-10.4</b>
Alternative paths	23.1	28.7	-5.6	25.6	19.7	5.9	24.2	24.7	-0.5
<b>All</b>									
Retention rate	62.0	58.6	3.3	58.3	59.0	-0.8	60.1	58.8	1.3
Educ Educ Educ	38.4	28.8	9.7	37.5	36.7	0.9	38.0	32.8	<b>5.2</b>
Educ Educ Other	23.1	20.1	3.1	27.0	24.9	2.2	25.1	22.5	<b>2.6</b>
Other Other Other	21.7	30.2	-8.5	18.7	21.8	-3.1	20.2	26.0	<b>-5.8</b>
Alternative paths	16.8	21.0	-4.2	16.8	16.7	0.1	16.8	18.8	-2.1

Base: All EMA eligible young people who were interviewed at ages 16, 17 and 18 years. Cohorts 1 and 2 combined. Pilot weights applied.

Note: Matched samples only. Figures in bold are significant at the five per cent level or less, based on bootstrapped confidence intervals from 1,000 replications

## 4 EMA AND YOUNG PEOPLE'S DESTINATIONS AT 19 YEARS

### Summary

#### At 19:

- EMA eligible young people who had entered the labour market at age 18, following two years in compulsory education, tended to be better placed than those who had entered at 16, immediately after the end of compulsory education.
- Among 16 year old labour market entrants, 31.9 per cent had skilled trades at the age of 19 while 20.9 per cent held plant or machine operating, or elementary, jobs.
- Among 18 year old labour market entrants, only 9.5 per cent were in skilled trades at the age of 19 while 16.7 per cent were in plant or machine operating or elementary jobs.
- Among all 18 year old labour market entrants, those who had entered government supported training were most likely to be in the same destination one year later. Those who had entered work without training were least likely to still be in that destination; almost one in ten of this group were NEET one year later.
- Among young people who had spent two years in post-16 education and who were NEET at 18, 28.2 per cent remained NEET one year later. This was more likely in the pilot areas (36 per cent) than in the control areas (20.4 per cent).
- Descriptive analysis indicated that there was no statistically significant difference in the proportions of eligible young people in the pilot and control areas who were in full-time education.
- PSM analysis broadly confirms that EMA was having no effect on participation in education in urban areas.
- Descriptive analysis suggests that this lack of an EMA effect was broadly consistent across Year 11 achievement groups and socio-economic groups.

#### Between the ages of 16 and 19:

- EMA eligible young people in the pilot group were less likely to have been NEET at any time than those in the control areas (14.2 per cent compared with 23.2 per cent).

The analysis now turns to an examination of eligible young people's destinations at the age of 19 years, more than three years after the end of compulsory education. By this time, high achieving young people who had taken the 'conventional' post-16 education route would have spent two years in post-16 education, one full year in higher education, and be at the start of their second year. However, previous chapters in this report and, indeed, other reports in this series, show that young people take a wide range of post-16 trajectories, including spells in and out of education; time spent in work, with and without training; and periods when they are not in education, employment or training. This chapter completes the analysis of young people's destinations at each of the four time points at which they were interviewed, that is, when they were approximately 16, 17, 18 and 19 years of age (Sections 4.1 and 4.2). This is achieved through a descriptive analysis that examines:

- the contrasting labour market experiences of young people at the age of 19 who had entered the labour market at 16 years and 18 years (Chapter 4.1.1);
- the destinations, at the ages of 16 to 19, of young people in the pilot and control areas (Chapter 4.2);
- the group of young people who had spent some time Not in Education Employment or Training (NEET) between the ages of 16 and 19 (Section 4.2.3).

Throughout, data relate to eligible young people who were interviewed in all four waves of the surveys. At the final fourth wave, these young people were aged between 19 and 20 years at the time of interview (referred to as 19 years old throughout for convenience). The first cohort included young people who completed compulsory education (Year 11) and were interviewed for the first time in 1999, and subsequently re-interviewed in 2000, 2001 and 2002. The second cohort included young people who completed compulsory education and were interviewed for the first time in 2000, and subsequently re-interviewed in 2001, 2002 and 2003.

It should be noted that in the descriptive analyses data have been weighted to be representative of all eligible young people in the pilot and control areas and to take account of attrition. As discussed in the introduction to this report, data in the PSM analysis have not been weighted to take account of attrition. As a result, it is difficult

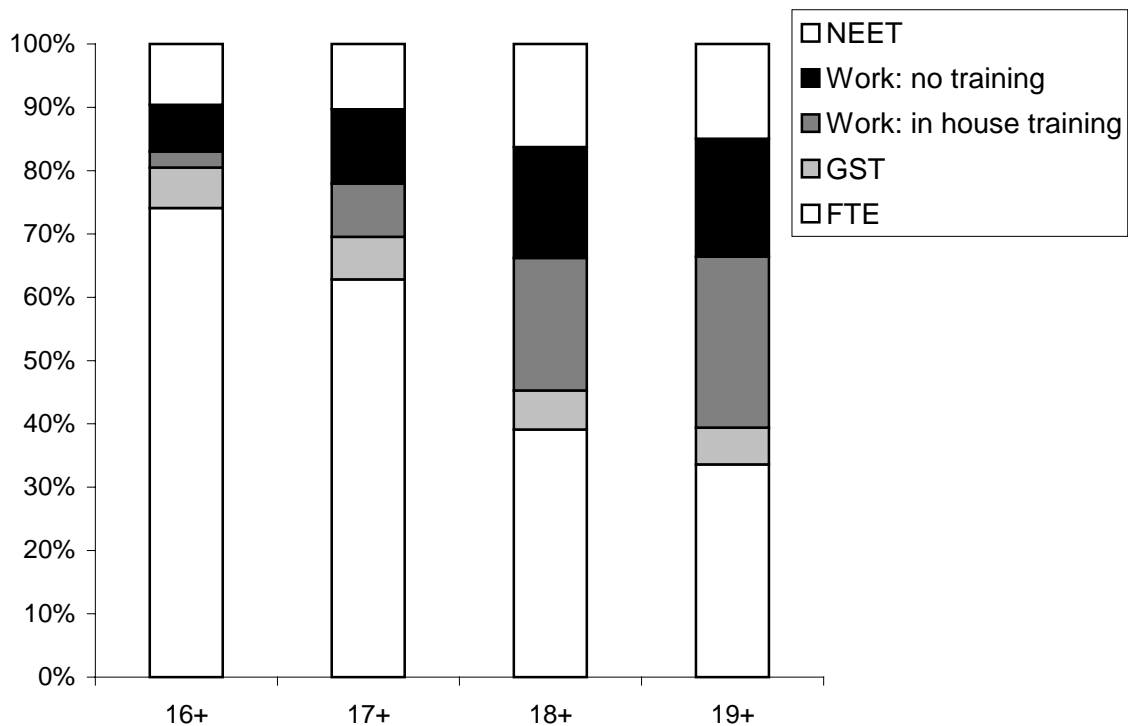
to be known whether the weighted descriptive results, which provide simple comparisons between young people in the pilot and control areas and do not take into account differences between these areas that might affect young people's behaviour and experiences, are more or less robust than those which use the more sophisticated PSM technique which cannot take into account attrition from the surveys. Therefore, wherever possible, comparisons are made between the findings of the two analytic techniques.

#### **4.1 The Destinations of Young People at 19 Years: Overview**

This section builds on analyses of data on the destinations of young people described in the previous, third report of the quantitative evaluation of EMA (Middleton et al., 2003). It explores changes in the destination patterns of EMA eligible young people over the three year period following the end of compulsory education, focussing on participation trends in education, training, employment and the NEET group. Results are presented for EMA eligible young people as a whole (Cohorts 1 and 2) between the ages of 16 and 19. It focuses in particular, on the movements that have taken place since young people were last interviewed at the age of 18 (Wave 3) and on the contrasting labour market experiences by the age of 19 of young people who entered the labour market at 18 following two years in post-16 education and those who entered at 16 immediately following the end of compulsory education.

By the age of 19, the largest proportion of young people in the EMA eligible sample had moved into work (45.6 per cent). This included 27 per cent of young people who were in work with training and 18.6 per cent of young people who were in work without training. An additional 5.8 per cent of young people were in government supported training, which included Modern Apprenticeships (Figure 4.1).

**Figure 4.1 Destinations of Young People in the EMA Eligible Population**



Key: NEET: Not in Education or Training; GST: Government Supported Training; FTE: Full-time Education  
 Base: EMA eligible young people who were interviewed at 16, 17, 18 and 19 years of age. Combined cohorts. Pilot and attrition weights applied.

The proportions of young people entering work with training have increased over the four time points at which data were collected, in particular when young people had reached 18 and 19 years of age. When the first round of interviews was conducted when young people were 16, 2.5 per cent were in work with training. This rose to 8.4 per cent of the sample at 17, 20.9 per cent at 18, and 27 per cent when young people were 19 years of age. While the proportions of young people in work without training had steadily increased over the four-year period, less dramatic increases in the size of the group occurred over the last two years. At the age of 16, 7.4 per cent of young people were in work without training. This proportion rose to 11.8 per cent of young people at the age of 17, 17.5 per cent of young people at 18 and a modest rise to 18.6 per cent of the sample population at the age of 19.

As the proportions of young people entering work (in particular, work with training) have increased over the four-year period, a corresponding decrease has occurred in

the proportions of young people remaining in full-time education. At the age of 16 (that is, in the months following the end of compulsory schooling), 74.1 per cent of young people in the sample were in full-time education. This proportion fell to 62.8 per cent in the following year, with a reduction to 39.1 per cent at the age of 18, and to 33.6 per cent at age 19. The most dramatic decline in full-time educational participation occurred among the sample at the age of 18, that is, when most young people in full-time learning would have completed two years in post-16 education. At this point, the largest increase can be observed in the proportion of young people entering the work with training group (from 8.4 per cent to 20.9 per cent of young people). Some increase can also be observed in the size of the NEET group (from 10.3 per cent to 16.3 per cent of young people) (see further below).

While fluctuations have occurred over the three year period in the proportions of young people in full-time education, employment and the NEET group, the proportion of young people in government supported training remained more or less static. Among 16 year olds, 6.4 per cent of young people were in training. This proportion rose very slightly to 6.7 per cent among 17 year olds. Among 18 year olds in the sample, 6.1 per cent of young people were in training, which fell very slightly to 5.8 per cent of 19 year olds.

#### **4.1.1 Labour market experiences at 19 of 16 and 18 year old entrants**

It seems appropriate at this point to examine whether young people who spent two years in compulsory education before entering the labour market at the age of 18, had fared better or worse by the age of 19 than those who entered the labour market immediately following compulsory education at the age of 16.

Table 4.1 provides an occupational breakdown of EMA eligible young people in the labour market at age 19. It shows that young people who had spent two years in post-16 education were generally in a better position than those who had entered the labour market immediately after compulsory education. In particular, young people who spent two years in post-16 education before entering the labour market at 18, were much more likely to be in managerial, professional and associated professional and technical jobs (15.6 per cent) than 16 year old entrants to the labour market (5.2 per cent), a statistically significant difference. This would suggest that the 'added



value' of remaining in post-16 education for two years largely outweighed any benefits that might have resulted from spending longer in the labour market, at least in terms of accessing managerial level employment. However, it should also be borne in mind that early labour market entrants tended to have lower Year 11 attainment levels in comparison to their counterparts who chose to remain in education, which might also have weakened their ability to access managerial level occupations.

A far larger proportion of young people who left school at 16 were in skilled trade occupations at the age of 19 than those who had entered the labour market at 18. These occupations would include apprenticeship training in construction, engineering and related trades. Among 16-year old labour market entrants, 31.9 per cent were in skilled trades at the age of 19 compared to 9.5 per cent of 18-year old labour market entrants. This finding would indicate that many employers continue to recruit 'younger' school leavers into traditional apprenticeship trades, rather than adopting a more flexible approach to the ages at which they might consider young people for training. Age related pay rates, which are fixed by many trade associations, might be a factor in explaining this trend.

Young people who entered the labour market at 18, were more likely to be working in personal service and sales occupations than their counterparts who had entered the labour market at 16. At the age of 19, 20.7 per cent of 18 year old labour market entrants were in personal service occupations and 18 per cent were in sales occupations. In contrast, among young people who entered the labour market at 16, 12.5 per cent were in personal service occupations and 11.6 per cent were in sales occupations. Finally, at the age of 19 larger proportions of young people who had entered the labour market at 16 were in operative work; 8.9 per cent compared with 3.2 per cent of young people who had spent two years in post-16 education.

**Table 4.1 Occupational Breakdown Of 16 Year Old And 18 Year Old Labour Market Entrants At Age 19**

	column per cent	
	16 year old entrants to labour market at age of 19	18 year old entrants to labour market (after 2 years FTE) at age of 19
<b>Managers/Prof and Assoc Prof and Technical</b>	5.2	15.6
<b>Admin, Clerical and Sec</b>	17.9	19.3
<b>Skilled Trades</b>	31.9	9.5
<b>Personal Service Occupations</b>	12.5	20.7
<b>Sales</b>	11.6	18.0
<b>Process Plant and Machine Operatives</b>	8.9	3.2
<b>Elementary or Other Occupations</b>	12.0	13.7
Unweighted N	611	987

Base: EMA eligible young people (pilot and control areas combined, cohorts combined) who were interviewed in all four surveys, who were in work/training at Wave 4. Pilot and attrition weights applied.

Wave 1 entrants = in any work/training W1 and W2 and W3 and W4.

Wave 3 entrants = FTE W1 and W2, any work/training W3 and W4.

Table 4.2 shows the occupational status at the age of 19, of 16 and 18 year old labour market entrants, broken down by the type of work or training they were in at age 19.

Among EMA eligible 16 year old labour market entrants who were in government supported training by the age of 19, only a tiny minority (2.5 per cent) were in the highest category (professional/ managerial or associated professional or technical). Almost three-quarters (72.6 per cent) were in one of the next two groups with 14.7 per cent being in an administrative or clerical position and 57.9 per cent being in a skilled trade. A small minority (6.1 per cent) were in either of the two lowest occupational categories (plant or machine operatives or elementary or 'other' occupations). By contrast, among 18 year old labour market entrants who were in government supported training at the age of 19, 29 per cent were in the highest occupational group. Just under half (47.7 per cent) were in one of the next two

groups, with 10.8 per cent having an administrative or clerical job and 36.9 per cent having a skilled trade. Just one person (1.5 per cent) was in one of the two lowest occupational groups.

Where 16 year old labour market entrants were in work with training at the age of 19, 8.2 per cent were in the highest category (professional/ managerial or associated professional or technical) while 43.7 per cent were in one of the next two groups (20.7 per cent in an administrative or clerical position and 23 per cent in a skilled trade). More than one in five (21.9 per cent) were in one of the two lowest groups (plant or machine operatives or elementary or 'other' occupations). By contrast, among 18 year old labour market entrants in work with training at the age of 19, 16.5 per cent held a professional/managerial or associated professional or technical position. Over a quarter (28.7 per cent) were in one of the next two groups (21.4 per cent in an administrative or clerical job and just 7.3 per cent in a skilled trade) and 15.4 per cent was in one of the two lowest groups.

