Parental Investment in Childhood and Later Adult Well-Being: Can More Interested Parents Offset the Effects of Socioeconomic Disadvantage?*

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Parental involvement in their children's lives can have a lasting impact on well-being. More involved parents convey to their children that they are interested in their development, and this in turn signals to the child that their future is valued. However, what happens in socioeconomically disadvantaged homes? Can the social capital produced by greater parental involvement counteract some of the harmful effects of less financial capital? These questions are examined on the National Child Development Study; a longitudinal study of children born in Britain in 1958. Results on a sample of children raised in two parent families suggest that father interest in education has a larger direct impact on later education than does mother interest. Meanwhile, parental interest in education at age 11 and 16 does reduce the negative impact of familial poverty at age 7 and 11 on educational attainment; however, the harmful effect of poverty still remains. The most influential parent involvement measure appears to be taking an interest in schooling, followed by greater parental outings.

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1. Introduction

Parental involvement in their children's lives can have a lasting impact on well-being. More involved parents convey to their children that they are interested in their development and well being. This in turn signals to the child, both directly and indirectly, that their future is valued. Thus, the relationships between parents and children, coupled with the influence from other resources, go along way to ensuring future success. Later outcomes in adulthood such as education (Flouri and Buchanan 2004; Hobcraft 1998), benefit receipt, and social housing (Hobcraft 1998; Sigle-Rushton 2004) are influenced by parental investment in childhood. Positive effects are also noted for more proximate outcomes in adolescence, such as less police contact (Flouri and Buchanan 2002a), relationships with parents (Flouri and Buchanan 2002b), educational test scores (Ho Sui-chu and Willms 1996; McNeal 1999, 2001) and behaviour (Sacker, Schoon, and Bartley 2002).

The long term connection between parental involvement and later adult outcomes is especially important for poor children since the link between childhood poverty and later adult disadvantage is well-established (Duncan and Brooks-Gunn 1997; Duncan, Yeung, Brooks-Gunn, and Smith 1998; Harper, Marcus, and Moore 2003; Hobcraft 1998). The lack of resources does not afford these children as many options for educational opportunities, and also for increased exposure to higher educated adult role models, thus the experience of economic disadvantage regularly carries over into the next generation. Unfortunately these economically deficient families are the very ones that need extra support not contingent upon monetary factors, however, they all too often lack the various other forms of capital as well. Past research for example suggests that a positive relationship exists between SES and parental involvement (Astone and McLanahan 1991; Ho Sui-chu and Willms 1996; Lareau 1987; McNeal 1999, 2001) and between parental education level and time spent with children (Sayer, Gauthier, and Furstenberg 2004). Parents of high socioeconomic status are more involved in their children's education, which is likely due to a greater comfort and familiarity

with the educational system (Ho Sui-chu and Willms 1996; Lareau 1989, 1987). Thus, these children not only benefit from greater parental financial resources, they also get the added advantage of having parents who know how to negotiate the world of education.

At the same time, the relationship between childhood poverty and parental involvement on well-being varies depending on the age at which the poverty occurs and the age when support/involvement is considered, the type of support/involvement being given, and the parent that is giving the support. Poverty during childhood is harmful at all ages (Hobcraft 1998), however, it is more deleterious at some ages. For example, poverty during early and middle childhood was found to be much more important for determining ability and achievement than poverty in adolescence (Duncan and Brooks-Gunn 1997; Duncan et al. 1998). Age at when parental support and involvement is measured is also important for the developmental life course (Bronfenbrenner 1986). As children age and become more exposed to outside influences from school and peers they begin to become more independent as well, and therefore the relationship between parent and child changes over time.

The type of support/involvement is related to notions of social or cultural capital (Ho Sui-chu and Willms 1996; Lareau 1987; McNeal 2001, 1999). Of interest specifically are measures related to the amount of time and type of activities spent between parents and children, relationship quality between parents and children, and parental contact with the school system. The amount of time and activities that parents and children spend together are important for strengthening the parent-child bond, which in turn can increase the chance that children will heed the advice of their parents as it pertains to education. Certain activities, for example, such as reading to the child, are important for not only increasing the vocabulary of the child, but for also distilling the idea that reading and education in general is important. Relationship quality is very related to the amount of time spent with each other, with quality likely increasing with more time spent together. Greater parent contact with the school system in turn suggests that parents are interested in their child's education, however, it may

also indicate poorer student performance as well (Izzo, Weissberg, Kasprow, and Fendrich 1999). In any event, greater contact with school, whether for positive or negative reasons, does proxy for increased social control through increased monitoring (McNeal 1999; 2001).

Lastly, questions surrounding distinctive parental contact by mother and father may involve issues of gender role socialization and traditional values towards educational attainment. Are mothers or father more supportive and more involved? And is the support of one versus the other more beneficial? Using a British sample, Flouri and Buchanan (2004), for example, found that mother's involvement at age 7 had a stronger impact on a child's later educational attainment. Similarly, Hobcraft (1998) found consistent support for the idea that parental support is important for later socioeconomic success, however he found that father's involvement was especially important for educational outcomes for both boys and girls, and that mother's involvement was a more consistent predictor for women on outcomes such as risk of teen parenthood. The discrepancy between these two studies is due to a difference of involvement measures. Hobcraft (1998) focused exclusively on parental interest in school, while Flouri and Buchanan (2004) combined measures on parental interest in school with indicators of how often each parent took the child on outings and read to them, as well as whether the father shares equally with the raising of the child.

In this paper, I use the National Child Development Study (NCDS) to explore the above issues and examine the relationship between parental interest/involvement and poverty in childhood and later educational attainment. I thus aim to contribute to the growing research on parental involvement by tackling the issue of whether more interested parents can offset the harmful effects of living in poverty. Moreover, I analyse the relationship from multiple sources (parents, teachers, and students), at multiple time points in childhood, as well as determining whether mother or father involvement matters more at these different stages. Next before venturing into the data, methods and results, I briefly supply some

background information on the link between childhood poverty and parental involvement, as well as introducing important concepts.