Finally, among 16 year old labour market entrants who were in work without training at the age of 19, only a small number (4.6 per cent) were in a professional/ managerial or associated professional or technical occupation. A third (34.1 per cent) were in either an administrative or clerical job or in a skilled trade (17.3 per cent and 16.8 per cent respectively) and a just over a third (34.7 per cent) were either plant or machine operatives or working in elementary or 'other' occupations. Among 18 labour market entrants who were in work without training at the age of 19, more than one in ten (11.5 per cent) held a position in the highest occupational group (professional/ managerial or associated professional or technical), around a quarter were in one of the next two groups (17.5 per cent held an administrative or clerical position and just 7.3 per cent were in a skilled trade. In addition, 22.3 per cent were in one of the two lowest groups.

These findings suggest that a large proportion of EMA eligible young people who entered the labour market at 18, after spending two-years in full-time education, were accessing high level occupational training through Modern Apprenticeships. However, some caution is needed here since only around eight per cent of 18 year old labour market entrants were in government supported training at the age of 19

(n=84), in comparison to approximately three-tenths of their counterparts who had entered the labour market at 16 (n=194).

**Table 4.2 Occupational Breakdown of 16 and 18 Year Old Labour Market Entrants at 19 by Work and Training**

	column per cent							
	GST		Work with training		Work with no training		Total	
	16 year olds at 19	18 year olds at 19	16 year olds at 19	18 year olds at 19	16 year olds at 19	18 year olds at 19	16 year olds at 19	18 year olds at 19
<b>Managers/Prof and Assoc Prof and Technical Admin, Clerical and Sec</b>	2.5	29.2	8.2	16.5	4.6	11.5	5.4	15.8
<b>Skilled Trades</b>	14.7	10.8	20.7	21.4	17.3	17.5	17.9	19.2
<b>Personal Service Occupations</b>	57.9	36.9	23.0	7.3	16.8	7.3	31.7	9.7
<b>Sales</b>	14.7	21.5	12.9	20.6	9.2	20.6	12.3	20.7
<b>Process Plant and Machine Operatives Elementary or Other Occupations</b>	4.1	0.0	13.3	18.8	17.3	20.6	11.7	18.0
	2.5	1.5	8.6	3.0	15.8	3.8	8.9	3.2
	3.6	0.0	13.3	12.4	18.9	18.5	12.0	13.6
Unweighted N	194	84	237	587	180	316	611	987

Base: EMA eligible young people (pilot and control areas combined, cohorts combined) who were interviewed in all four surveys, who were in work/training at aged 19 and had: entered work/training at aged 16 (and been in work/training at aged 17 and 18); been in full-time education at 16 and 17 and entered work/training at 18. Pilot and attrition weights applied.

16-year old entrants = in any work/training 16, 17, 18 and 19.

18-Year old entrants = FTE 16 and 17, any work/training 18 and 19.

Table 4.3 explores changes in the destinations of EMA eligible young people since their entry into the labour market at the age of 18 years, following two years of full-time education, broken down by their destinations at age 18. The largest turnover had occurred among those who had entered work without training when they left post-16 education; 45.9 percent remained in work without training one year later. Approximately one quarter of this work without training group (23.2 per cent) had returned to full-time education, which might suggest that some young people had

taken a 'gap' year before embarking on higher education. However, almost one-fifth of this group (19.7 per cent) who had initially entered work without training had entered work with training by the age of 19.

Young people who had entered work with training at the end of two years of post-16 education were quite stable; almost two-thirds remained in this group approximately one-year later (64.1 per cent). However, again, almost one-fifth had returned to full-time education (19 per cent).

The highest level of stability among post-18 labour market entrants between interview waves occurred among young people who had entered government supported training. While the overall proportion of young people who had entered government supported training at the end of post-16 education was very small, 69.9 per cent of young people of this group had retained their status approximately one-year later. This finding may be a reflection on the length of time required to complete a Modern Apprenticeship training programme, which normally spans a two-year period.

Small proportions of each group had become NEET by the age of 19 and, whilst only around four per cent of those who had entered government supported training or work with training were NEET, almost one in ten who had entered work without training at the age of 18 were NEET one year later (9.4 per cent), (see further below, Section 4.2.3).

**Table 4.3 Trajectories between Interviews at 18 and 19 for Eligible Young People who Entered the Labour Market at 18 after 2 years in FTE**

column per cent			
Aged 19	Aged 18		
	GST	Work With Training	Work No Training
<b>FTE</b>	2.7	19.0	23.2
<b>GST</b>	<b>69.9</b>	1.2	1.7
<b>Work With Training</b>	11.0	<b>64.1</b>	19.7
<b>Work No Training</b>	12.3	10.9	<b>45.9</b>
<b>Neet</b>	4.1	4.8	9.4
Unweighted N	85	716	534

Base: Cohorts 1 and 2 EMA eligible young people (pilot and control areas combined) who were interviewed in all four surveys, who entered work/training at 18 after spending 2 years in FTE. Pilot and attrition weights applied.

Table 4.4 compares the occupations at 19 of EMA eligible young people who entered government supported training at 16, with those of young people who entered the labour market at 18 after spending two years in post-16 education. The purpose of this analysis is to compare the labour market outcomes of young people depending on whether they had spent their post-16 learning in full-time education or work-based training. The findings mirror those in Table 4.1, in that EMA eligible young people who had spent two years in post-16 education were more likely to be found in higher level occupational categories in comparison to their counterparts who chose to leave school at 16, with the exception of skilled trades. Among young people who entered government supported training at 16, 42.3 per cent were in skilled trades at 19, compared to 9.5 per cent of 18-year old labour market entrants. The issues surrounding differences between the two groups in relation to Year 11 attainment and employers' willingness to train older school leavers need to be considered in this context, but this is beyond the scope of our data.

**Table 4.4 The Occupations at Age 19 of Young People who Entered GST at 16 and 18-year old labour market entrants**

	column per cent	
	Young People who entered GST at 16 at the age of 19	18-year old entrants to labour market (after two years FTE) at the age of 19
<b>Managers/Prof and Assoc Prof and Technical</b>	7.4	15.6
<b>Admin, Clerical and Sec</b>	14.8	19.3
<b>Skilled Trades</b>	42.3	9.5
<b>Personal Service Occupations</b>	16.3	20.7
<b>Sales</b>	7.4	18.0
<b>Process Plant and Machine Operatives</b>	7.1	3.2
<b>Elementary or Other Occupations</b>	4.7	13.7
Unweighted N	338	987

Base: EMA eligible young people (pilot and control areas combined, cohorts combined) who were interviewed in all four surveys, who were in work/training at Wave 4. Pilot and attrition weights applied.

Young People in GST at 16 = in GST at 16 and in any work/training at 19.

18-year old labour market entrants = FTE at 16 and 17, any work/training at 18 and 19.

## **4.2 Destination Patterns of 16-19 year Olds in EMA Pilot and Control Areas**

This section describes differences in the destinations of 16-19 year olds in pilot and control areas among the EMA eligible population in order to identify any variations in movements, which may be attributed to the existence of EMA. It examines participation in full-time education before exploring the proportions of young people in work and, finally, the experiences of young people who have been NEET at some point between the ages of 16 and 19.

### 4.2.1 Education

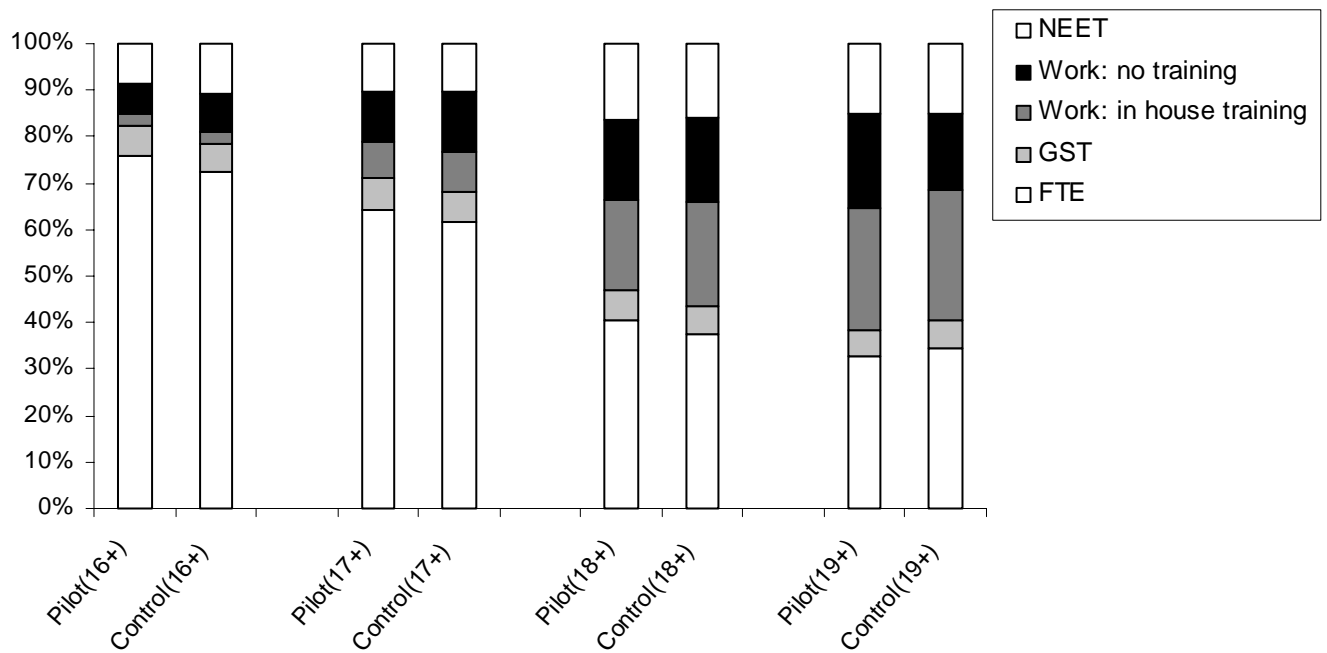
The positive impact of EMA on post-16 education participation and retention rates, which was found in earlier evaluations report and in Chapters 2 and 3 of this report, can also be seen in the destination trends shown in Figure 4.2. While participation rates in full-time education in both pilot and control areas continued to fall in successive years as young people aged from 16 to 19 years, participation rates in EMA pilot areas remained higher in control areas while young people remained eligible for EMA. The proportion of 16 year olds in pilot areas in full-time education was 75.9 per cent, which fell to 64.1 per cent of 17 year olds. In contrast in EMA control areas, 72.2 per cent of 16 year olds were in full-time education, which was reduced one year later to 61.5 per cent of 17 year olds. At age 18, when the majority of students would no longer be able to receive EMA, participation in full-time education remained slightly higher among eligible young people living in the pilot areas than among their counterparts in the control areas (40.5 and 37.6 per cent respectively).

These figures show the same trends as those produced by PSM analysis and described in Chapters 2 and 3 of this report. For example, PSM analysis suggests that by the age of 18 there was a non-significant difference in participation of 2.4 percentage points between young people in the pilot areas and their matched controls, compared to a 2.9 percentage point difference produced by this descriptive analysis.

However, once they had reached the age of 19, the higher participation rates in education among young people in EMA pilot areas disappeared and, in fact, the position was reversed. At 19 the proportion of young people in pilot areas who remained in full-time education was 32.6 per cent compared to 34.6 per cent in EMA control areas, although this difference is not quite statistically significant. These figures are, again, similar to those included in Section 4.3.1 of this chapter which suggest that 1.1 percentage points fewer young people were in full-time education in the control areas than in the pilot areas (although it should be noted that this analysis was confined to urban areas), compared with a two percentage point difference produced by the descriptive comparisons.



**Figure 4.2 Destinations of Young People (16-19 year olds) in EMA Pilot and Control Areas**



Key: NEET: Not in Education or Training; GST: Government Supported Training and FTE: Full-time Education

Base: EMA eligible young people who were interviewed at 16, 17, 18 and 19 years of age. Combined cohorts. Pilot and attrition weights applied.

#### 4.2.2 Work

There was no difference between pilot and control areas in relation to the proportion of 16 year olds entering government supported training (GST) or employment with training (Figure 4.2). However (non-significant) differences did begin to emerge between pilot and control areas once young people reached 18 years of age. In EMA pilot areas 6.5 per cent of young people were in GST by the age of 18, compared with 5.8 per cent of young people in control areas. Differences between EMA pilot and control areas in relation to the proportions entering GST may be the result of the differing composition of local labour markets and of variations between areas in the availability of government supported training provision for young people.

Among young people aged 18, the proportion in work with training in EMA pilot areas was 19.2 per cent; at age 19 this had risen to 25.9 per cent. In EMA control areas the proportion of 18 year olds in work with training was 22.7 per cent; at age 19 this

rose to 28.1 per cent. The large increases in the proportions entering work with training at 18 or 19 years of age can be largely attributed to the substantial number of young people entering the labour market at 18, once they had completed two years in post-16 education. Direct comparisons with the findings of PSM analysis are difficult because this analysis was not able to divide work with training into GST and employer based training. However, the pattern of results is similar, with fewer young people in the pilot areas entering work with training than their matched controls when young people were 18 (Chapter 3) and 19 (Chapter 4.3).

In line with the analysis in Chapter 4.1.1, it is worth exploring whether young people who had spent two years in post-16 education before entering the labour market at 19 were faring better or worse in labour market terms by the age of 19 than those who had entered the labour market at 16.

Only a small proportion of young people who had spent two years in full-time education before entering the labour market at 18 were in government supported training at the age of 19 and there was minimal difference between the pilot and control areas (Table 4.5). However, there was a substantial difference in the levels of participation in government supported training between young people who had left school and entered the labour market at 16, and those who had spent two years in post-16 education before entering the labour market at 18. In pilot areas, 31.4 per cent of 16-year old labour market entrants were in government supported training at 19, compared to 8.2 per cent of 18-year old labour market entrants. In the control areas, among 16-year old labour market entrants, 29.3 per cent were in government supported training compared with 7.7 per cent of 18-year old labour market entrants. These findings point to a limited progression for EMA eligible young people between post-16 education and government supported training, while nearly one-third of early labour market entrants (16-year old leavers) remained in government supported training. There were slightly lower levels of participation in government supported training in control areas for both 16-year old and 18-year old labour market entrants.

Larger proportions of 18-year old labour market entrants in both pilot and control areas were in jobs that offered training. For example, in pilot areas 55.6 per cent of young people in this group were in employment with training at the age of 19,

compared to 33.7 per cent of 16-year old labour market entrants. There could be two reasons for this: first, young people who entered the labour market after spending two years in post-16 education tended to enter higher level jobs which would be more likely to offer training (see below and Middleton et al., 2003). Secondly, young people who entered the labour market at 16 may have completed their training period within the three year period spent in employment or training since leaving compulsory education.

**Table 4.5 Young People’s Work or Training Destinations at Age 19**

	column per cent			
	16 year old entrants to labour market at the age of 19		18 year old entrants to labour market (after 2 years FTE) at the age of 19	
	Pilot	Control	Pilot	Control
<b>Government Supported Training</b>	31.4	29.3	8.2	7.7
<b>Work: In House Training</b>	33.7	44.5	55.6	59.9
<b>Work: No Training</b>	34.9	26.3	36.3	32.3
Unweighted N	343	269	643	348

Base: EMA eligible young people from Cohorts 1 and 2 (pilot and control areas combined) who were interviewed in all four surveys, who were in work/training at Wave 4. Pilot and attrition weights applied.

16-year old entrants = in any work/training 16,17,18 and 19.

18-year old entrants = FTE 16 and 17, any work/training at 18 and 19.

### 4.2.3 NEET

As Figure 4.2 identifies, there was almost no difference in the proportion of young people at the age of 19 in EMA pilot areas in the NEET group (15 per cent) compared to young people in EMA control areas (14.9 per cent), a result again confirmed by PSM analysis for urban areas later in this chapter. Findings presented in the third year EMA quantitative report (Middleton et al., 2003), suggested that the growth that had occurred in the NEET population in *both* EMA pilot and control areas, could be attributed to the timing of the survey, which had allowed insufficient time for young people to make their transitions beyond post-16 education. In EMA pilot areas the NEET population had grown from 10.2 per cent among 17 year olds,

to 16.5 per cent once young people in the sample had reached 18. The corresponding figures for EMA control areas were 10.4 per cent and 16.1 per cent respectively. PSM analysis produced a slightly larger difference in the size of the NEET groups in pilot and control areas when young people were 18 (2.1 percentage points), but this difference was not statistically significant.

While there was a small decline in the proportion of young people in the NEET group between the ages of 18 and 19, the analysis would suggest that the NEET group is a sub-group of young people who have failed to make successful transitions beyond post-16 education. For example, in EMA pilot areas the size of the NEET group was 10.2 per cent among young people at the age of 17. This proportion had grown to 15 per cent among young people at 19, which is at least one year after young people could potentially have completed two years in post-16 education. Over the same period of time, the proportions of young people in work with and without training had both grown. In addition, the proportion of young people in government supported training had fallen very slightly and the proportion of young people in full-time education had continued to decline. This would suggest that the issue of ensuring that adequate levels of guidance and support are available to young people, both within and beyond post-16 education, remains critical in policy terms in order to ensure that young people make successful transitions and minimise the risk of devaluing the benefits of EMA and post-16 education provision per se, among some groups of young people.

It is worth examining in greater detail the experiences of young people who spent time NEET during the three years covered by the evaluation, that is until they were 19 years old<sup>25</sup>.

Experiences of being NEET are examined from two perspectives. First, four groups of young people who were in the NEET group at some point between the ages of 16 and 19 are identified according to the length of time for which they had been NEET, and a comparison made between the size of each of these groups in the pilot and control areas. The aim here is to see whether young people in the pilot and control

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<sup>25</sup> A more detailed report on 16 to 18 year old young people who experienced being NEET has been published separately (Rennison et al., 2005).

areas had different experiences that might suggest an EMA effect, (although numbers are too small to allow firm conclusions to be drawn). Secondly, the destinations at age 19 of young people who were in full-time education at the age of 16 and 17 years, but who were NEET at age 18 are examined to see whether their NEET group status at 18 was a temporary or more long-term phenomenon.

### ***Time spent NEET***

Longitudinal analysis allows the length of time that young people spent in the NEET group to be measured. For the purpose of the analysis in this section, young people who were NEET at 19 have been classified into four groups:

- 'long-term', (NEET from age 16 to 19);
- 'medium term', (NEET from age 17 to 19),
- 'short-term' (NEET from age 18 to 19); and
- 'NEET at 19' (those whose first entry to NEET was at age **19**).

A higher percentage of EMA eligible young people in control areas had 'long-term' NEET group status between the ages of 16 and 19 (23.2 per cent) compared with their counterparts in the pilot area (14.4 per cent), (Table 4.6). By definition, these young people were not in full-time education at the time of any of the four survey interviews, so that the smaller proportion of long term NEET young people in the pilot areas cannot be attributed to an EMA effect. This finding indicates a continuing need for intervention to prevent young people becoming NEET immediately after compulsory education, since it seems that significant proportions of these young people will still be NEET three years later. This is re-enforced by the findings of Rennison et al., which suggested that more than two-thirds of young people who were NEET at ages 16 and 17 (68.2 per cent) were still NEET at age 18<sup>26</sup>.

There were only small differences between the pilot and control areas in the proportions of young people in the medium and short-term NEET groups. However, it should be noted that more than one-quarter of young people in both pilot and control areas who were NEET at 19 had also been NEET at 18, suggesting that escaping from the NEET group is not easy for these older young people (see further

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<sup>26</sup> Rennison et al., 2005, p.115

below). Among those who had entered the NEET group at the age of 19, the proportions of young people in the pilot areas were, again, larger than in the control areas.

**Table 4.6 NEET Population at Age 19 by Time Spent NEET**

	<b>column per cent</b>	
	<b>Pilot</b>	<b>Control</b>
Long term NEET	14.4	23.2
Medium term NEET	14.1	13.0
Short term NEET	27.0	25.1
NEET at 19	44.4	38.7
N (unweighted)	343	173

Base: EMA eligible young people interviewed at age 16, 17, 18 and 19 who had NEET group status at age 19. Combined cohorts. Pilot and attrition weights applied.

***Young people at 19 who were NEET at 18 after two years in post-16 education***

Evidence from earlier EMA evaluation reports (Rennison et al., 2005; Middleton et al., 2003) has suggested that, following a reduction in the size of the NEET group in pilot areas compared to controls when young people were 16 and 17, the NEET group began to grow when young people were 18 years. This has been confirmed to some extent by evidence in earlier sections of this report; the findings of PSM analysis in Chapter 3 showed that the NEET group was larger in the pilot areas than the control areas by 2.1 percentage points when young people were 18 years old, although this difference was not statistically significant. A very small, but positive, difference is also suggested between the size of the NEET group in pilot and control areas in the PSM analysis later in this chapter although, again, this difference is not significant. However, descriptive analysis presented in Figure 4.2 above suggests that the size of the NEET group had increased in **both** pilot and control areas when young people were 18 and showed only a small decrease by the time they were 19.

Furthermore, Rennison et al., 2005, showed that whilst young people in full-time education at 17 had the smallest chance of becoming NEET at 18 and, *‘although the proportion of young people becoming NEET (at 18) had increased for all*

*destinations, it had increased most of all among young people who had previously been in full-time education', (p94).*

However, both Rennison et al., 2005 and Middleton et al., 2003, went on to suggest that some of the increase in the NEET population at the age of 18 could have been the result of the time of year when interviews took place, fairly early in the academic year, when young people might have finished education or training but were yet to make their subsequent transitions. The initial analysis in Table 4.7 throws some doubt on this, given the small decrease in the size of the NEET group when young people were 19.

**Table 4.7 Proportions Of Young People Who Were NEET At 17, 18 And 19**

	<b>cell per cent</b>	
	<b>Pilot</b>	<b>Control</b>
<b>Size of NEET Group at:</b>		
17 years old	10.2	10.4
18 years old	16.5	16.1
19 years old	15.0	14.9

Base: EMA eligible young people who were interviewed at age 16, 17, 18 and 19. Combined cohorts. Pilot and attrition weights applied.

The availability of data on young people's destinations at 19 allows more light to be thrown on the extent to which the increase in the NEET group at 18 among young people who had completed two years of education was, indeed, a temporary phenomenon or whether they were likely to remain NEET for longer periods.

Table 4.8 shows that the majority of young people who were NEET at age 18, following two years in full-time education, were not still NEET at 19. For 71.8 per cent of these young people, being NEET appears to have been a temporary status before they re-entered full-time education (28.6 per cent), or entered the labour market (43.2 per cent). However, well over a quarter (28.2 per cent) of young people who had become NEET at age 18 after two years in full-time education, remained NEET at age 19.

**Table 4.8 Destinations at Age 19 for Young People in Full-Time Education at 16 and 17 who became NEET at 18**

column per cent

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**Destination at 19 of Young People who were NEET at 18 having been in FTE at 16 and 17**

	Pilot	Control	All
Full-time education	17.7	40.1	28.6
GST	1.1	0.6	1.2
Work with training	24.6	27.5	26.1
Work with no training	20.6	11.4	15.9
NEET	36.0	20.4	28.2
Unweighted N	205	128	333

Base: EMA Eligible respondents interviewed at 16, 17, 18 and 19 who had been in full-time education at 16 and 17 and NEET at 18. Combined cohorts. Pilot and attrition weights applied.

Table 4.8 also compares destinations at age 19 across pilot and control areas and shows that the proportion of young people who remained NEET at 19 was larger in the pilot than the control areas. Over a third (36 per cent) of young people in the pilot areas were still NEET at 19 compared with 20.4 per cent of their counterparts in the control areas, although it should be stressed that numbers in these groups are small. Re-entry into full-time education at age 19 was more likely for young people in control areas, where 40.1 per cent had moved back into education compared with only 17.7 per cent of young people in the pilot areas. A similar proportion of young people in both areas (24.6 per cent in pilot and 27.5 per cent in control) had moved into work with training at age 19. However, movement into work with no training was more common amongst young people in the pilot areas, with 20.6 per cent moving into this destination compared with 11.4 per cent of young people in the control areas.

As suggested earlier in this chapter, it is clear that for some groups of young people advice and guidance needs to be available well beyond the end of compulsory education, *‘to ensure that young people make successful transitions and minimise the risk of devaluing the benefits of EMA and post-16 education provision per se,*



*among some groups of young people*'. As Rennison et al. point out, '*remaining NEET for prolonged periods of time had a negative effect upon future trajectories*' (Rennison, et al., 2005, p118).

### **4.3 The Impact of EMA on Destinations at 19 years**

This section focuses on the impact of EMA on participation and retention in education at the age of 19 years, at least three years after the end of compulsory education, using propensity score matching (PSM) techniques. The PSM methodology is exactly the same as in the previous chapter and in previous reports.<sup>27</sup> Again, it should be noted that the results have not been weighted because the decrease in sample sizes, arising from attrition from the survey samples, makes it likely that weighted results would be affected by outliers. In addition, if attrition is non-random, weighted results may not be representative of the effect on the population at large<sup>28</sup>.

The analysis combines information from young people in both Cohorts 1 and 2 of the evaluation who were interviewed in all four waves of the survey, that is, at ages 16, 17, 18 and 19, and who were eligible for EMA on income grounds at the first interview, at age 16. However, unlike previous analyses, results are provided for urban areas only. By the fourth wave of interviews, attrition from the sample had been approximately 54 per cent and was disproportionately high in rural areas, which also had initially smaller sample sizes. This means that it was not possible to undertake PSM analysis for the rural areas. It is also not possible at this stage of the evaluation to use PSM techniques to explore the effects of EMA by SEG and Year 11 achievement, as in previous years, because of small sample sizes. This is the subject of the descriptive analysis in Section 4.4.

#### **4.3.1 The impact of EMA on destinations at 19 years**

As in the previous chapter, four destinations were included in the analysis:

- full-time education;

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<sup>27</sup> For further details see Ashworth et al., 2002, and Middleton et al., 2003.

<sup>28</sup> See earlier chapters for a further discussion of the effects of attrition.

- work with training<sup>29</sup>;
- work without training; and
- not in education, employment or training (NEET).

Results in Table 4.9 are presented separately for young men and young women, in urban areas only. The main finding to emerge is that young men living in pilot areas were 3.7 percentage points more likely to be in work with training, and 4.4 percentage points less likely to be in work without training than their matched controls. However, it should be noted that descriptive evidence earlier in this chapter has suggested that young people who spent two years in post-16 education in the pilot areas were less likely to be in work with training than their control counterparts by the age of 19.

Young men living in pilot areas were also 1.2 percentage points more likely to be in education at the age of 19 than their counterparts in the control areas. Young women in the pilot and control areas were equally likely to engage in work with training, whilst pilot young women were more likely to be involved in work without training relative to controls. By contrast, young women in pilot areas were 3.5 percentage points less likely than their control counterparts to be in full-time education by the age of 19. For young men and young women together, those in the pilots were 1.1 percentage points less likely to be in education than their controls.

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<sup>29</sup> See Sections 4.1, 4.2 and 4.4 for the results of descriptive analysis, which breaks work with training down further into government supported training (GST) and work with in-house training.

**Table 4.9 Impact of EMA on Destinations in Urban Areas at Age 19**

cell per cent									
	<b>Men</b>			<b>Women</b>			<b>All</b>		
	<b>Pilot</b>	<b>Control</b>	<b>Increase</b>	<b>Pilot</b>	<b>Control</b>	<b>Increase</b>	<b>Pilot</b>	<b>Control</b>	<b>Increase</b>
<b>Urban</b>									
Education	34.4	33.2	1.2	39.3	42.8	-3.5	36.9	38.0	-1.1
Work									
With training	26.2	22.6	3.7	20.4	20.5	-0.1	23.3	21.5	1.8
Without training	25.7	30.0	-4.4	19.4	17.7	1.7	22.5	23.8	-1.3
NEET	13.7	14.2	-0.5	21.0	19.1	1.9	17.4	16.7	0.7
Sample size	1,387			1,417			2,804		

Base: All EMA eligible young people who were interviewed at ages 16, 17, 18 and 19. Cohorts 1 and 2 combined.

Note: Matched samples only. Figures in bold are significant at the five per cent level or less, based on bootstrapped confidence intervals from 1,000 replications.

These are the first set of PSM results that have shown fewer young people in the pilot areas to be in post-16 full-time education than their matched controls. Even young men in the pilot areas, on whom EMA had the largest impact at ages 16, 17 and 18, were not significantly more likely than their controls to be in education at the age of 19. Nevertheless, Chapters 2 and 3 have shown that EMA did have a significant impact on post-16 participation in full-time education for at least two years following the end of compulsory education, a not insignificant achievement. Further, even if young people do not go on to higher education, two extra years of education better equips young people with the necessary skills for the labour market and improves their subsequent labour market outcomes, as suggested in Section 4.1 above, and this is also encouraging.

#### **4.4 Year 11 Achievement and Socio-economic Group**

Finally in this chapter associations are explored between young people's destinations, Year 11 achievement and socio-economic group (SEG)<sup>30</sup>. As in previous sections, the analysis focuses on young people in both the first and second cohorts of the EMA surveys who were interviewed at 16, 17, 18 and 19 years of age. The analysis is similar to that described in Chapter 3 of Middleton et al., 2003, expanded to include both the second cohort of young people and data from the final wave of interviews when young people were at least 19 years of age.

##### **4.4.1 Year 11 Achievement**

The influence of Year 11 achievement on young peoples' likelihood of remaining in full-time education, has been sustained over the three year period during which data have been collected. In addition, when young people were 16 and 17, pilot/control differences remained when relation to young peoples' participation and retention in full-time education, which is suggestive of an EMA effect.