Background

The Link Between Childhood Poverty and Parental Involvement

Poverty early in the life course has consequences not only during childhood, but also extending later in life. Growing up poor impairs early socioemotional adjustment, as well as cognitive and behavioural development (Chase-Lansdale and Brooks-Gunn 1995; Duncan and Brooks-Gunn 1997). The pathways between childhood poverty and later well-being are numerous. For example, the lack of resources does not afford these children as many options for educational opportunities, and also for increased exposure to higher educated adult role models. However, the relationship between childhood poverty and adult disadvantage is not a one-to-one ratio; not all children who experience poverty and hardship grow up disadvantaged. This may be a rather obvious statement, however, it is important to note, while children who grow up in poverty are *more likely* to end up as disadvantaged adults, it is not a certainty that this will occur. All too often the focus is on pointing out the obvious fact that poverty is harmful and examine the breadth and depth of the problem, however, another approach is to discover the other side of the equation—how do poor children *not* become disadvantaged as adults. With this in mind the focus then shifts to examining the factors that operate to reduce the intergenerational linkage of disadvantage. An area of importance is the type and amount of nonfinancial 'investment' that parents supply for their children.

Given the lack of economic resources, parents may use other tools at their disposal to further the development of their children. For example, they may promote a greater acceptance of the educational system as a means to achieve future goals. Thus, by stressing the importance of education, parents of lower socioeconomic status may be able to offset the lack of resources. Furstenberg and Hughes (1995) found, for example, in a relatively at-risk sample from Baltimore, that maternal support increased the likelihood of graduating from

high school as well as greater labour force attachment. Interestingly, mother's encouragement did not significantly affect later socioeconomic success, but her involvement in school activities did. Because of the teenager's families, and factors related to the teens themselves, only about one quarter of the original teenage mothers in the Baltimore sample were on welfare 17 years after the birth of their first child (Furstenberg, Brooks-Gunn and Morgan 1987). Thus, the disadvantaged circumstances that the youth in the Baltimore study faced did not preclude them to a life of poverty; familial relationships and expectations were important over the long term. At the same time, using a national US sample, Teachman, Paasch and Carver (1997) find that low-income parents can overcome negative effects associated with low economic resources. They suggest that "higher income by itself is not sufficient to guarantee the success of a child in high school" (p.1357). Using the same data McNeal (1999) found similar effects.

Others have also noted that parental interest may alter the effects of parental resources on later education. For example, Smith, Beaulieu and Seraphine (1995) found that individuals who lived in suburban areas with high human capital but low parental interest had a 27% chance of attending college, while those with low human capital but high parental interest had an 81% chance of attending college. Therefore, parental education is not a sufficient condition to guarantee educational success for children. Coleman (1988: S110) also suggested that "human capital may be irrelevant to outcomes for children if parents are not an important part of their children's lives".

Parental Involvement as Social Capital

This idea of investment in children's potential human capital through relationships has been best conceptualised within the social capital framework (Coleman 1988; Portes 1998). Coleman (1988: S100) identified social capital to be crucial for educational success. He proposed that social capital "comes about through changes in the relations among persons that facilitate action". It exists in relationships and therefore is less tangible than either

financial or human capital, but it is still equally important for later socioeconomic success. The term social capital has some conceptual slippage, however. In his review, Portes (1998: 6) suggests that in the literature "the consensus is …that social capital stands for the ability of actors to secure benefits by virtue of membership in social networks or other social structures."

This paper is not the place to venture into these issues of conceptual clarity with regard to social capital. Instead, because of the current emphasis on parental interest, I utilize the notion of 'parental involvement as social capital' proposed by McNeal (1999). He suggests that parental involvement can be conceptualised as social capital because it involves dyadic relationships between the parent and child, or the teacher or another parent. These dyadic relationships are often indicative of extended social networks that act as potential sanctioning agents for maintaining the norm of investment and caring for children. Moreover, these external linkages are a sign of the resources available to the family from outside sources, in addition to those resources (physical, human, and cultural) within the familial network. McNeal (1999) suggests that parent involvement can be measured by parent-child discussion, parent involvement in parent-teacher organizations, monitoring, and more direct parent involvement in school activities (such as speaking to a teacher or counsellor).

Greater parental involvement, should, other things being equal, indicate greater interest in the child's future and therefore be positively associated shorter-term academic achievement as well as with longer term socioeconomic success. Sui-Chu and Willms (1996) found that greater parental involvement at home and at school increased math and reading achievement in high school. McNeal (1999) as well finds that parent involvement in general reduces truancy and dropping out but has inconsistent effects on achievement. For example, parental involvement in parent-teacher organizations (PTO) and parental monitoring reduced the chance of truancy and dropping out, but they also *reduced* achievement. This last result

brings up the issue that more interested parents could imply that the child is having troubles, and so high parental interest could indicate children who have more difficulty in school (see Epstein 1988; and Horn and West 1992). McNeal (1999) does not use this 'reactionary' argument to explain his contradictory findings, instead he states that "if parents did begin to attend these activities or monitor their children more closely after the child has experienced difficulty, we would also expect to see an inverted relationship between PTO participation, monitoring and truancy." (p. 176). The 'reactive' hypothesis does hold some merit however and caution must be taken in interpreting results such as this.

Lastly, an important distinction must be made between social and/or cultural capital by level of socio-economic status. McNeal (2001) examined whether social and cultural capital operate equally for high and low socioeconomic status. He found that parental involvement is more important at higher levels of socioeconomic status: interaction terms show that while parent-child discussion, PTO involvement, and monitoring are generally effective for reducing the odds of truancy and dropping out, it is more protective at higher levels of socioeconomic status. Thus, McNeal suggested that the effect of social capital is not equitably distributed and many positive influences only persist for members of traditionally advantaged sections of the population. Lareau (1989, 1987) similarly suggested that higher SES parents are more able to navigate the educational system because they are more familiar with the jargon, and are also more likely to have been involved with the educational system themselves. At the same time, Harris and Marmer (1996) found parental involvement varied by poverty status. For example, fathers of poorer teens were less emotionally and physically involved than nonpoor teens; this same pattern was not seen for mother involvement. However, these authors go on to suggest that the effect of involvement tends to be stronger in poorer families. They found for example that mother involvement increased education more in poor families than father involvement did in nonpoor families.

While this last issue of asserting the link between parental involvement at differing levels of SES is important, it is not the goal of the present paper. As result of this past literature, I take this notion of inconsistent levels of social capital by level of SES as given and instead attempt to show how parental involvement can offset some of the link between early disadvantage and disadvantage in adulthood. Yet while these issues are very interrelated the method for analysing them is different. The former issue concerns interacting involvement with SES, while the latter is carried out by assessing the SES-adult outcome link before and after the inclusion of involvement.

The major research question to be answered in this paper is: Can parental involvement offset the effects of childhood poverty on education? Once this has been established several sub questions also need to be addressed. First, does the effect vary depending on when poverty and involvement are measured? Some research for example finds that it is poverty earlier in childhood that is most detrimental. Meanwhile, the relationship between children and parents changes as the child ages both in terms of the level and type of support and so it is not surprising to consider that the effect may change as well. Second, does the type of support given make a difference? For example, are activities that the parents and children share, or the interest that parents show towards their schooling equally valid and influential? Third, does the gender of the parent matter? Do children respond differently to mother and father support? It is very possible that the interest shown by mothers differs from that shown by fathers. The socialization of children is often left up to the mother, and so even moderate amounts of interest from fathers may pay large dividends towards their future education.

2. Data and Research Methods

The data for this study come from the National Child Development Study (NCDS). This is a longitudinal study of children born throughout Britain in one week of March 1958. A total of 17,414 mothers were originally interviewed, representing 98 percent of all births that occurred in that week. Follow-up interviews were conducted when the cohort members

were aged 7, 11, 16, 23, 33, and 42. The strength of using this data for examining parental interest in childhood is that relatively good measures of parental interest and parent-child relationship quality exist for all three childhood waves. Moreover, survey points in mid-adulthood afford the researcher the unique ability to determine if long-term benefits accrue to children who had interested and involved parents. Past research using these data would suggest that this is the case (see Flouri and Buchanan 2004; and Hobcraft 1998; Sacker et al. 2002).

I select a sample of cohort members who lived in two-parent homes throughout childhood. This restriction was necessary in order to simplify the meaning of parental support from non-resident parents (typically fathers). Resident and non-resident father involvement becomes complicated when the meaning behind why the father is not living in the household is considered. In cases where a high degree of spousal conflict preceded the break-up, or the post-separation relationship is poor and ex-spousal conflict is high due to issues of time and monetary transfers, the mother's view of the father's involvement may be tainted. Thus, while only using intact families does limit the full range of socioeconomic disadvantage in childhood (the impact of single motherhood is not captured for example) it is not a hindrance to the current paper, but a sample definition issue that needs to be kept in mind. The issue of non-resident fathers is an important issue in its own right and warrants special attention in a further study.

Measures:

A. Outcomes

The adult outcome is no educational qualifications by age 33. It is measured as a dichotomy so that those individuals with the lowest level of education can be picked out. While this data set has numerous other adult outcomes (such as living in public housing, being in receipt of benefits, or being unemployed), I chose this measure because education often proxies for these other measures of adult disadvantage, and in fact being without any

educational qualifications is quite highly correlated to these other measures of disadvantage. Some work using this cohort showed that about 10% of those individuals with no qualifications experienced unemployment spells of longer than 2 years between age 16 and 30, while only about 2% with higher levels of education experienced the same level of unemployment (Makepeace et al 2003).

B. Childhood indicators

Since the relationship between parents and children changes throughout childhood it is crucial to accurately measure this at several points. Therefore, I use information from all three childhood waves (age 7, age 11, and age 16). Also, I use information that comes before the cohort member's 7th birthday, since these are causally prior to the assessment of poverty and parental interest.

i. Poverty

Family poverty (or disadvantage) is measured at age 7 and age 11. It is not measured in an objective sense such as income, but rather is assessed by measures that capture whether the family was experiencing 'financial difficulty.' It is assessed differently at age 7 than at age 11. At age 7 a Health visitor reported his/her opinion on a number of difficulties families face, with financial difficulties being one. At age 11 parents responded directly to the question 'have you been seriously troubled by financial hardship in the last 12 months'. If they said yes to this question the family was deemed to be living in poverty. As seen in Table 1 approximately 4 ½% of the sample experienced poverty at age 7, while by age 11 this figure was closer to 8%. These figures are slightly lower than Hobcraft (1998) reported which is due to the current sample being restricted to two-parent families during childhood. However, when analysed in terms of educational attainment those cohort members who spent time in poverty at either age 7 or 11 had much higher proportions than those who ended up

with no qualifications. For example, about 16% of individuals who were poor at age 7 ended up without any qualifications, whereas only about 3% had qualifications.

These 'static' measures of poverty however at each age are not perfect indicators of the full extent of time spent in poverty during childhood. However, there appears to be continuity regarding poverty at both these age points: just slightly over a third of the sample that were poor at age 7 were also poor at age 11. Thus, there appears to be stability with the experience of childhood poverty. In other work using these data the extent of poverty across childhood was more fully captured and 'clear' evidence of childhood poverty had a large impact on the risk of adult disadvantage (Hobcraft 1998). However, for the purposes of this paper, with its focus on assessing the link between poverty at an earlier age and parental involvement at a subsequent wave, the current measures are adequate.

Table 1: Mean Levels of Parental Involvement and Poverty by Educational Attainment

		No Qualifications	
	Full	**Yes**	**No**
Poor at Age 7 (1=yes, 0=no)	0.045	0.163*	0.034
Poor at Age 11 (1=yes, 0=no)	0.074	0.220*	0.062
Father Interest in School, Age 11 *(0=little interest, 1=some interest, 2=very interested)*	1.27	0.49*	1.35
Mother Interest in School, Age 11 *(0=little interest, 1=some interest, 2=very interested)*	1.23	0.61*	1.29
Father Outings, Age 11 *(0=hardly ever, 1=occasionally, 2=most weeks)*	1.49	1.19*	1.52
Mother Outings, Age 11 *(0=hardly ever, 1=occasionally, 2=most weeks)*	1.53	1.26*	1.56
Father Interest in School, Age 16 *(0=little interest, 1=some interest, 2=very interested)*	1.34	0.46*	1.41
Mother Interest in School, Age 16 *(0=little interest, 1=some interest, 2=very interested)*	1.38	0.58*	1.45
Does child get along well with Father, Age 16 *(0=untrue/very untrue, 1=uncertain, 2=true, 3=very true)*	2.13	2.04	2.14
How well gets along w/ Mother, Age 16 *(0=untrue/very untrue, 1=uncertain, 2=true, 3=very true)*	2.27	2.24	2.27

*Indicates a significant difference between education groups at .05 level.

ii. Parental Involvement

Parental involvement is measured at age 11 and age 16 in this study. However, the measures vary somewhat between each wave, and are separate for mother and father. Specifically at age 11, I measure parental interest in education as assessed by teachers as well as taking into account the parent's own response to the question of how often they go on outings with their child. At age 16, there is an identical interest in education measure. However, there is no comparable indicator about outings with parents. Instead I use an indicator of how well the teen and the parent 'get along with' one another as assessed by the teen themselves. The parental interest in school measures are asked of the teacher and use the following scale: very interested (including a small number who are 'overly' interested), some interest, and little interest. Frequency of parental outings is asked of the parents (usually the mother) and assessed by the following question: "How often do you take your child out for walks, outings, picnics and visits?" The response categories are hardly ever, occasionally, and most days. Lastly, the teen at age 16 is asked to respond to the statement "I get on well with my mother/father" using the following response categories: very untrue/untrue, uncertain, true and very true. Cases where the teen said that they were 'uncertain' were left into the analysis and ordered immediately after very untrue/untrue because saying 'uncertain' suggests a potentially negative relationship.[1]