A discussion about destination trends for 16-18 year olds is outlined in the third year EMA quantitative evaluation report (Middleton et al., 2003). In summary, the analysis (as shown in Table 4.10) found that at the age of 16, among all Year 11

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<sup>30</sup> Details of the derivation of both Year 11 achievement and SEG can be found in the introduction to this report.

achievement levels (apart from young people who had obtained five or more A\*-C GCSE passes), greater numbers of young people in pilot areas chose to remain in full-time education. At 16 the largest percentage point difference in full-time education participation rates between pilot and control areas occurred among young people who had obtained no qualifications by the end of Year 11. By the age of 17, differences between pilot and control areas in relation to the proportions of eligible young people who had obtained no qualifications at the end of Year 11 but who had remained in education had disappeared. However, among eligible young people who had obtained one to four A\*-C GCSE passes in Year 11, significantly more young people in the pilot areas were in full-time education at 17 than in the control areas, a difference of 11 percentage points.

Eligible young people in pilot areas with one to four A\*-C GCSE Year 11 attainment levels managed to sustain higher rates of participation in post-16 education between the ages of 16 and 18. The PSM analysis in Chapter 3 has also shown significantly higher rates of participation in education at the age of 18 among 'moderate achievers' in the pilot than in the control areas. A pilot/control difference among higher achievers, that is, among young people who attained five+ A\*-C GCSEs at Year 11, emerged for the first time at the age of 18. In pilot areas, 59.8 per cent of young people in this group were in full-time education (including higher education), compared to 55.6 per cent in control areas. This 4.2 percentage point difference supports the PSM evidence in Chapter 3, which showed a 5.4 percentage point difference in education participation between high achieving young people in the pilot areas and their matched controls. The reasons for this trend are unclear, since the availability of EMA was limited to two years for most young people.

Earlier analysis in this chapter has shown that by the age of 19, a smaller proportion of EMA eligible young people were in full-time education in the pilot areas than in the control areas. Table 4.10 suggests that this pattern was more or less consistent across Year 11 achievement groups, with the possible exception of young people who had achieved no qualifications at Year 11 who were 1.9 percentage points more likely to be in education in the pilot than in the control areas – a non-significant difference. These data also suggest that the proportion of young people with no qualifications who were NEET at the age of 19 was smaller in the pilot than in the

control areas by 6.6 percentage points. However, young people in this group were also more likely to be in work with no training in the pilot than in the control areas, by 6.3 percentage points which may be more suggestive of labour market differences between the pilot and control areas than of an EMA effect. The only other large differences to emerge between young people at the age of 19 were among young people with D-G passes at GCSE. This group was 5.1 percentage points more likely to be in work with no training in the pilot than in the control areas, and 6.6 percentage points less likely to be in work with training. Again, this difference is probably more likely to reflect labour market differences than an EMA effect.

**Table 4.10 Year 11 Qualification Achievement and Post-16 Destinations: Descriptive Comparisons**

	No Qualifications			Level 1			Level 2 1-4 A*-C GCSEs			Level 2 5+A*-C GCSEs		
	Pilot	Control	Difference %	Pilot	Control	Difference %	Pilot	Control	Difference %	Pilot	Control	Difference %
<b>Age 16</b>												
FTE	39.6	24.0	15.6	60.4	56.7	3.7	78.9	70.0	8.9	91.2	91.4	-0.2
GST	5.7	3.1	2.6	9.1	9.1	0.0	7.5	8.4	-0.9	3.3	3.6	-0.3
Work: in house trn	1.6	2.1	-0.5	6.2	4.0	2.2	2.7	2.9	-0.2	0.7	0.7	0.0
Work: no trn	16.7	15.6	1.1	10.1	13.9	-3.8	5.7	9.4	-3.7	2.9	2.5	0.4
NEET	36.5	55.2	-18.7	14.3	16.2	-1.9	5.1	9.5	-4.4	1.9	1.8	0.1
<b>Age 17</b>												
FTE	28.1	28.9	-0.8	39.9	35.9	4.0	66.1	55.1	11.0	86.2	87.3	-1.1
GST	3.0	3.2	-0.2	11.1	8.0	3.1	7.8	9.3	-1.5	3.4	3.9	-0.5
Work: in house trn	7.5	11.2	-3.7	12.7	15.2	-2.5	9.4	10.2	-0.8	3.5	3.7	-0.2
Work: no trn	13.6	14.4	-0.8	18.4	22.1	-3.7	10.2	16.1	-5.9	5.2	3.9	1.3
NEET	47.7	42.2	5.5	17.9	18.9	-1.0	6.5	9.2	-2.7	1.7	1.2	0.5
<b>Age 18</b>												
FTE	14.6	13.0	1.6	22.4	19.5	2.9	39.1	34.3	4.8	59.8	55.6	4.2
GST	1.5	3.6	-2.1	9.0	5.4	3.6	7.4	7.7	-0.3	4.5	4.8	-0.3
Work: in house trn	19.6	19.7	-0.1	19.7	26.4	-6.7	22.6	26.3	-3.7	15.9	18.2	-2.3
Work: no trn	16.1	11.4	4.7	22.2	23.0	-0.8	18.0	18.7	-0.7	13.1	14.6	-1.5
NEET	48.2	52.3	-4.1	26.7	25.8	0.9	12.8	13.0	-0.2	6.6	6.8	-0.2

<b>Age 19</b>												
FTE	10.6	8.7	1.9	9.9	10.5	-0.6	25.4	25.1	0.3	60.1	61.4	<b>-1.3</b>
GST	2.0	2.1	-0.1	7.7	5.8	1.9	6.5	7.3	-0.8	4.6	5.0	<b>-0.4</b>
Work: in house trn	18.1	19.5	-1.4	30.7	37.3	-6.6	32.6	34.7	-2.1	18.0	18.5	<b>-0.5</b>
Work: no trn	18.1	11.8	6.3	29.0	23.9	5.1	22.1	18.7	3.4	13.0	11.4	<b>1.6</b>
NEET	51.3	57.9	-6.6	22.8	22.5	0.3	13.4	14.2	-0.8	4.3	3.8	<b>0.5</b>

Base: EMA eligible young people who were interviewed at the ages of 16, 17, 18 and 19 years of age. Combined cohorts. Pilot and attrition weights applied.



#### **4.4.2 Socio-economic group (SEG)**

Earlier reports in this series, and Chapter 2 and 3 of this report, have shown an association between EMA, socio-economic group (SEG) and education participation. In summary, until the age of 18 EMA seemed to be having a particularly strong effect on young men from the lowest SEGs in terms of their participation in post-16 full-time education. Table 4.11 shows descriptive comparisons of the destinations of EMA eligible young people in each SEG, across pilot and control areas between the ages of 16 and 19 and confirms this earlier evidence with, in general, the higher the socio-economic group, the smaller the effect of EMA.

EMA eligible young people from SEG 5 were more likely to be in full-time education in the pilot than in the control areas at ages 16 and 17. Among 16 year olds in SEG 5, 69.3 per cent of young people remained in full-time education compared to 60.7 per cent in control areas. Among 17 year olds, 57 per cent of young people in SEG 5 were in full-time education, compared to 53.1 per cent in control areas. However, at the age of 19 this trend had reversed with 24.4 per cent of young people in the pilot areas in full-time education compared with 26.1 per cent in the control areas.

Among young people from SEG 4, higher participation and retention rates in post-16 education have been sustained in pilot areas throughout the three-year period over which data have been collected. Among 16 year olds in SEG 4, 72.7 per cent of young people remained in full-time education, compared to 70.4 per cent in control areas. There was a 9.5 percentage point difference between pilot and control areas in the proportion of 17 year olds remaining in full-time education. Among 18 year olds (when EMA eligibility for most young people would have expired), the participation gap had grown to 12.6 percentage points before falling back to 4.2 percentage points among 19 year olds in SEG 4.

Direct comparisons between these findings and those from PSM analysis are not possible, since SEGs 4 and 5 were combined in the PSM analysis. However, it is worth noting that the patterns of association between EMA and SEG for this combination of groups 4 and 5 do not contradict the descriptive findings above. These showed that significantly larger proportions of young people in SEGs 4 and 5 in the pilot areas were in education at the ages of 16, 17 and 18 than their matched

controls. It may be that, by the age of 18, this effect was concentrated among those from SEG 4.

Young people from the highest SEG generally showed the smallest association between EMA and SEG at all ages, with only small positive differences between participation in education in the pilot and control areas at 16, 17 and 18 years. By the age of 19, 3.5 percentage points fewer young people from SEG 1 were in education in the pilot than in the control areas. Again, this confirms evidence from the PSM analysis in Chapters 2 and 3, which showed no significant EMA effect on the proportions of young people in full-time education from SEG 1.

Overall, therefore, it seems that EMA met its policy objective of increasing participation in post-16 education among young people from the lower socio-economic groups, at least for the two years that EMA eligibility lasted for most young people.

**Table 4.11 SEG and Post-16 Destinations: Descriptive Comparisons**

	Prof and Mgt SEG 1			Non-Manual SEG2			Skilled manual SEG3			Semi & unskilled SEG 4			No work SEG 5		
	Pilot	Control	Differ- ence %	Pilot	Control	Differ- ence %	Pilot	Control	Differ- ence %	Pilot	Control	Differ- ence %	Pilot	Control	Differ- ence %
<b>Age 16</b>															
FTE	86.6	84.6	2.0	83.1	81.0	2.1	73.4	71.0	2.4	72.7	70.4	2.3	69.3	60.7	8.6
GST	5.0	4.4	0.6	6.1	5.4	0.7	9.3	10.6	-1.3	6.1	7.6	-1.5	6.0	5.3	0.7
Work: in house trn	1.9	2.3	-0.4	2.6	2.5	0.1	3.3	3.0	0.3	5.4	2.1	3.3	2.0	1.8	0.2
Work: no trn	3.6	5.9	-2.3	4.8	6.3	-1.5	6.8	9.9	-3.1	8.8	10.4	-1.6	7.7	9.2	-1.5
NEET	2.9	2.7	0.2	3.4	4.8	-1.4	7.1	5.5	1.6	7.0	9.5	-2.5	14.9	23.0	-8.1
<b>Age 17</b>															
FTE	77.7	77.1	0.6	70.8	68.0	2.8	61.3	61.1	0.2	61.3	51.8	9.5	57.0	53.1	3.9
GST	6.0	4.4	1.6	6.7	7.1	-0.4	9.2	8.4	0.8	6.7	8.3	-1.6	6.3	5.4	0.9
Work: in house trn	5.0	6.7	-1.7	8.8	8.0	0.8	7.8	11.6	-3.8	9.6	11.1	-1.5	8.2	8.0	0.2
Work: no trn	7.7	9.9	-2.2	10.2	11.2	-1.0	12.7	13.3	-0.6	12.5	19.6	-7.1	11.0	12.0	-1.0
NEET	3.6	1.9	1.7	3.5	5.6	-2.1	9.0	5.7	3.3	9.8	9.2	0.6	17.6	21.5	-3.9
<b>Age 18</b>															
FTE	53.6	49.5	4.1	44.3	42.1	2.2	39.8	34.9	4.9	40.6	28.0	12.6	33.6	33.9	-0.3
GST	6.5	4.9	1.6	6.9	7.0	-0.1	7.4	6.5	0.9	5.6	7.1	-1.5	6.1	4.3	1.8
Work: in house trn	18.3	22.7	-4.4	23.9	23.7	0.2	20.3	26.1	-5.8	22.2	19.8	2.4	14.9	21.8	-6.9
Work: no trn	13.0	15.1	-2.1	16.8	17.5	-0.7	16.6	22.1	-5.5	19.3	26.0	-6.7	18.7	13.6	5.1
NEET	8.7	7.9	0.8	8.1	9.6	-1.5	15.8	10.3	5.5	12.3	19.1	-6.8	26.7	26.5	0.2

<b>Age 19</b>															
FTE	50.6	54.1	-3.5	38.1	43.5	-5.4	31.8	27.9	3.9	28.3	24.1	4.2	24.4	26.1	-1.7
GST	6.4	4.4	2.0	6.3	6.7	-0.4	7.1	7.4	-0.3	5.1	6.9	-1.8	5.1	4.3	0.8
Work: in house trn	20.5	24.7	-4.2	29.2	27.3	1.9	27.9	33.2	-5.3	32.1	29.0	3.1	22.6	27.5	-4.9
Work: no trn	16.0	12.9	3.1	18.9	15.4	3.5	19.8	22.8	-3.0	21.9	20.9	1.0	23.0	14.5	8.5
NEET	6.4	3.8	2.6	7.4	7.0	0.4	13.5	8.7	4.8	12.5	19.1	-6.6	24.9	27.6	-2.7

Base: EMA eligible young people interviewed at 16, 17, 18 and 19 years of age. Combined cohorts. Pilot and attrition weights applied

## 5 ACHIEVEMENT IN POST-16 EDUCATION

### Summary

- Administrative records were used to identify qualification attainment among EMA respondents. However, for some EMA eligible young people, the two data sources could not be successfully matched. This problem, combined with attrition across the life of the study, sheds doubt on the robustness of the data available for analysis in this chapter. Matching was more successful for Cohort 2 than Cohort 1 and attrition rates were lower. In the light of this, analysis presented in this chapter is based on EMA eligible young people in Cohort 2 only.
- Due to small sample sizes in the rural pilot areas, PSM analysis could only be performed on young people living in the urban pilot areas.
- The PSM analysis of young people in the urban areas did not detect any statistically significant impact of EMA on post-16 attainment.
- The descriptive analysis suggested that, by the age of 19, Year 11 low achievers in the pilot areas may have had a higher rate of attainment of the Level 2 threshold (five GCSEs at grades A\*-C or their equivalent) than their counterparts in the control areas.
- This analysis also indicated that Year 11 moderate achievers in the pilot areas may have had a higher rate of attainment at Level 3 (A Level and equivalent) than their counterparts in the control areas.

The main aims of the EMA evaluation were to assess the impact of EMA on young people's post-compulsory participation and retention in full-time education, and on attainment up to Level 3 (A Levels and equivalent). Previous chapters have focussed on the first two of these aims, participation and retention. This chapter considers the third of the aims, achievement, as measured by the qualifications that young people attained following the end of compulsory education. These may have been obtained through participation in full- or part-time education or via work or work-based training. They may be academic, vocational, occupational or a combination of types. The chapter focuses on qualifications attained two and three years after the end of Year 11, that is, by the time young people were 18 and 19 years of age.

The first section of the chapter explains the data that were used to measure attainment and highlights the loss of data that has occurred as a result of the decision to use administrative records (Section 5.1). This is followed by analysis of attainment using both PSM techniques (Section 5.2) and descriptive analysis (Sections 5.3). Finally, Section 5.4 summarises and concludes the chapter.

## **5.1 Using Administrative Data on Qualifications**

Analysis in this chapter is restricted to a sub-set of young people who fulfilled a set of criteria. The first of these is that they were eligible for EMA at their first interview, when they were 16 years old, on the grounds that their parental income did not exceed £30,000 per year. The second is that young people in the surveys gave their consent for the evaluation consortium to access administrative information about any qualifications they had attained, when they were asked in 2002. For the first cohort, this request was administered in the fourth interview (i.e. three years after the study began, when young people were at least 19 years old); for the second cohort, the request was made at their third interview (i.e. two years after the study began, when young people were at least 18 years old). Inevitably, by 2002, more EMA eligible young people had been lost from the first cohort than from the second (56.4 per cent compared with 44.7 per cent). In addition, 3.1 per cent of EMA eligible young people from each cohort refused to allow their administrative qualifications to be matched.