As seen in Table 1 the average levels of parental involvement vary substantially by educational attainment. For instance, for cohort members who had no qualifications the average level of father involvement at age 7 was 0.49, whereas the average level was 1.35 for their counterparts who had qualifications. The same relationship is noted for father and

[1] In separate analyses these age specific items were combined into summated scales separately for mothers and fathers since the individual items are essentially tapping the same thing: the relationship quality between mothers and children and between fathers and children. However, for some purposes combining measures from different sources can introduce bias. For example, parents, teachers and adolescents may not rate parental involvement similarly. I explored this issue further by running factor analyses on all age specific items (including both mother and father items together). Two factors were identified in each case, those answered by teachers loading on one factor, while those from parents or from adolescents on the other. This suggests that combining the items into the same scale may introduce undue bias, and so I opted for the approach of keeping the parental involvement measures separate. This has the added benefit of allowing for the independent assessment of particular types of support.

mothers across all involvement indicators except for how well parent and teen get along at age 16: while the average is slightly higher for those who had qualifications the difference with those who had no qualifications is not significant.

iii. Controls:

For this paper, with its focus on parental investment and socioeconomic resources measured distinctively across three childhood waves it is necessary to control for factors that may affect this relationship. A wide range of background factors are controlled that are measured prior to age 7 ('Background Family Characteristics'), as well as at each specific childhood age ('Concurrent Childhood Indicators').

First, background family characteristics include measures at birth such as the father's social class, the age of the parents at the birth of the child, whether the parents left school at a young age (under age 15) and also whether the mother worked before the child entered school and finally the respondent's sex is considered. Next, concurrent indicators specific to each wave in childhood are used to assess proximate influences. Controls are used from both the parent/household and child level. At age 7, 11 and 16, I control for housing tenure, father's social class, whether the mother works, and the number of people in the household. At the child level, I control for behaviour (aggression and anxiety) and academic ability (reading ability). Table A1 presents all control variables separately by analysis, which is necessary because each uses slightly different samples (due to a difference in missing on parental involvement). The background controls are used in both sets of analyses, while for the analysis examining the link between age 7 poverty and age 11 parental involvement only the age 7 and 11 controls are added. The analysis that examines the link between age 11 poverty and age 16 interest include all the above controls, and also indicators at age 16. Lastly, missing dummy indicators at each age are included in all regressions indicating whether any of the age specific controls are missing. These are never significant in any models however.

From Table A1 we see that the proportions are very similar for the two samples, this is not surprising since the only way that they are different is with respect to missing values on either parental interest at age 11 or age 16. Since the sample is restricted to individuals who lived in intact homes at age 7, 11 and 16 this sample is likely slightly less disadvantaged than other samples drawn from these data (Hobcraft 1998). For example, at all ages less than 20% had fathers with low social class, and about half lived in owner occupied homes.

4. Results

The analysis proceeded in two major steps, first the link between poverty at age 7 and education is examined while considering father and mother involvement at age 11, and second the relationship is moved forward to adolescence where the link between poverty at age 11 and education is examined with respect to father and mother involvement at age 16. Setting up the analysis in this way allows for testing the effects of poverty and parental involvement at two developmental periods, middle childhood and adolescence. At the same time, it allows for the assessment of the independent contribution of involvement separate for mothers and fathers on separate dimensions of involvement. Owing to the dichotomous nature of the dependent variable (no educational qualifications by age 33) it is appropriate to use logistic regression. In all tables the odds ratios are reported.

Within each of these two steps a specific strategy was followed in order to address the previously mentioned research questions. To assess whether parental involvement has an effect on the relationship between childhood poverty and the likelihood of having no qualifications it is necessary to run a model without the interest measure included. Then once this 'baseline' effect is established parental involvement is brought into the model. Next, to assess the question of whether the type of involvement matters each type is brought in separately. Lastly it is important to keep in mind that mother and father support are kept separate in order to test the independent input of each and to assess which parent has a greater influence on the relationship between childhood poverty and later education. Harris,

Furstenberg and Marmer (1998) interacted mother and father involvement (their measures were had moderate correlations ranging from .15 to .44), and found that none of the interaction terms were significant suggesting that the effects of father involvement do not vary by the level of mother involvement. Meanwhile, in results not shown in the present study, mother and father involvement were also interacted. In most cases the interaction terms were nonsignificant. However, there was a weak negative effect of combined mother and father interest in education at age 16.[2]

A. The Effect Parental Involvement at Age 11 on Poverty at Age 7

The full logistic regression results showing estimates of poverty, parental involvement and all controls on the likelihood of no qualifications are in Table A2 and A3 for paternal and maternal support, respectively. To aid in simplification of the results, I present a more condensed version in Table X1 that only has the poverty and parental involvement odds ratios. Note however that while this table does present both the effect of mother and father involvement on education, they were not actually included in the same regressions. The estimates from the control variables are given in Table X1a and are from the full models (see far right column of Table A2 and A3).

Table X1 shows that the effect of poverty on the likelihood of having no qualifications is very high in the bivariate case with an odds ratio approaching 6. The fact that even at the bivariate level the effect is so strong shows how salient an indicator this is for later socio-economic disadvantage in adulthood. When father interest in education is added the poverty odds ratio drops significantly from 5.595 to 2.777, at the same time a similar but weaker effect is also noted for mother interest in education. In terms of the impact that frequency of outings has on the poverty effect we again see a significant decline in the odds of having no qualifications, but the drop is more similar for mother and father outings.

[2] However, since mother and father involvement are highly related to each other (correlations approaching .9) subsequent models should combine both taking this high collinearity into account, however that is left to further work; most likely using structural equation modeling techniques in order to properly model the shared variation, as well the latent structure of these measures (Bollen 1989).

Also noteworthy is the significant direct effect of each of the involvement measures on education: higher involvement reduces the likelihood of having no qualifications. In terms of interest in education it appears that father interest is more important than mother interest. However, a somewhat different pattern emerges for outings: a greater frequency of maternal outings drops the odds of no qualifications more than for paternal outings. This points to the notion that investment in children may be stronger depending on the activity or interest each parent shows.

While parental interest was influential in reducing the effect of poverty, the largest drop in the poverty odds ratio, not surprisingly, comes from adding the control variables (in equations 3, 5 and 7). Extensive controls were used from birth, age 7, and age 11, and completely wiped out the effect of poverty on later education. Table X1a contains the control variables from the full model (number 7). The most important predictors of later education appear to be being male, father social class at age 7, living in owner occupied homes at age 11, high child aggression at age 11, and especially low reading ability at age 7 and 11. Males and cohort members who lived in owner occupied homes at age 11 are significantly less likely to have no qualifications, while having fathers with low social class at age 7, having high aggression at age 11, and having low reading ability at 7 and 11 significantly raise the odds of having no qualifications.[3]

To more clearly see the effects of parental involvement and poverty on education a series of predicted probabilities were computed based on estimates from the full models (equation number 7). Also because of the influence of low reading ability, predicted probabilities of having no qualifications based on whether or not the cohort member was a poor reader at age 7 and 11 were also computed. Figure P1 presents the predicted probability of having no qualifications based on different levels of parental interest in education. From this figure we can see how the predicted probability of having no qualifications varies by

[3] Likelihood ratio tests reveal that all additions to the bivariate model significantly improve the fit, with the greatest improvement coming from the addition of the control variables.

level of parental interest in education. Father involvement, when it is lowest, has a more harmful effect than lowest mother interest, but once the level of interest increases, father interest seems to have a more protective effect than mother interest in decreasing the chance of ending up with no qualifications. Also note that at the lowest level of involvement the predicted probability of having no qualifications is about 35%, which then drops to about 10% with higher interest.

Figure P1: Predicted Probability of Having No Qualifications by Level of Parental Interest in Education at Age 11

	Level of Interest in Education at Age 11		
	Little	Some	Very
Father Interest in Education	35.31%	18.18%	8.29%
Mother Interest Education	31.92%	20.69%	12.67%

*reference categories: not poor, average outings, low social class at birth, 7 and 11, both parents young at birth, mother did not work before school, mother did not work between age 7 and 11, and did not work at a full-time permanent job at age 11, both mother and father left school when young, female, did not live in owner occ home at 7, and 11, high aggression and anxiety at 7 and 11, not low reading score at 7 and 11, 4 people in the household at 7 and 11, and not missing

Next, when considering different levels of parental outings at age 11 (Figure P2), a slightly different pattern emerges: at the lowest frequency of outings mothers do worse in reducing the probability that her child will have no qualifications. When mothers 'hardly ever' go out on outings with their children, the probability of ending up with no qualifications is almost 30%, however, for the same level of father outings the probability is 20%. The effect of mother outings drops the probability of no qualifications considerably more as the frequency increases, and so if the mother goes on outings with the child most weeks the child has less than a 20% chance of having no qualifications.

Figure P2: Predicted Probability of Having No Qualifications by Level of Parental Outings With their Child at Age 11

	Frequency of Outings at Age 11		
	Hardly Ever	Occasionally	Most Weeks
Father Outings	20.03%	16.36%	13.25%
Mother Outings	28.54%	21.69%	16.12%

*reference categories: not poor, average level of interest in education, low social class at birth, 7 and 11, both parents young at birth, mother did not work before school, mother did not work between age 7 and 11, and did not work at a full-time permanent job at age 11, both mother and father left school when young, female, did not live in owner occ home at 7, and 11, high aggression and anxiety at 7 and 11, not low reading score at 7 and 11, 4 people in the household at 7 and 11, and not missing

At the highest level of outings however father outings drops the probability slightly more, but the effect of father outings is much more flat across levels of outings. Thus, outings at age 11 with mothers may play a more significant role than outings with fathers, not in reducing the effect of age 7 poverty on education, but rather more directly in increasing the probability of having no qualifications when the frequency of outings is low. Thus, it appears that children are harmed more by a lower frequency of mother outings, whereas in terms of interest in education it is low father interest that is most harmful.

In terms of poverty status at age 7, Figure P3 shows the very small effect of poverty when controlling for everything else. This is due to the small and nonsignificant poverty coefficient in the full models. Moreover, in the mother involvement regression there is a higher predicted probability of having no qualifications, net of all the background controls including mother involvement. This reiterates the finding from earlier that the effect of poverty is not reduced as much from mother involvement as it is from father involvement. Thus, father involvement at age 11 appears to matter more for reducing the effect of age 7 poverty.

Figure P3: Predicted Probability of Having No Qualifications by Level of Poverty at Age 7

	Presence/Absence of Poverty at Age 7	
	Poor	Not Poor
Father Regression	16.16%	14.78%
Mother Regression	20.87%	18.56%

*reference categories: average level of interest in education and parental outings, low social class at birth, 7 and 11, both parents young at birth, mother did not work before school, mother did not work between age 7 and 11, and did not work at a full-time permanent job at age 11, both mother and father left school when young, female, did not live in owner occ home at 7, and 11, high aggression and anxiety at 7 and 11, not low reading score at 7 and 11, 4 people in the household at 7 and 11, and not missing

Lastly, it is illustrative to highlight again the very large effect of poor reading ability. Figure P4 presents the predicted probability of having no qualifications based on whether the cohort member was a poor reader at age 7 and 11. Individuals who had low reading ability at age 7 and 11 had almost a 70% probability of having no qualifications, all else being equal. However, if they were not poor readers at both of these ages the probability drops to about 10%. This figure reaffirms the finding that reading ability is a strong predictor of later

education, net of all other factors. At the same time, the timing of poor reading ability does not seem to matter very much, suggesting that poor readers at age 7 who improve by age 11 have a similar probability of ending up with no qualifications as those individuals who had the reverse trajectory.

Figure P4: Predicted Probability of Having No Qualifications by Reading Ability at Age 7 and 11

	Poor Reader Status at Age 7 and 11			
	Yes at Both	No at Both	Yes 7, No 11	No 7, Yes 11
Father Regression	56.36%	14.78%	31.46%	32.81%
Mother Regression	66.42%	18.56%	39.85%	40.49%

*reference categories: not poor, average level of interest in education and outings, low social class at birth, 7 and 11, both parents young at birth, mother did not work before school, mother did not work between age 7 and 11, and did not work at a full-time permanent job at age 11, both mother and father left school when young, female, did not live in owner occ home at 7, and 11, high aggression and anxiety at 7 and 11, 4 people in the household at 7 and 11, and not missing

However, What happens as the children age? Does the effect of poverty remain as strong? And does parental involvement still matter as much once these individuals reach adolescence? To address these questions I move onto the second phase of the analysis examining the effect of parental involvement at age 16 on the relationship between age 11 poverty and later education

B. The Effect Parental Involvement at Age 16 on Poverty at Age 11

Table X2 presents the more condensed version of the full logistic regression results showing estimates of poverty at age 11, and parental involvement at age 16 on the likelihood of qualifications, while all controls are presented in Table X2a (see Tables A4 and A5 for the full results). As with the previous results, a very large effect of poverty on later education is noted. In the bivariate case there is greater than a 300% increase in the odds of having no qualifications if the family was poor at age 11. This odds ratio is smaller than it was at age 7 suggesting that perhaps age 7 poverty is more harmful than poverty at age 11.