The analysis of post-Year 11 attainment in this chapter is based exclusively on administrative qualifications data provided by the Department for Education and Skills (DfES). This section explains the reasons for this decision and explores possible implications for the robustness of the analysis.

### **5.1.1 The choice of administrative data**

Each year, the EMA surveys included detailed questions about academic, vocational or occupational courses being undertaken by the young person, including those associated with work or work-based training. At subsequent interviews, respondents were reminded of any courses previously mentioned and asked if they were still engaged in the course and, if not, what the outcome had been. This design allows for the compilation of a range of measures reflecting post-Year 11 attainment.

However, this self-report method of measuring attainment is inevitably subject to error, particularly given the range and complexity of qualifications in the United Kingdom. It seems likely that certain qualifications, such as GCSEs, would be very familiar to young people who had just completed Year 11; consequently, misreporting would be uncommon. Other courses may be less familiar, either because they are rarely offered in some schools and colleges, such as vocational courses, or because they are new qualifications, such as AS levels (which became the first year academic route to Level 3 qualifications only in September 2000). In these cases, misreporting may be more common. Even where young people know the type of qualification they have started, they may have problems recalling its level (e.g. NVQs may be followed at Level 1, 2 or 3, GNVQs at foundation, intermediate or advanced level). Qualifications undertaken in the context of work or work-based training may be less central to the lives of young people, and, therefore, less well understood than those taken by full-time students. Finally, young people may intentionally misreport results rather than admit failure or perceived under-achievement.

These concerns led to the decision to use administrative data on qualification outcomes in place of data obtained through the evaluation. However, it must be recognised that this use of administrative data may also lead to errors. If the

administrative records are complete, and if the matching is perfectly successful, then the results obtained from this process should be excellent. However, if the administrative records are incomplete (for instance, if an organisation fails to return all of its results) some young people will not be credited with qualifications attained. Similarly, if the matching process fails because information (such as name or date of birth) differs on the administration and survey records, the young person will not be credited with additional qualifications. The consortium evaluating the EMA pilots does not have access to information regarding the completeness of returns from organisations charged with supplying administrative data. In addition, there is no fail-safe way of identifying where a match has failed.

### ***Consistency between administrative and EMA survey records***

It is possible to compare qualifications reported in the survey with those derived from the administrative records. Where there is a mismatch, this may reflect errors on the part of the respondent and/or the school or college or problems with the matching process. A check was undertaken to attempt to identify 'process errors' (such as missing administrative records) that might lead to young people not being credited with qualifications actually attained. Information from the survey was used to identify four broad outcomes, which reflected where, according to the EMA survey, the young person had completed one or more:

- GCSE, GNVQ or NVQ by the end of Year 11;
- Post-Year 11 academic qualification, i.e. AS level, A level or GCSE;
- Post-Year 11 vocational qualification, i.e. GNVQ or AVCE.
- Post-Year 11 occupational qualification, i.e. NVQ.

For each outcome, the administrative records were checked to see if they concurred. It should be noted that, given these groupings, where a respondent reported completing an AS level, but the administration data only noted a GCSE, this would be counted as a match. Similarly, if the respondent reported completing a Level 3 NVQ but the administrative records only showed a Level 2, this would be a match. This acknowledges that young people might mistakenly report attaining a Level 3 GNVQ when they actually got a Level 2. If the checks were more specific (such as checking whether both datasets recorded a GNVQ Level 3, for instance) then this



would increase the likelihood that mismatches were the result of misreporting rather than a processing error. It would also result in many more cases being lost from the analysis. Table 5.1 presents the results of these checks.

**Table 5.1 Matches between Respondent Reports of Courses Completed and Administrative Records by Cohort**

	cell per cent			
	Cohort 1		Cohort 2	
	Pilot	Control	Pilot	Control
Year 11 qualification	90.2	90.0	96.0	97.1
Post-Year 11 academic	87.0	88.7	91.2	91.3
Post-Year 11 vocational	66.5	66.1	77.0	75.4
Post-Year 11 occupational	41.0	45.4	38.8	42.1
Unweighted N	1970	1231	2454	1452

Base: All EMA eligible young people who gave consent for their qualifications to be matched in 2002

For the first cohort, among EMA eligible young people who reported passing an examination by the end of Year 11, nine out of ten had a supporting record in the administrative data. Among those in the first cohort who said they had taken a post-Year 11 academic qualification, matching was marginally lower (at around 87-89 per cent). For those who took a vocational qualification matching rates were lower still (around two-thirds). Finally, where EMA eligible young people said that they had completed an occupational qualification (i.e. an NVQ), fewer than a half had a record of completing either an NVQ or a vocational qualification in the administrative data.

In the second cohort, agreement between the two datasets improved substantially for Year 11 qualifications and vocational qualifications. There was also some improvement in the matching rates for post-Year 11 academic qualifications. However, concurrence for occupational qualifications fell.

As Table 5.1 makes clear, matching was particularly poor for occupational qualifications. One likely contributing factor is that these qualifications do not necessarily entail sitting an examination. Consequently, young people may never be asked to verify personal details, such as name and date of birth. Any errors or omissions that occurred when the young person was initially registered may not, therefore, be amended and, hence, matching with EMA survey data will fail. By contrast, matching was most successful for academic qualifications, perhaps reflecting that academic examinations involve the rigorous checking of personal details.

The decision was made to remove all young people who said they had a certain type of qualification when asked as part of the survey but who had no record of this in the administrative data. For academic qualifications (GCSE, AS and A Levels) this was straightforward. If a young person said they had completed an academic qualification but there was no administrative record of this, they were excluded from all of the analysis in this chapter. However, it was recognised that respondents may have been confused about whether the qualifications they gained were vocational or occupational. Consequently, the selection process did not distinguish between vocational and occupational qualifications. Of those respondents who said they had a vocational or occupational qualification in the survey, those with no administrative record of either a vocational or occupational qualification were excluded from analysis.

Among EMA eligible young people, inconsistencies were more common among the first cohort than the second (20.6 per cent and ten per cent respectively). For the first cohort, these losses were somewhat higher in the pilot areas than the control areas (23 per cent and 20 per cent respectively; analysis not shown). However, in the second cohort, the difference between pilot and control areas was minimal (10.1 per cent and 9.9 per cent respectively).

Previous reports have shown that Year 11 high achievers (who attained five or more GCSEs at grades A\*-C) were likely to have subsequently started academic post-Year 11 courses and unlikely to have begun vocational courses. However, for young people who had been less successful at Year 11, the reverse was true.

Consequently, it is likely that, among young people who undertook post-Year 11 courses, losses due to matching failures disproportionately affected Year 11 low and moderate achievers. The bias that this may have introduced into the analysis is particularly unfortunate, given that the availability of EMA is known to have boosted participation in post-Year 11 education among Year 11 low and moderate achievers but to have had little effect on Year 11 high achievers (see Chapters 2 and 3). Table 5.2 (below) presents losses due to inconsistency between the datasets, broken down by Year 11 attainment. This is the only table in this chapter in which qualifications data have been derived from the EMA surveys.

In the first cohort, Year 11 low and moderate achievers were most likely to be mismatched, while non-achievers and high achievers were least likely to be. The relatively low failure rates among young people who did not pass any exams at Year 11 reflects that few of them subsequently undertook courses that could lead to qualifications. A similar pattern is evident among the second cohort except that losses among Year 11 high achievers are particularly low.

**Table 5.2 Losses due to Inconsistency between Datasets by EMA Year 11 Attainment and Cohort**

Year 11 Attainment	cell per cent			
	Cohort 1		Cohort 2	
	Pilot	Control	Pilot	Control
No GCSEs/GNVQs	16.5	14.0	11.0	8.3
No GCSEs at grade A*-C	31.0	27.3	15.1	14.9
1-4 GCSEs at grade A*-C	25.1	23.6	15.2	11.7
5+ GCSEs at grade A*-C	16.7	12.8	4.8	6.5
Unweighted Ns				
No GCSEs/GNVQs	79	43	100	60
No GCSEs at grade A*-C	319	205	423	241
1-4 GCSEs at grade A*-C	634	381	756	463
5+ GCSEs at grade A*-C	926	594	1157	674

Base: All EMA eligible young people who gave consent for their qualifications to be matched in 2002

Combining EMA eligible cases lost through attrition and those dropped through inconsistencies in qualifications, only about a third of the original first cohort (32.9 per cent) was available for this analysis. This contrasts with almost half of those from the second cohort (48 per cent). In the light of this, it may be expected that data from the second cohort would be more reliable than from the first. In addition, the introduction of EMA may have given rise to teething problems for schools and young people alike. A focus on the second cohort alone may give a clearer picture of the full potential of EMA. Finally, curriculum changes dramatically changed the options available to the two cohorts. Young people in the first cohort were highly unlikely to have undertaken AS Levels as these only became widely available in the autumn of 2000. Similarly, advanced GNVQs were available to young people in the first cohort but not to those in the second, while AVCEs were primarily available to the second cohort and not the first. As a consequence of these changes, it may be argued that the second cohort of young people involved in this evaluation experienced an educational landscape that was broadly comparable to that of subsequent cohorts while the landscape navigated by the first cohort was very different. Therefore, in this chapter alone, analysis is restricted to the second cohort of EMA eligible young people. Results derived from the second cohort only are inevitably based on a diminished sample size. Consequently, some of the tables reflect analysis performed upon a small number of young people, especially where post-16 destinations are considered separately.

### ***Qualifications and scoring***

It might be assumed that if young people in the pilot group gain more or better qualifications than young people in the control group then this could be attributed to EMA. However, it is clear from the previous quantitative reports (Ashworth et al., 2001, 2002) that EMA has drawn into post-16 education young people whose background characteristics are associated with lower educational outcomes and who had lower levels of attainment at the end of year 11. Therefore, simple comparisons of post-16 attainment between the pilot and control groups could suggest that the pilot groups are achieving no better, or are achieving worse results, than the control groups if no account is taken of the generally lower educational qualifications of young people who have been drawn into post-16 education by EMA. This could lead to the erroneous conclusion that EMA has a negative effect on post-16 attainment.

PSM techniques can take account of this. In addition, descriptive analysis in later sections of this chapter controls for Year 11 achievement levels.

Another issue arises from the fact that young people can choose from a large array of post-16 courses, including academic A and AS levels, as well as GCSE examinations; and from a range of vocational courses, principally, though not exclusively, GNVQ and NVQ courses. Unfortunately, as described in Chapter 1, the official scoring system that is used to equivalise achievement across different course types does not allow qualifications attained at different levels to be combined into a single score. This means that Level 3 and Levels 1/2 qualifications must be considered separately.

The scoring system that allows different qualifications (within levels) to be equivalised, has been described in Chapter 1, along with methods of allocating grade points to the different qualification results. In brief, achievement on Advanced GNVQs and AVCEs can be equivalised to A/AS level passes. Using separate scales, Foundation and Intermediate GNVQ achievement can be equivalised to GCSE passes (Levels 1 and 2). However, the Levels 1 and 2 scores cannot be equivalised to the Level 3 scores and NVQs are not included at all in the equivalisation procedures. As a consequence of the constraints of these different scoring systems, different summary measures of qualification achievement are used throughout this chapter.

## **5.2 The Impact of EMA on Attainment: PSM Analysis**

This section uses PSM techniques to address the question of whether or not EMA had any impact on the achievement of EMA eligible young people by the time they were 19 years of age, three years after the end of compulsory education.

Achievement has been measured in a number of ways, each of which is based upon young people's attainment recorded in administrative data, as described in the previous section.

Young people's post-16 qualifications (the outcome variables of interest throughout the analysis) are considered at three possible levels as follows<sup>31</sup>:

Level 1	Level 1 NVQ
Level 2	A*-C GCSE/Intermediate GNVQ/Level 2 NVQ
Level 3	A/AS level/Advanced GNVQ/Level 3 NVQ or AVCEs (three, six or 12 units).

The remainder of this section considers whether EMA had an impact on qualifications at the three levels discussed above, for eligible urban young men and women and for eligible urban young people overall. As in other sections of the impact analysis, rural areas have been excluded from the analysis because of small sample sizes. The number of Level 3 NVQs has also been excluded from the analysis because very few young people were recorded as having such qualifications (only 1.5 per cent of the sample).

Throughout, the PSM results have not been weighted. This is because, as discussed in Chapter 1 and 2, the decrease in sample sizes as a result of attrition makes it likely that weighted results would be driven by outliers. Furthermore, if attrition was non-random, weighted results would not necessarily be representative of the effect on the overall population. However, it is worth noting that the overall trend of the effects is the same whether weighted or non-weighted estimates are considered.

### 5.2.1 Achievement at Level 3

Three measures of attainment at Level 3 are examined:

- **Total Level 3 points:** This is the sum of points from both academic Level 3s (AS, A, and A2 levels) and vocational Level 3s (advanced GNVQs and 3, 6 or 12 unit AVCEs)
- **Academic score:** This is the sum of grades for all of the A, A2 and AS levels
- Dummy for whether the individual obtained two+ A levels or equivalent after year 11.

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<sup>31</sup> It is possible for a young person to obtain qualifications within more than one level.

Table 5.3 shows results for the first two of these Level 3 measures for matched eligible young men and young women in Cohort 2, across urban areas while Table 5.4 reports the results for the third Level 3 measure.<sup>32</sup> None of the differences reported in either of these tables is statistically significant at conventional levels.

**Table 5.3 The Impact of EMA on Level 3 Points and Academic Score, Cohort 2**

			cell mean
	Pilot	Control	Effect
<b>Urban ALL</b>			
Total level 3 points	10.59	10.66	-0.07 (0.89)
Academic score	9.57	9.70	-0.13 (0.88)
<i>Matched sample size</i>	1,557		
<i>% eligible for EMA</i>	65.2		
<b>Urban YOUNG MEN</b>			
Total level 3 points	9.60	9.26	0.34 (1.15)
Academic score	8.73	8.72	0.00 (1.16)
<i>Matched sample size</i>	764		
<i>% eligible for EMA</i>	64.1		
<b>Urban YOUNG WOMEN</b>			
Total level 3 points	11.54	12.00	-0.45 (1.21)
Academic score	10.39	10.64	-0.25 (1.20)
<i>Matched sample size</i>	793		
<i>% eligible for EMA</i>	66.3		

Base: All EMA eligible young people from Cohort 2 who remained in the study in 2002.

Note: Standard errors in parentheses. The lower the ratio of the estimated effect to the standard error, the lower is the precision of the estimated effect. Broadly speaking, if the ratio is below two, the effect cannot be considered to be statistically different from zero at conventional levels.

<sup>32</sup> The results in this PSM section are not weighted. The analysis has been confined to Cohort 2 for the reasons outlined in Section 5.1.1. However, results from pooling both cohorts are qualitatively the same and are available upon request.