Also at this later developmental stage we also see a very large and significant drop by including father interest in education, and while it again seems more important than mother interest at offsetting the effect of poverty, the parental difference is not as dramatic as at age

11. Note however that the direct effects of parental interest in school are larger here than from age 11. For example, the odds ratio for father interest in school at age 11 was 0.225, whereas it was 0.183 at age 16. For mother interest in school the difference in the direct impact is even more dramatic: 0.349 at age 11 and 0.216 at age 16. This is suggestive of a potential recency effect, that is, interest at age 16 is closer to the time that these individuals would have been thinking of leaving school and so more interest shown at age 16 may be especially important. Lastly, note the nonsignificance of the 'get along with' measures. Apparently, how well parents and teens get along with one another at age 16 does not matter for educational attainment, at least when measured in this way.

Similar to the previous section, the effect of poverty is drastically reduced by the controls for family background and individual attributes at age 7, 11 and 16. It drops to 1.578, but is still significant. Unlike at the previous stage, the effect of poverty at age 11 remains even after adding the controls. In fact the only models that completely reduce the effect of age 11 poverty are those that include the control variables and parental interest in education at age 16. This suggests that either the lingering effect of poverty at age 11 is harder to stamp out than that of age 7 poverty, or that the link between parental interest, the controls and poverty is stronger at these latter ages. More exploration would be needed to test for important interactions between parental interest and some of the controls. For example, in Table A4 and A5 the very strong effect of reading ability at age 11 and 16 is reduced in models that include parent interest in education. Perhaps the effect of poor reading ability works through low parental involvement. Other important control factors (see Table X2a) are being male, maternal employment at age 11, number of people in the household at age 16, and poor reading ability, especially at age 11 and 16.

As in the previous section a series of predicted probabilities by level of parental interest and poverty were computed based on estimates from the full models (number 7). Also because of the influence of low reading ability, predicted probabilities of having no

qualifications based on whether or not the cohort member was a poor reader at age 7, 11 and 16 were also computed. Figure P5 presents the predicted probability of having no qualifications based on different levels of parental interest in education at age 16. Similar to age 11 interest in education, a similar pattern is noted for interest at age 16. Father interest in education at the lowest level again leads to a greater probability of no qualifications than lowest mother interest, but at high levels it is more protective. The only discrepancy between this and age 11 interest is that the difference between father and mother interest is not as great at age 16. Furthermore, the overall predicted probability from these age 16 models is about half that of the age 11 models; recall that in the earlier results the predicted probability at the lowest level of interest was about 35%, whereas now it is around 15%. This discrepancy is due to a couple of factors, first the age 16 models have more controls, and thus more opportunity for a dampened poverty effect, and second the age 11 poverty effect was weaker and hence easier to reduce.

Figure P5: Predicted Probability of Having No Qualifications by Level of Parental Interest in Education at Age 11

	Level of Interest in Education at Age 11		
	Little	Some	Very
Father Interest in Education	15.49%	6.54%	2.60%
Mother Interest Education	13.56%	6.49%	2.98%

*reference categories: not poor, average level of relationship strength, low social class at birth, 7, 11 and 16, both parents young at birth, mother did not work before school, mother did not work between age 7 and 11, and did not work at a full-time permanent job at age 11 and 16, both mother and father left school when young, female, did not live in owner occ home at 7, 11, and 16, high aggression and anxiety at 7, 11 and 16, not low reading score at 7, 11 and 16, 4 people in the household at 7, 11, and 16, and not missing

The differential impact of poverty at age 7 and 11 on education can be seen more clearly in Figure P6 that presents predicted probabilities by poverty status. The overall probability of no qualifications is much less as a result of age 11 poverty than it was for age 7 poverty. In both the father interest and mother interest regressions the predicted probability of having no qualifications is less than 10%, but was approaching 20% from age 7 poverty. These last two figures reiterate a couple of things, first, age 7 poverty is likely more

influential than age 11 poverty, and second, parental interest in education at age 16 works more similarly for mothers and fathers than it did at age 11.

Figure P6: Predicted Probability of Having No Qualifications by Level of Poverty at Age 11

	Presence/Absence of Poverty at Age 7	
	Poor	Not Poor
Father Regression	6.81%	4.80%
Mother Regression	6.86%	4.83%

*reference categories: average level of interest and relationship strength, low social class at birth, 7, 11 and 16, both parents young at birth, mother did not work before school, mother did not work between age 7 and 11, and did not work at a full-time permanent job at age 11 and 16, both mother and father left school when young, female, did not live in owner occ home at 7, 11, and 16, high aggression and anxiety at 7, 11 and 16, not low reading score at 7, 11 and 16, 4 people in the household at 7, 11, and 16, and not missing

Lastly, due to the importance of reading ability on risk of no qualifications it is informative to examine the predicted probabilities once more by poor reader status (See Figure P7). As with age 7 and 11 reading ability, once the entire childhood experience is combined the cumulative effect of being either a good or bad reader is quite strong. For example, poor readers all throughout childhood end up having about a 60% chance of having no qualifications, while for good readers this drops to less than 10%.

Figure P7: Predicted Probability of Having No Qualifications by Reading Ability at Age 7, 11 and 16

	Poor Reader Status at Age 7, 11 and 16	
	Yes at All	No at All
Father Regression	60.52%	4.80%
Mother Regression	63.31%	4.83%

*reference categories: not poor, average level of interest and relationship strength, low social class at birth, 7, 11 and 16, both parents young at birth, mother did not work before school, mother did not work between age 7 and 11, and did not work at a full-time permanent job at age 11 and 16, both mother and father left school when young, female, did not live in owner occ home at 7, 11, and 16, high aggression and anxiety at 7, 11 and 16, 4 people in the household at 7, 11, and 16, and not missing

5. Discussion

At the beginning the question 'Can parental involvement offset the effects of childhood poverty on education?' was posed. Based on the results presented here the quick answer to this question is yes. However, the effect varied across age, type of support, and gender of parent giving the support. For example, it appears that poverty at age 7 was somewhat more predictive of no qualifications than poverty at age 11. This is in line with past research, which suggests that it is early poverty that is more detrimental to later well-

being (Duncan et al. 1998). However, in full models that included all controls the effect of poverty both at age 7 and age 11 was completely wiped out, suggesting that poverty is compensated for, or works through, other factors. One such factor, the focus of the current study--parental involvement, proved to be one of the influential factors that reduce the poverty effect.