**Table 5.4 The Impact of EMA on Attaining two+ A Levels or Equivalent, Cohort 2**

				<b>cell proportion</b>	
	<i>% eligible for EMA</i>	<i>Matched sample size</i>	<b>Pilot</b>	<b>Control</b>	<b>Effect</b>
Urban all	65.2	1,557	0.421	0.428	-0.007 (0.03)
Urban young men	64.1	764	0.386	0.365	0.021 (0.04)
Urban young women	66.3	793	0.455	0.489	-0.034 (0.04)

Base: All EMA eligible young people from Cohort 2 who remained in the study in 2002.

Note: Standard errors in parentheses. The lower the ratio of the estimated effect to the standard error, the lower is the precision of the estimated effect. Broadly speaking, if the ratio is below two, the effect cannot be considered to be statistically different from zero at conventional levels.

### **5.2.2 Achievement at Levels 1 and 2**

Three qualifications at Levels 1 and 2 are considered:

- Dummy for whether individual obtained 5+ A\*-C GCSEs or equivalent after Year 11
- Number of Level 2 NVQs
- Number of Level 1 NVQs.

As with the previous tables, the pilot/control differences reported in Tables 5.5 and 5.6 are not statistically significant at conventional levels.



**Table 5.5 The Impact of EMA on Attaining five+ A\*-C GCSEs or Equivalent, Cohort 2**

	<b>cell proportion</b>				
	<i>% eligible for EMA</i>	<i>Matched sample size</i>	<b>Pilot</b>	<b>Control</b>	<b>Effect</b>
Urban all	79.0	771	0.374	0.407	-0.033 (0.04)
Urban young men	77.3	409	0.325	0.359	-0.034 (0.06)
Urban young women	81.1	362	0.428	0.460	-0.032 (0.07)

Base: All EMA eligible young people from Cohort 2 who remained in the study in 2002.

Notes: Number of Level 2 A\*-C equivalents including GCSEs, short GCSEs, GNVQs and NVQs. Standard errors in parentheses. The lower the ratio of the estimated effect to the standard error, the lower is the precision of the estimated effect. Broadly speaking, if the ratio is below two, the effect cannot be considered to be statistically different from zero at conventional levels.

**Table 5.6 The Impact of EMA on Attaining Level 1 or Level 2 NVQs, Cohort 2**

	<b>cell mean</b>		
	<b>Pilot</b>	<b>Control</b>	<b>Effect</b>
<b>Urban ALL</b>			
Number of Level 2 NVQs	0.103	0.126	-0.023 (0.02)
Number of Level 1 NVQs	0.046	0.043	0.003 (0.01)
Matched sample size	1,557		
% eligible for EMA	65.2		
<b>Urban YOUNG MEN</b>			
Number of Level 2 NVQs	0.089	0.091	-0.002 (0.03)
Number of Level 1 NVQs	0.048	0.063	-0.015 (0.02)
Matched sample size	764		
% eligible for EMA	64.1		
<b>Urban YOUNG WOMEN</b>			
Number of Level 2 NVQs	0.117	0.160	-0.043 (0.03)
Number of Level 1 NVQs	0.044	0.024	0.020 (0.02)
Matched sample size	793		
% eligible for EMA	66.3		

Base: All EMA eligible young people from Cohort 2 who remained in the study in 2002.

Note: Standard errors in parentheses. The lower the ratio of the estimated effect to the standard error, the lower is the precision of the estimated effect. Broadly speaking, if the ratio is below two, the effect cannot be considered to be statistically different from zero at conventional levels.

### **5.2.3 Conclusion**

The PSM analysis of this sample did not detect any statistically significant impact of EMA on post-16 attainment measured in a number of ways. However, the lack of evidence of a positive impact on educational achievement does not seem consistent with the strong evidence that EMA has led to more young people continuing in further education. In addition to the loss of young people from the analysis because of failure to match administrative data on achievement, described in Section 5.1, it may be that the set of variables used in the matching procedure is not appropriate for examining education achievement in post-16 education. Variables were chosen that were known to affect participation in post-16 education. Whilst these are also important determinants of attainment, there may be other variables that specifically affect attainment that have not been observed in our data.

### **5.3 EMA and Achievement: Descriptive Analysis of Second Cohort**

The majority of eligible young people who remained in full-time post-16 education were Year 11 high achievers and EMA has not been shown to increase participation and retention among this group. Consequently, the outcomes of low and moderate achievers may be overshadowed by those of high achievers. PSM analysis could not be reliably undertaken for the individual Year 11 attainment groups due to the loss of cases associated with this matching technique (including the inability to incorporate rural areas). In the rest of this chapter, weighted descriptive comparisons are used to consider post-16 attainment broken down by Year 11 achievement. However, results deriving from this analysis are, themselves, problematic.

As discussed, the high level of attrition across the life of the panel, and problems with data matching, may have undermined the representativeness of the sample and cast doubt on the robustness of any analysis of post-16 attainment. Here, these problems are compounded because the already attenuated sample is split into three subgroups, reflecting attainment by the end of Year 11. Consequently, any

observations derived from the descriptive analysis should be viewed as, at best, suggestive. However, these descriptive analyses may shed light on whether the availability of EMA differentially affected eligible young people with varying levels of Year 11 attainment. Due to the small number of Year 11 non-achievers who remained in the survey in 2002, these young people have been subsumed within the low achievers group (who attained GCSEs at grade D or below, or their equivalent).

The section begins with a description of differences between the pilot and control areas in terms of young people's achievements at the end of Year 11, to provide a context for subsequent analysis.

### **5.3.1 Year 11 attainment differences in the pilot and control areas**

The EMA surveys were designed so that the pilot and control areas would have as similar levels as possible of socio-economic disadvantage, Year 11 attainment, and retention in post-compulsory education. However, the area matching was imperfect. In particular, Year 11 attainment was higher in the control areas than in the pilot areas, when Year 11 achievement was measured as the number of GCSE and GNVQ examination passes. This information is presented in Table 5.7 and is derived from administrative qualifications records (as are all subsequent tables).

Among the EMA eligible young people who remained in the study by 2002, achievement of five or more GCSEs (or their equivalent) by the end of Year 11 had been less common in the pilot areas than in the control areas. Correspondingly, more young people in the pilot areas were moderate achievers who had gained between one and four GCSEs at grades A\*-C. These differences are likely to have had an impact upon relative attainment in the pilot and control areas.

**Table 5.7 Year 11 Attainment: All EMA Eligible Young People in Second Cohort**

Year 11 Qualifications	column per cent	
	Pilot	Control
No GCSEs at grade A*-C	29.1	27.5
1-4 GCSEs at grade A*-C	29.0	26.9
5+ GCSEs at grade A*-C	41.8	45.7
N (unweighted)	2205	1311

Base: All EMA eligible young people from Cohort 2 who remained in the study in 2002. Pilot and attrition weights applied.

This broad categorisation does not necessarily take full account of pilot and control differences in prior attainment. Residual pilot-control differences can be quantified by considering the mean GCSE point score of the two groups (where an A grade is given a score of eight and a G grade is given a score of one). Among Year 11 low achievers, the mean score in the pilot areas was marginally higher than in the control areas (by 0.3 points). The same was true among Year 11 high achievers (0.2 points). However, among Year 11 moderate achievers, attainment was substantially higher in the pilot areas than in the control areas (by 1.4 points). This difference should be taken into consideration when interpreting comparisons relating to this group.

### **5.3.2 Achievement among all EMA eligible young people in second cohort**

As previous chapters of this report have shown, the availability of EMA in the pilot areas had the effect of increasing participation in post-compulsory full-time education among eligible young people who were low and moderate achievers at the end of Year 11. Table 5.8 outlines the economic activity of EMA eligible young people a few months after the end of compulsory education, broken down by Year 11 attainment. This table is based upon young people in the second cohort who remained in the survey in 2002. Consequently, it should not be viewed as giving the best estimate of the impact of EMA upon destinations (for this, see Middleton et al.,

2003); rather it offers a context for understanding subsequent results relating to post-16 attainment.

Among Year 11 low achievers (no GCSEs at grades A\*-C), the rate of retention in full-time education at the end of Year 11 was substantially higher in the pilot areas than in the control areas (48.1 per cent and 41.4 per cent respectively). In addition, compared with their counterparts in the control areas, fewer low achievers in the pilot areas were not in employment, education or training (25.2 per cent compared with 35.2 per cent). These findings indicate that, among low achievers in this sample, EMA had the effect of increasing participation in full-time education by 6.7 percentage points and that the majority of these 'converts' would otherwise have been NEET (not in employment, education or training).

Among Year 11 moderate achievers, the apparent impact of EMA on retention in full-time education at the age of 16 was 11.4 percentage points (75.8 per cent in the pilot areas and 64.4 per cent in the control areas). This was associated with a lower rate of entry into work or work-based training in the pilot areas than in the control areas (5.5 percentage points) and a lower rate of entry into the NEET category (5.9 percentage points). The results for high achievers indicate that the availability of EMA did not influence the post-16 destinations of Year 11 high achievers.

**Table 5.8 Destinations following Year 11: All EMA Eligible Young People in Second Cohort**

Year 11 Attainment	column per cent	
	Pilot	Control
<b>No GCSEs at grade A*-C</b>		
Full-time education	48.1	41.4
Full-time work or work-based training	26.7	23.5
NEET	25.2	35.2
<b>1-4 GCSEs at grade A*-C</b>		
Full-time education	75.8	64.4
Full-time work or work-based training	17.0	22.5
NEET	7.2	13.1
<b>5+ GCSEs at grade A*-C</b>		
Full-time education	91.4	91.7
Full-time work or work-based training	5.7	5.4
NEET	2.9	2.9
N (unweighted)		
No GCSEs at A*-C	445	260
1-4 GCSEs at A*-C	586	357
5+ GCSEs at A*-C	1174	694

Base: All EMA eligible young people in second cohort who remained in the study in 2002. Pilot and attrition weights applied.

***Highest qualification by Age 18: All Eligible Young People in second cohort***

Table 5.9 outlines the highest level of academic, vocational or occupational qualification attained in the two years following the end of compulsory education. Level 1 qualifications are GCSEs at grade D-G and NVQs or GNVQs at Level 1. Level 2 qualifications are GCSEs at grades A\*-C and Level 2 NVQs and GNVQs. Level 3 qualifications are AS Levels, A Levels, Level 3 GNVQs and AVCE qualifications. For each of these levels, attaining just one relevant qualification is enough to count as attainment at that level.

Among Year 11 low achievers, non-attainment was less common in the pilot areas than in the control areas (65.7 per cent and 72.3 per cent respectively) whilst

attainment at Level 1 was more common (15.4 per cent and 10.7 per cent respectively). Overall, just under a fifth of low achievers in the pilot areas (18.9 per cent) had attained a qualification at Level 2 or Level 3, compared with 17.1 per cent in the control areas.

Among Year 11 moderate achievers, just over half of young people in the two sets of areas had either gained a Level 1 only or had no new qualifications. More young people in the pilot areas had reached Level 3 than in the control areas (19.2 per cent compared with 13.8 per cent).

Among Year 11 high achievers, in both sets of areas, around three-quarters had gained a Level 3 qualification while about a fifth had not gained any new qualification.

**Table 5.9 Highest Qualification by Age 18: All EMA Eligible Young People in Second Cohort**

Year 11 Attainment	column per cent		
	Pilot	Control	Effect
<b>No GCSEs at grade A*-C</b>			
No new qualification	65.7	72.3	-6.6
Level 1	15.4	10.7	4.7
Level 2	18.0	15.4	2.7
Level 3	0.9	1.7	-0.8
<b>1-4 GCSEs at grade A*-C</b>			
No new qualification	44.3	46.1	-1.8
Level 1	10.1	8.7	1.4
Level 2	26.4	31.4	-5.0
Level 3	19.2	13.8	5.4
<b>5+ GCSEs at grade A*-C</b>			
No new qualification	19.6	19.9	-0.3
Level 1	0.9	0.9	0.0
Level 2	3.2	3.8	-0.6
Level 3	76.3	75.4	0.9
N (unweighted)			
No GCSEs at A*-C	445	260	
1-4 GCSEs at grade A*-C	586	357	
5+ GCSEs at grade A*-C	1174	694	

Base: All EMA eligible young people in second cohort who remained in the study in 2002. Pilot and attrition weights applied.

***Threshold attainment by Age 18: All EMA eligible young people in second cohort***

The next table (Table 5.10) considers movement across two thresholds by the age of 18. The first block (the Level 2 threshold) considers movement from having fewer than five high grade GCSEs (or their vocational or occupational equivalent) at Year 11 to having five or more in the two years following the end of compulsory education. As well as taking account of all Level 2 qualifications, this measure treats an A Level pass, or two AS Level passes, as being equal to five GCSEs at grades A\*-C. Consequently, if a young person had three high grade GCSEs at the end of Year 11 and subsequently passed an A Level, but did not attain any additional Level 2



qualifications, they would be treated as having crossed this Level 2 threshold. The second block (the Level 3 threshold) shows the proportion attaining two A Levels, or their equivalent, by the age of 18.

Among Year 11 low achievers around one in ten of each group had crossed the Level 2 threshold by the age of 18. For moderate achievers there was also little difference between the pilot and control areas, with just over two-fifths of each group crossing this threshold.

By the age of 18, few low achievers had crossed the Level 3 threshold (two A Levels or the equivalent). For moderate achievers, attainment was more common in the pilot areas than in the control areas (12.8 per cent in the pilot areas compared with seven per cent in the control areas). Among high achievers, just under two-thirds of each group had crossed the Level 3 threshold, with attainment at this level being somewhat higher in the pilot areas than in the control areas (66.2 per cent compared with 64.5 per cent).

**Table 5.10 Threshold Attainment by Age 18: All EMA Eligible Young People in Second Cohort**

Year 11 Attainment	cell per cent		
	Pilot	Control	Effect
<b>Crossed Level 2 threshold</b>			
No GCSEs at grade A*-C	10.1	9.4	0.7
1-4 GCSEs at grade A*-C	42.2	42.5	-0.3
<b>Crossed Level 3 threshold</b>			
No GCSEs at grade A*-C	0.2	1.1	-0.9
1-4 GCSEs at grade A*-C	12.8	7.0	5.8
5+ GCSEs at grade A*-C	66.2	64.5	1.7
N (unweighted)			
No GCSEs at grade A*-C	445	260	
1-4 GCSEs at grade A*-C	586	357	
5+ GCSEs at grade A*-C	1174	694	

Base: All EMA eligible young people in second cohort who remained in the study in 2002. Pilot and attrition weights applied.

***Threshold attainment by Age 19: All EMA eligible young people in second cohort***

Table 5.11 considers threshold attainment at age 19. As in the previous section, the measures considered here are the Level 2 and Level 3 thresholds, i.e. attainment of five GCSEs at grade C or above (or the vocational or occupational equivalent) and attainment of two A Levels (or the equivalent) respectively.

Table 5.10 revealed that, among Year 11 low achievers, pilot-control differences in Level 2 attainment at age 18 were minimal; in both areas around one in ten young people had crossed this threshold. A year later, Level 2 attainment in the pilot areas had increased substantially (to 17.5 per cent; Table 5.11) whereas in the control areas, the increase was modest (up to 12.6 per cent). By the age of 19, very few low achievers had crossed the Level 3 threshold.