Meanwhile, parental involvement/interest had a different effect depending on the age it was measured. For example, parental interest in education (especially that from fathers) appeared to have a stronger effect on reducing poverty than interest at age 16. However, parental interest in education at age 16 had a stronger *direct* effect on reducing the odds of no qualifications than earlier interest at age 11. This is suggestive of a recency effect. Also, type of involvement also mattered. Parental interest in education was the most important measure of involvement, surpassing frequency of outings, while the effect of how well parents and teen got along at age 16 had no effect on educational attainment. These findings are not too surprising when the outcome is one of an educational nature. Interest in school should be more connected to this type of outcome.

Moreover, in terms of parental gender difference, it appears that father interest in education at age 11 had a greater impact on reducing the effect of age 7 poverty than mother interest, and this difference still remains for age 16, but is not as strong. Meanwhile, a low frequency of mother outings at age 11 had a slightly stronger impact than father outings on increasing the probability of having no qualifications. These results suggest that by adolescence the support given by parents has similar effects.

In terms of social capital theory, investment in social capital through greater parental involvement during childhood can have a beneficial impact on reducing the long-term effect of childhood poverty. The parents in this sample have been able to significantly reduce the impact of poverty by either showing a greater interest in education or increasing the frequency of outings, hence building greater social capital through a greater acceptance of the

education system and strengthening the bond with their children. And for this educational outcome at least, it is the interest shown in the education system that is most important. While using a somewhat different indicator but one that still tapped into school interest or involvement, McNeal (1999) found that PTO involvement significantly reduced the risk of dropping out of school.

Meanwhile the long-term impact of father involvement cannot be overemphasised, especially as a buffer to early socio-economic disadvantage suggesting that paternal support is very important for building social capital for the accumulation of human capital in the next generation. However, it must be noted that while the effect of poverty was reduced by parental involvement it was not completely diluted suggesting that other factors beyond social capital are important. Specifically factors such as social class, gender, and especially reading ability play a major role.

In closing, this paper has uncovered many areas that need to be explored further. First, the gender link should be explored more carefully. Given the different experiences of men and women in terms of disadvantage across the life course this is especially important. The consistently strong gender effect in all the current models would suggest this to be the case. Also mothers and fathers may treat their sons and daughters differently. For example, do sons and daughters react to parental interest in the same manner, and at the same level? Perhaps, more father interest is needed for girls, perhaps less is needed. These are important questions that should also be explored. Other analyses using these data and these measures would suggest this to be taking place. Hobcraft (1998) for example found that mother's interest in school was more salient for women, while father's interest mattered more for men.

Second, mother and father involvement should be included simultaneously into the same model. However, given the high degree of collinearity between them, the best approach may be the use of structural equation models (see Bollen 1989) so that the two variables can effectively be allowed to be correlated, and then that relationship can in turn be tested. And

lastly, future analysis should be expanded to incorporate all family types during childhood. Involvement of nonresidential parents may turn out to be as important, if not more so, than that of the parent that the child resides with (for work looking specifically at the issue of nonresident father involvement see Marsiglio 1995).

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TABLE X1: Odds Ratios of Poverty at Age 7 and Parental Involvement at Age 11 on Likelihood of No Qualifications (N=3466)

	(1) Bivariate	(2) With Parent Interest In Education Only	(3) With Parent Interest In Education & Controls	(4) With Other Involvement Measure Only	(5) With Other Involvement Measure & Controls	(6) With Controls Only	(7) Full Models
Father Involvement Regressions							
Poverty at Age 7							
Family Was Experiencing Financial Difficulty	5.595***	2.777***	1.131	4.556***	1.241	1.282	1.111
	(1.019)	(0.551)	(0.265)	(0.855)	(0.290)	(0.299)	(0.261)
Father Involvement at Age 11							
Father Interest in Education		0.225***	0.396***				0.407***
		(0.021)	(0.042)				(0.044)
Frequency of Father Outings with Child				0.515***	0.701***		0.781**
				(0.046)	(0.072)		(0.081)
LR Chi Square (df)	72.55(1)	382.40(2)	621.64(26)	125.35(2)	553.37(26)	541.46(25)	627.22(27)
Log Likelihood	-1014.77	-859.85	-740.23	-988.37	-774.36	-780.32	-737.44
Mother Involvement Regressions							
Poverty at Age 7							
Family Was Experiencing Financial Difficulty	5.595***	3.884***	1.217	4.560***	1.212	1.282	1.157
	(1.019)	(0.744)	(0.285)	(0.857)	(0.284)	(0.299)	(0.273)
Mother Involvement at Age 11							
Mother Interest in Education		0.349***	0.545***				0.556***
		(0.029)	(0.054)				(0.055)
Frequency of Mother Outings with Child				0.495***	0.661***		0.694***
				(0.048)	(0.072)		(0.076)
LR Chi Square (df)	72.55(1)	252.46(2)	580.08(26)	124.51(2)	555.65(26)	541.46(25)	591.01(27)
Log Likelihood	-1014.77	-924.82	-761.01	-988.79	-773.22	-780.32	-755.54

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). Full results in Tables A2 and A3.

TABLE X2: Odds Ratios of Poverty at Age 11 and Parental Involvement at Age 16 on Likelihood of No Qualifications (N=3367)

	(1) Bivariate	(2) With Parent Interest In Education Only	(3) With Parent Interest In Education & Controls	(4) With Other Involvement Measure Only	(5) With Other Involvement Measure & Controls	(6) With Controls	(7) Full Models
Father Involvement Regressions							
Poverty at Age 11							
Family Was Experiencing Financial Difficulty	4.262***	2.558***	1.451	4.227***	1.581**	1.578**	1.449
	(0.713)	(0.475)	(0.343)	(0.708)	(0.367)	(0.367)	(0.343)
Father Involvement at Age 16							
Father Interest in Education		0.183***	0.384***				0.382***
		(0.019)	(0.049)				(0.049)
How well Child Gets Along with Father				0.889	0.949		1.041
				(0.067)	(0.088)		(0.099)
LR Chi Square (df)	61.66(1)	399.57(2)	748.99(26)	64.08(2)	688.75(26)	688.43(25)	749.17(27)
Log Likelihood	-882.26	-713.31	-538.60	-881.05	-568.72	-568.88	-538.51
Mother Involvement Regressions							
Poverty at Age 11							
Family Was Experiencing Financial Difficulty	4.262***	2.725***	1.454	4.260***	1.581**	1.578**	1.450
	(0.713)	(0.500)	(0.344)	(0.713)	(0.367)	(0.367)	(0.344)
Mother Involvement at Age 16							
Mother Interest in Education		0.216***	0.445***				0.442***
		(0.021)	(0.054)				(0.054)
How well Child Gets Along with Mother				0.959	0.957		1.040
				(0.083)	(0.099)		(0.111)
LR Chi Square (df)	61.66(1)	349.23(2)	734.69(34)	61.90(2)	688.60(34)	688.43(33)	734.83(35)
Log Likelihood	-882.26	-738.48	-545.75	-882.15	-568.79	-568.88	-545.68

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). Full results in Tables A4 and A5.