For Year 11 moderate achievers, the pilot-control difference in Level 2 attainment was negligible at age 19 with just under half of each group having crossed the threshold. However, looking at the Level 3 threshold measure at the age of 19, moderate achieving young people in the pilot areas outperformed their counterparts in the control areas (17.3 per cent compared with 13.8 per cent).

By age 19, around seven out of ten high achievers in each group had gained two A Levels or their equivalent.

**Table 5.11 Threshold Attainment by Age 19: All EMA Eligible Young People in Second Cohort**

Year 11 Attainment	Pilot	Control	cell per cent
			Effect
<b>Crossed Level 2 threshold</b>			
No GCSEs at grade A*-C	17.5	12.6	4.9
1-4 GCSEs at grade A*-C	48.4	48.5	-0.1
<b>Crossed Level 3 threshold</b>			
No GCSEs at grade A*-C	2.5	2.8	-0.3
1-4 GCSEs at grade A*-C	17.3	13.8	3.5
5+ GCSEs at grade A*-C	70.5	69.6	0.9
N (unweighted)			
No GCSEs at grade A*-C	445	260	
1-4 GCSEs at grade A*-C	586	357	
5+ GCSEs at grade A*-C	1174	694	

Base: All EMA eligible young people in second cohort who remained in the study in 2002. Pilot and attrition weights applied.

## 5.4 Conclusion

This chapter has emphasised the difficulties that the evaluation consortium has faced in measuring accurately the qualifications attainment of young people after the end of compulsory education, which can be summarised as follows.

Concerns about the accuracy of young people's self-reporting of qualifications achieved led to the decision to use matched administrative data on qualifications. But young people who did not give permission for their data to be matched, and failures in the matching procedure, meant that significant numbers of young people were lost from the analysis, particularly from the first cohort. The attrition weights used in the descriptive analysis were not constructed to take account of these losses from the sample. Due to the high level of attrition in the later stages of the evaluation, the PSM analysis did not use weights and this raises further concerns about the robustness of findings using this technique at this stage of the evaluation.

In addition, the matching procedures used in PSM analysis were designed to take into account characteristics known to be associated with young people's decisions to participate in post-16 education and these are not necessarily all the characteristics that best predict achievement post-16. These concerns need to be borne in mind in considering the findings of both PSM and descriptive analysis, which are based on the second cohort of EMA eligible young people.

#### **5.4.1 PSM analysis**

The PSM analysis reported in Section 5.2 did not detect any statistically significant impact of EMA on post-16 attainment measured in a number of ways.

#### **5.4.2 Descriptive analysis**

##### **5.4.2.1 All EMA eligible young people**

The table of effects below (Table 5.12) is derived from the attainment tables included in the descriptive section of this chapter. It shows the percentage point difference between attainment in the pilot and control areas, for Cohort 2 only. In all cases, a positive number indicates a positive effect of EMA (i.e. attainment is higher in the pilot areas than in the control areas) while a negative number indicates a negative effect. As with the rest of the descriptive analysis, these 'effects' should be viewed as no more than suggestive of possible associations between EMA availability and post-16 qualification outcomes. Given the consortium's concerns about data quality and sample size, these figures cannot be used to estimate the impact of EMA following its national implementation.

In Table 5.12, differences in attainment at Level 3 are not recorded for Year 11 low achievers as rates were universally very low; consequently, results were likely to be unreliable. The figures in the 'any qualification' and 'better qualification' block are based on Table 5.9. 'Any attainment' includes cases where the highest post-16 qualification is lower than, or at the same level as, those attained by the end of Year 11. 'Better qualification' only records new qualifications that are above those gained at Year 11. Where young people had not got any qualifications at all at Year 11, attainment at Level 1 or above is an improvement. For those who gained GCSEs at

no more than a D grade (or their equivalent) attainment at Level 2 or above is recorded. For moderate and high achievers, attainment of any qualification at Level 3 is counted as improvement<sup>33</sup>.

Table 5.8 has shown that the availability of EMA increased participation in post-Year 11 full-time education among eligible young people in the pilot areas. However, this effect was not apparent among high achievers. Consequently, it may be anticipated that, for Year 11 low achievers and moderate achievers, post-16 attainment rates would be higher in the pilot areas than in the control areas.

**Table 5.12 Summary of Effects: EMA Eligible Young People in Cohort 2**

Table	Measure	Year 11 Attainment	Effect
5.9	Any new qualification by age 18	Low/none	6.6
		Medium	1.8
		High	0.3
5.9	Better qualification by age 18	Low/none	1.6
		Medium	5.4
		High	0.9
5.10	Crossed L2 threshold by age 18	Low/none	0.7
		Medium	-0.3
5.10	Crossed L3 threshold by age 18	Medium	5.8
		High	1.7
5.11	Crossed L2 threshold by age 19	Low/none	4.9
		Medium	-0.1
5.11	Crossed L3 threshold by age 19	Medium	3.5
		High	0.9

Base: All EMA eligible young people in Cohort 2 who remained in the study in 2002. Pilot and attrition weights applied.

Among all Year 11 low achievers, those in the pilot areas were more likely to have gained an additional qualification by the age of 18 (6.6 per cent) although the difference in the rates of attaining a better qualification was lower (1.6 percentage points). This indicates that low achievers in the pilot areas had a tendency to

<sup>33</sup> Due to the differing treatment of non-achievers and low achievers, the effects for the combined 'low achievers' group does not tally with Table 5.9.

achieve additional Level 1 qualifications (equivalent to a GCSE at grades D-G). This is supported by the results for crossing the Level 2 threshold by the age of 18; overall, for low achievers, there was minimal difference between the pilot and control areas (0.7 percentage points). A year later, at the age of 19, the attainment rate for the Level 2 threshold was higher in the pilot areas than in the control areas (by 4.9 percentage points). It is possible that low- and non-achievers in the pilot areas who only accrued Level 1 qualifications in the two years following the end of Year 11 subsequently built upon this, either in the labour market or by remaining in full-time post-16 education for a third year.

Among Year 11 moderate achievers, those in the pilot areas had a higher rate of crossing the Level 3 threshold by the age of 18 than those in the control areas (by 5.8 percentage points) although this had attenuated somewhat by the following year (to 3.5 percentage points). However, it must be borne in mind that moderate achievers in the pilot areas had a higher mean GCSE points score by the end of Year 11 than their counterparts in the control areas and this may have inflated their post-16 attainment even without the availability of EMA.

Among all Year 11 high achievers, the rate of crossing the Level 3 threshold by the age of 18 was slightly higher in the pilot areas than in the control areas (1.7 percentage points); however, a year later this had decreased to less than one percentage point. Overall, there is no suggestion that EMA had an impact upon attainment among most high achievers; this is consistent with the conclusion that EMA did not influence their post-16 destinations.

Exploratory analysis indicated one possible EMA effect upon Year 11 high achievers (analysis not shown). Among the small minority of high achievers who were in full-time education early in Year 12 but who were not in full-time education a year later, there was a large difference in attainment by the age of 18. This group only comprised 132 individuals (77 in the pilot areas and 55 in the control areas) so any interpretation has to be extremely tentative. However, 44.2 per cent of those in the pilot areas attained a Level 3 qualification by the age of 18 compared with just 26.5 per cent of their counterparts in the control areas. This may indicate that the availability of EMA persuaded high achievers who were disaffected with post-16

education to remain in school or college long enough to complete their AS Level course, while those living in areas where EMA was not available left part-way through the year.

Exploratory PSM analysis was performed for each of these groups and for a range of attainment measures (results not shown). In each case, differences between pilot and control areas were not statistically significant at conventional levels.

#### **5.4.2.2 EMA eligible young people by destination at age 16**

Appendix C contains tables reflecting attainment among eligible young people who were in full-time education in the months following the end of Year 11 (Tables C1 to C3) and among those who were in work or work-based training at this time (Tables C4 to C6). Results relating to threshold attainment at the age of 19 are reproduced below for selected groups. Due to the relatively small numbers who entered work or work-based training at the age of 16, and the fact that the control group was always smaller than the pilot group, the interpretation of these results is limited to a pilot/control comparison of EMA eligible young people who entered full-time education at the age of 16, and, for the pilot areas only, a comparison of those who remained in full-time education at age 16 and those who entered the labour market at age 16.

Chapter 2 of this report identified that, for low and moderate achievers, the availability of EMA not only encouraged participation in post-16 education, it also increased retention across subsequent terms. Among low and moderate achieving eligible young people who were full-time students in the months following the end of Year 11, this may be expected to lead to higher rates of post-16 attainment in the pilot areas than in the control areas.

Although this descriptive analysis compares young people with a similar level of Year 11 attainment, it cannot be assumed that this single characteristic 'irons out' all of differences between EMA converts to full-time education and those who would have taken this route without the inducement of EMA. Young people who would normally have entered the labour market at the age of 16 may have less enthusiasm or aptitude for education than those who would have chosen this course without a cash

inducement. Consequently, EMA 'converts' to post-16 education (and so the pilot areas as a whole) may not make the same gains as their student counterparts in the control areas. Despite this, EMA will still have had a positive outcome if, in the pilot areas, the post-16 attainment of those who remained in full-time education is greater than those who took a different path.

As previously, it is important to get a sense of residual pilot/control differences in Year 11 attainment within the broad Year 11 categories. Among low achievers in full-time education at the age of 16, the mean GCSE score was lower in the pilot areas than that in the control areas (16 compared with 17.8). Within the pilot areas, there was little difference in the mean scores of those in full-time education and those in work or work-based training (16 and 15.7 respectively).

Among moderate achievers in full-time education at age 16, the mean GCSE score was higher in the pilot areas than in the control areas (32.7 compared with 31.6). Within the pilot areas, those in education had a higher mean score than those in the labour market (32.7 and 30.6 respectively).

For high achievers living in the pilot and control areas, mean GCSE scores among Year 12 students were very similar (52.1 and 52). However, in the pilot areas, those in full-time education had a higher mean score than those who had entered the labour market (52.1 and 48.5 respectively).



**Table 5.13 Threshold Attainment at Age 19: Selected Results from Appendix C**

Year 11 Attainment	cell per cent		
	Pilot Full-time education	Control Full-time education	Pilot Work/based training
<b>Crossed Level 2 threshold</b>			
No GCSEs at grade A*-C	19.7	18.6	23.7
1-4 GCSEs at grade A*-C	55.9	54.2	29.2
<b>Crossed Level 3 threshold</b>			
1-4 GCSEs at grade A*-C	22.9	19.0	1.0
5+ GCSEs at grade A*-C	76.2	75.7	7.8
N (unweighted)			
No GCSEs at grade A*-C	233	123	114
1-4 GCSEs at grade A*-C	449	245	92
5+ GCSEs at grade A*-C	1084	638	57

Base: EMA eligible young people in second cohort. Pilot and attrition weights applied.

Where Year 11 low achievers were full-time students at Year 12, attainment of the Level 2 threshold by the age of 19 was slightly higher in the pilot areas than in the control areas (19.7 per cent compared with 18.6 per cent; Table 5.13) even though the mean GCSE score in the pilot areas was lower than in the control areas. This is consistent with EMA having the effect of encouraging retention in education beyond Year 12. However, in the pilot areas, a lower proportion of those who had remained in full-time education had crossed the Level 2 threshold by the age of 19 than those who entered the labour market (19.7 per cent compared with 23.7 per cent). This cannot be attributed to differences in mean GCSE scores. Although this could be interpreted as a 'poor' EMA outcome for low achievers in the pilot areas, it should be remembered that the draw into full-time education at the age of 16 was predominantly from the NEET group, where attainment by the age of 19 was very low for all measures (analysis not shown).

Among Year 11 moderate achievers who were in full-time education in Year 12, the rate of attainment of the Level 3 threshold by the age of 19 was higher in the pilot areas than in the control areas (by 3.9 percentage points). However, it must be

borne in mind that the mean Year 11 GCSE score was somewhat higher in the pilot areas than in the control areas. Among those in work or work-based training at the age of 19, just one per cent attained the Level 3 threshold. Within the pilot areas, attainment of the Level 2 threshold (or above) by age 19 was much more common among those who remained in education than among those who entered work or work-based training (55.9 per cent and 29.2 per cent respectively).

Finally, among Year 11 high achievers in full-time education at the age of 16, there was very little difference in the proportions in the pilot and control areas who had crossed the Level 3 threshold by the age of 19 (0.5 points). In the pilot areas, more than three-quarters of high achievers who had entered full-time education at the age of 16 had crossed the Level 3 threshold by the age of 19; among those who had entered the labour market, the proportion attaining this level was just 7.8 per cent.

#### **5.4.2.3 Summary**

The PSM analysis did not identify an EMA effect upon post-16 attainment. However, the descriptive analysis suggests that there may be a small EMA effect for Year 11 low and moderate achievers. Given the substantial impact of EMA upon participation and retention in post-16 education, larger effects might have been anticipated for these groups. These muted outcomes may indicate that young people who were encouraged to remain in full-time education by the availability of EMA differ substantively from those who traditionally take this route, perhaps in terms of ambition, aptitude or temperament. Changes in post-16 provision may also have an impact on attainment. It will be interesting to see whether, as the increased participation and retention caused by EMA becomes embedded and learning providers exploit the bonuses, attainment rates even for lower achievers drawn in by EMA, begin to improve. As has been discussed in the technical parts of this chapter, that would require extensive and complex evaluation.

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**APPENDIX A**  
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## **APPENDIX B**

# **THE EMA EVALUATION SURVEYS: DESIGN, SAMPLING AND RESPONSE RATES**

## B1 Design of the Statistical Evaluation

The design of the statistical evaluation was a longitudinal cohort study involving large surveys of random samples of young people in the 10 EMA pilot areas and 11 control areas<sup>34</sup>.

Box B1.1 summarises the design of the statistical evaluation. Two cohorts of young people were studied, young people who completed Year 11 (the end of compulsory schooling) in summer 1999 and in summer 2000. The first wave of interviews with each cohort was conducted face-to-face when the young person was approximately 16 years of age and included an interview with a parent or guardian of the young person. Three subsequent waves of telephone interviews were undertaken at annual intervals, when the young person was approximately 17, 18 and 19 years old<sup>35</sup>.

### Box B1.1 Survey Design

<b>EMA Cohort 1</b>				
Wave 1 Face-to-Face 1999	→	Wave 2 Telephone 2000	Wave 3 Telephone 2001	Wave 4 Telephone 2002
<b>EMA Cohort 2</b>				
Wave 1 Face-to-Face 2000	→	Wave 2 Telephone 2001	Wave 3 Telephone 2002	Wave 4 Telephone 2003

## B2 Questionnaires

All questionnaires were designed in consultation with the DfES.

<sup>34</sup> Details of how the control areas were selected can be found in Ashworth et al. (2001).

<sup>35</sup> Face-to-face interviews are carried out with young people who have no access to a telephone.



Wave 1 interviews included:

**A household and parent/guardian's questionnaire** to provide information about:

- household composition, relationships, tenure, income and ethnicity;
- education decisions and current activities of the young person's siblings;
- parent's occupation and educational qualifications;
- involvement of parents in the young person's decisions about what to do at the end of Year 11;
- the young person's childhood;
- parent's attitudes to education; and
- sources of funding for the young person post-16 including EMA.

**A young person's questionnaire**, which covered:

- activities since Year 11 and at the time of interview, including courses being studied and part-time work for those in full-time education;
- experiences during Years 10 and 11 at school, including qualifications entered for and obtained;
- Year 11 decisions about what to do next, sources of advice and help, and reasons for decisions;
- distances travelled to school or college and travel costs;
- sources and amounts of income, including EMA; and
- expenditure patterns and amounts.

The questionnaires for young people at the subsequent three waves had the following core components:

- activities since the previous interview;
- reasons for activity changes;
- decision-making and future plans;
- qualifications started and completed since the previous interview;
- expenditure patterns and amounts.

Additional modules collected information about:

- sources of funding for students, including EMA at Waves 1 and 2;
- entry into Higher Education at Waves 3 and 4;
- sources of funding, both for HE and post-16 education, (including EMA) at Waves 3 and 4;
- experiences during higher education at Wave 4.

### **B3 Sample Sizes and Response Rates**

Sample sizes drawn for the first wave of interviews with each cohort had to be sufficiently large to:

- allow statistically significant differences of approximately five percentage points in participation, retention and achievement between pilots and controls and between the different EMA variants to be measured; and
- take account of the proportion of young people who would inevitably drop out of the evaluation in subsequent waves of interviews (sample attrition).

Wave 1 (Year 12) samples were drawn by the Department for Work and Pensions (DWP<sup>36</sup>) from Child Benefit records, following specifications provided by the National Centre for Social Research.

The target populations were young people born between 1 September 1982 and 31 August 1983 (Cohort 1 EMA), and between 1 September 1983 and 31 August 1984 (Cohort 2 EMA) who lived in one of the 21 pilot and control LEA areas covered by the study, as defined by their postcode. A small proportion of 'cases in action' was excluded by the DWP.

The National Centre specified a random method for selecting the required number of young people from each LEA, to form the total samples. The additional sample above target was to allow for attrition arising from 'opt-out' (see below) and non-response.

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<sup>36</sup> Formerly the Department of Social Security (DSS), at the time these procedures were carried out.

The target number differed between LEAs according to whether they were pilot or control areas. For urban LEAs a simple random sample of eligible young people was drawn. For rural LEAs, which covered larger distances, a two stage sampling method was followed with a first stage of selecting postcode sectors with probability according to their populations of eligible young people, and a second stage of selecting a fixed number of young people.

Following selection of the sample an opt-out mailing was administered. The letter was addressed to the parent or guardian who received Child Benefit for the young person.

The Wave 2 (17 years old) sample was drawn from young people who had agreed to be re-interviewed at the Wave 1 (16 years old) stage. However, not all of the young people who responded in the first wave were issued for re-interviewing in the second wave. The original design proposed dropping young people from the Wave 2 (17 years old) sample who were income ineligible for EMA<sup>37</sup>. In the event, young people were excluded from the second wave sample if they or their parents had provided no usable income data in Wave 1 (16 years old), hence their eligibility for EMA could not be determined. Once this group was excluded, along with people who could no longer be traced, it was possible to follow the remaining eligible and ineligible Wave 1 (16 years old) respondents. The exceptions to exclusion through a failure to provide income data were young people who were defined as 'vulnerable' and, therefore, of potential interest to the evaluation of the EMA Extension Pilots. Vulnerable young people met one or more of the following criteria: they lived with neither biological parent, had a child or were pregnant, or had special educational needs or a disability. These young people were included in the sample issued for Wave 2.

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<sup>37</sup> As the focus of the research was on the impact of EMA on eligible young people, the extra cost of following ineligibles initially was deemed unnecessary.

Fieldwork was undertaken by the National Centre for Social Research. For all surveys the approximate fieldwork period was from September to April. Response rates were generally high (see Middleton et al., 2003).

#### **B4 Weighting**

The samples were originally designed to be representative of young people leaving school at the end of the academic years 1998/1999 and 1999/2000 in the pilot and control areas. However, the DWP required the exclusion of certain categories of young people from the sampling frame of Child Benefit records, prior to selection for the study. These exclusions resulted in a disproportionate loss of some young people with characteristics known to be associated with not staying on in full-time education.

Samples were drawn to be representative within the LEAs from which they were selected. However, different sampling strategies were used in urban and rural areas. Rural LEAs were over-sampled in order to provide sufficient numbers for analysis. In consequence, when combining the rural and urban data, rural areas would be over-represented unless adjustments to reflect the actual population size in rural areas are made.

In order to correct for these potential sources of bias, and any arising from possible differences in initial non-response, weights were constructed using data from the Family Resources Survey (FRS). The objective of the weights was to make the weighted distribution of the characteristics of young people included in the surveys in the pilot and control areas (referred to in what follows as the 'EMA samples'), reflect the corresponding distribution of similarly aged young people drawn from the FRS. Thus, greater weight would be given to responses of young people under-represented in the EMA sample compared to the FRS sample, and lesser weight to those correspondingly over-represented in the EMA sample.

Two sets of weights were derived, first, the pilot population weights designed to adjust the pilot and control samples to be representative of the overall pilot

and control populations of the LEAs from which the data were drawn. These weights are most appropriate for standard analysis of the data.

The second set of 'national' population weights were designed to adjust the sample to the characteristics of England, with the caveat that the LEAs selected for the study were not chosen to be representative of the whole of England. The exclusion from the EMA sample of London, in particular, means that results using these weights are best regarded as indicative rather than conclusive.

The FRS is the best survey in which to observe similar aged individuals before they reached school leaving age, alongside characteristics such as parents' education, housing tenure and detailed income information. It is known from surveys such as the Youth Cohort Study that, once children reach 16 and leave education, they are much more likely to leave the family home and much harder to sample.

In order to augment the FRS sample sizes to derive population weights, data were used from five FRS samples between 1995 - 1996<sup>38</sup> and 1999 - 2000. In 1995 - 1996 10, 11 and 12 year olds were used for Cohort 2, and 11, 12 and 13 year olds for Cohort 1. In 1996 - 1997 11, 12 and 13 year olds were used for Cohort 2 and 12, 13 and 14 year olds for Cohort 1. In 1997 - 1998 12, 13 and 14 year olds were used for Cohort 2 and 13, 14 and 15 year olds for Cohort 1. In 1998 - 1999 13, 14 and 15 year olds were used for Cohort 2 and 14 and 15 year olds for Cohort 1. Finally in 1999 - 2000 14 and 15 year olds were used for Cohort 2 and 15 year olds for Cohort 1. This gave 14 groups for Cohort 2 and 12 groups for Cohort 1. Combining these groups produced sufficient sample sizes to calculate the numbers of young people in England with broad types of characteristics.

The FRS and EMA samples were split into 44 mutually exclusive groups based on household income:

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<sup>38</sup> The FRS sampling period covers the financial year period between April in one year and March the following year, hence the use of two successive years in the title.

- in receipt of means tested benefits; £30,000 or less and not on means tested benefit; more than £30,000 and not in receipt of means tested benefits (in 1999/2000 prices);
- urban/rural status (based on local council type);
- sex of child;
- whether at least one parent stayed past minimum school leaving age or not (two groups);
- household size (five or more; less than five); and
- whether both parents were in the household (only for two large low income urban groups and two large medium income urban groups).

All income variables were uprated (or downrated) to 1999 - 2000 prices. Population weights were derived for the pilot areas, the control areas and for the whole of England, for each of these 44 groups using the Households Below Average Income population weights that are contained in the FRS dataset. This information was then merged into the EMA database and individuals were allocated a weight by dividing the appropriate group weight by the number of people in each group in the EMA data. On the basis of this weighting, it was calculated that the Cohort 1 pilot sample represented about 36,775 girls and boys in all of the pilot areas of which around 27,002 were eligible for EMA. The corresponding figure for Cohort 2 was 37,938, of which 27,300 were eligible. If EMA operated throughout England, on the basis of the two cohorts in the sample, we estimate that there are just over 600,000 in each cohort and between 375,000 to 380,000 of these would be eligible for some EMA if they stayed in full-time education.

Weights were constructed using similar procedures both for Cohort 1 and Cohort 2 respondents. These FRS derived pilot and national population weights are applicable to the Wave 1 EMA data for the appropriate cohort. However, differential attrition between Waves 1 and 2, Waves 2 and 3 and Waves 3 and 4 required further adjustments to be made to the weighting of Waves 2, 3 and 4 data. A non-response weight was devised by comparing the distribution of characteristics of Wave 2 respondents with Wave 1

respondents (unweighted) and adjusting the Wave 2 respondent characteristics so that they resembled those of the Wave 1 characteristics. A new (Wave 2) weight was then created, by multiplying the Wave 2 non-response weight by the Wave 1 weight. A similar procedure was undertaken to compute weights for Waves 3 and 4.

For the descriptive analysis in this report, weights were subsequently calculated that allowed for attrition between each wave to vary with more of the young persons background characteristics. Unfortunately, it has not been possible to use these weights in the 'propensity score matching' analysis because it was not feasible to re-estimate this type of attrition weight every time the matching was carried out (the weights based on 44 groups are computationally simpler and therefore much faster to re-estimate each time).

**APPENDIX C**  
**SUBGROUP TABLES**



**Table C.1 Highest Qualification by Age 18: EMA Eligible Young People in Second Cohort in Full-time Education at Age 16**

Year 11 Attainment	column per cent		
	Pilot	Control	Effect
<b>No GCSEs at grade A*-C</b>			
No new qualification	51.2	53.6	-2.4
Level 1	19.3	15.5	3.8
Level 2	27.6	27.8	-0.3
Level 3	2.0	3.1	-1.1
<b>1-4 GCSEs at grade A*-C</b>			
No new qualification	32.2	34.8	-2.6
Level 1	11.6	11.1	0.4
Level 2	30.9	34.5	-3.6
Level 3	25.4	19.6	5.8
<b>5+ GCSEs at grade A*-C</b>			
No new qualification	13.5	15.0	-1.5
Level 1	0.9	0.8	0.0
Level 2	2.6	2.1	0.5
Level 3	83.1	82.1	1.0
N (unweighted)			
No GCSEs at grade A*-C	233	123	
1-4 GCSEs at grade A*-C	449	245	
5+ GCSEs at grade A*-C	1084	638	

Base: EMA eligible young people in second cohort who remained in the study in 2002, in full-time education at wave 1. Pilot and attrition weights applied.

**Table C.2 Threshold Attainment by Age 18: EMA Eligible Young People in Second Cohort in Full-time Education at Age 16**

Year 11 Attainment	cell per cent		
	Pilot	Control	Effect
<b>Crossed Level 2 threshold</b>			
No GCSEs at grade A*-C	11.8	12.4	-0.6
1-4 GCSEs at grade A*-C	51.9	50.2	1.7
<b>Crossed Level 3 threshold</b>			
No GCSEs at grade A*-C	0.4	1.5	-1.1
1-4 GCSEs at grade A*-C	16.8	10.8	6.0
5+ GCSEs at grade A*-C	72.3	70.3	2.0
N (unweighted)			
No GCSEs at grade A*-C	233	123	
1-4 GCSEs at grade A*-C	449	245	
5+ GCSEs at grade A*-C	1084	638	

**Table C.3 Threshold Attainment at Age 19: EMA Eligible Young People in Second Cohort in Full-time Education at Age 16**

Year 11 Attainment	cell per cent		
	Pilot	Control	Effect
<b>Crossed Level 2 threshold</b>			
No GCSEs at grade A*-C	19.7	18.6	1.1
1-4 GCSEs at grade A*-C	55.9	54.2	1.7
<b>Crossed Level 3 threshold</b>			
No GCSEs at grade A*-C	4.3	4.6	-0.3
1-4 GCSEs at grade A*-C	22.9	19.0	3.9
5+ GCSEs at grade A*-C	76.2	75.7	0.5
N (unweighted)			
No GCSEs at grade A*-C	233	123	
1-4 GCSEs at grade A*-C	449	245	
5+ GCSEs at grade A*-C	1084	638	

Base: EMA eligible young people in second cohort who remained in the study in 2002, in full-time education at wave 1. Pilot and attrition weights applied.

**Table C.4 Highest Qualification by Age 18: EMA Eligible Young People in Second Cohort in Full-time Work or Work-based Training at Age 16**

Year 11 Attainment	column per cent		
	Pilot	Control	Effect
<b>No GCSEs at grade A*-C</b>			
No new qualification	68.1	68.5	-0.4
Level 1	18.4	16.2	2.2
Level 2	13.5	13.5	0.0
Level 3	0.0	1.8	-1.8
<b>1-4 GCSEs at grade A*-C</b>			
No new qualification	81.8	56.7	25.1
Level 1	2.3	5.8	-3.5
Level 2	15.9	37.5	-21.6
Level 3	0.0	0.0	0.0
<b>5+ GCSEs at grade A*-C</b>			
No new qualification	79.1	76.7	2.3
Level 1	2.3	0.0	2.3
Level 2	14.0	23.3	-9.3
Level 3	4.7	0.0	4.7
N (unweighted)			
No GCSEs at grade A*-C	114	68	
1-4 GCSEs at grade A*-C	92	70	
5+ GCSEs at grade A*-C	57	37	

Base: EMA eligible young people in second cohort who remained in the study in 2002 and who were in full-time work or training at wave 1. Pilot and attrition weights applied.

**Table C.5 Threshold Attainment at Age 18: EMA Eligible Young People in Second Cohort in Full-time Work or Work-based Training at Age 16**

Year 11 Attainment	cell per cent		
	Pilot	Control	Effect
<b>Crossed Level 2 threshold</b>			
No GCSEs at grade A*-C	13.6	15.5	1.9
1-4 GCSEs at grade A*-C	15.7	37.5	-21.8
<b>Crossed Level 3 threshold</b>			
No GCSEs at grade A*-C	0.0	1.8	-1.8
1-4 GCSEs at grade A*-C	0.0	0.0	0.0
5+ GCSEs at grade A*-C	2.3	0.0	2.3
N (unweighted)			
No GCSEs at grade A*-C	114	68	
1-4 GCSEs at grade A*-C	92	70	
5+ GCSEs at grade A*-C	57	37	

**Table C.6 Threshold Attainment at Age 19: EMA Eligible Young People in Second Cohort in Full-time Work or Work-based Training at Age 16**

Year 11 Attainment	cell per cent		
	Pilot	Control	Effect
<b>Crossed Level 2 threshold</b>			
No GCSEs at grade A*-C	23.7	16.1	7.6
1-4 GCSEs at grade A*-C	29.2	45.0	-15.8
<b>Crossed Level 3 threshold</b>			
No GCSEs at grade A*-C	1.2	3.2	-2.0
1-4 GCSEs at grade A*-C	1.0	5.0	-4.0
5+ GCSEs at grade A*-C	7.8	3.5	4.3
N (unweighted)			
No GCSEs at grade A*-C	114	68	
1-4 GCSEs at grade A*-C	92	70	
5+ GCSEs at grade A*-C	57	37	

Base: EMA eligible young people in second cohort who remained in the study in 2002 and who were in full-time work or training at wave 1. Pilot and attrition weights applied.

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