Table X1a: Odds Ratios of Control Variables from Logistic Regressions Linking Poverty at Age 7 and Parental Involvement at Age 11 on the Likelihood of No Qualifications (N=3466)

	Father Regression	Mother Regression
Background Variables		
Low Father Social Class at birth	0.813	0.804
	(0.138)	(0.136)
Young Parents at Birth	1.550*	1.707**
	(0.389)	(0.422)
Mother worked Before School	1.050	1.072
	(0.179)	(0.181)
Father Left School at Young Age	1.279	1.347
	(0.251)	(0.261)
Mother Left School at Young Age	1.350*	1.408**
	(0.226)	(0.233)
Cohort Member is Male	0.552***	0.534***
	(0.080)	(0.078)
Missing on Any of the Background Variables	0.702	0.667
	(0.230)	(0.218)
Age 7 Controls		
Owner Occupied Home	1.085	1.101
	(0.298)	(0.303)
Low Father Social Class	1.598***	1.653***
	(0.279)	(0.285)
Mother Worked Since Child Started School	0.998	0.986
	(0.174)	(0.171)
Number of People in Household	1.055	1.055
	(0.066)	(0.067)
High Child Aggression	0.977	0.994
	(0.196)	(0.197)
High Child Anxiety	0.978	0.999
	(0.223)	(0.225)
Low Reading Ability	2.645***	2.906***
	(0.417)	(0.458)
Missing on Any Age 7 Controls	1.319	1.414
	(0.363)	(0.386)
Age 11 Controls		
Owner Occupied Home	0.531***	0.483***
	(0.147)	(0.133)
Low Father Social Class	1.312	1.349*
	(0.224)	(0.228)
Mother Worked Age 7-11	0.979	0.997
	(0.265)	(0.267)
Mother Worked in Previous Year	1.301	1.303
	(0.248)	(0.246)
Number of People in Household	1.055	1.107
	(0.078)	(0.081)
High Child Aggression	1.790***	1.791***
	(0.360)	(0.359)
High Child Anxiety	0.724*	0.736*
	(0.128)	(0.128)
Low Reading Ability	2.815***	2.985***
	(0.450)	(0.479)
Missing on Any Age 11 Controls	1.006	0.995
	(0.261)	(0.256)

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). Full results in Tables A2 and A3.

Table X2a: Odds Ratios of Control Variables from Logistic Regressions Linking Poverty at Age 11 and Parental Involvement at Age 16 on the Likelihood of No Qualifications (N=3367)

	Father Regression	Mother Regression
Background Variables		
Low Father Social Class at birth	0.713*	0.736
	(0.146)	(0.150)
Young Parents at Birth	1.568	1.517
	(0.433)	(0.416)
Mother worked Before School	0.808	0.817
	(0.161)	(0.163)
Father Left School at Young Age	1.469*	1.506*
	(0.330)	(0.336)
Mother Left School at Young Age	1.230	1.198
	(0.238)	(0.232)
Cohort Member is Male	0.505***	0.494***
	(0.088)	(0.086)
Missing on Any of the Background Variables	0.863	0.877
	(0.319)	(0.323)
Age 7 Controls		
Owner Occupied Home	1.223	1.245
	(0.395)	(0.403)
Low Father Social Class	1.456*	1.509*
	(0.310)	(0.321)
Mother Worked Since Child Started School	0.879	0.898
	(0.176)	(0.179)
Number of People in Household	1.034	1.029
	(0.073)	(0.074)
High Child Aggression	1.353	1.352
	(0.313)	(0.310)
High Child Anxiety	0.774	0.769
	(0.216)	(0.214)
Low Reading Ability	1.434*	1.477**
	(0.268)	(0.276)
Missing on Any Age 7 Controls	0.875	0.863
	(0.202)	(0.198)

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). Full results in Tables A4 and A5.

Table X2a: Odds Ratios of Control Variables from Logistic Regressions Linking Poverty at Age 11 and Parental Involvement at Age 16 on the Likelihood of No Qualifications (N=3367). Continued.

	Father Regression	Mother Regression
Age 11 Controls		
Owner Occupied Home	0.678	0.709
	(0.281)	(0.294)
Low Father Social Class	1.282	1.256
	(0.274)	(0.268)
Mother Worked Age 7-11	1.457	1.497
	(0.467)	(0.483)
Mother Worked in Previous Year	1.549**	1.554**
	(0.337)	(0.336)
Number of People in Household	0.924	0.939
	(0.106)	(0.108)
High Child Aggression	1.426	1.419
	(0.343)	(0.341)
High Child Anxiety	0.874	0.892
	(0.182)	(0.184)
Low Reading Ability	2.507***	2.552***
	(0.465)	(0.473)
Missing on Any Age 11 Controls	1.283	1.252
	(0.375)	(0.369)
Age 16 Controls		
Owner Occupied Home	1.008	0.923
	(0.333)	(0.303)
Low Father Social Class	0.987	1.003
	(0.223)	(0.227)
Mother Works for Pay	0.885	0.876
	(0.170)	(0.168)
Number of People in Household	1.235**	1.241**
	(0.124)	(0.123)
High Child Aggression	0.972	0.882
	(0.403)	(0.365)
High Child Anxiety	1.087	1.109
	(0.305)	(0.306)
Low Reading Ability	8.453***	9.016***
	(1.577)	(1.677)
Missing on Any Age 16 Controls	1.350	1.360
	(0.351)	(0.350)

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). Full results in Tables A4 and A5.

Table A1: Variable Definitions, and Means for Both Samples. NCDS Intact Families Birth to Age 16

Variable	Definition	Means in Both Samples: Poverty 7, Interest 11 (n=3466)	Means in Both Samples: Poverty 11, Interest 16 (n=3367)
Poverty			
Poverty at Age 7	Health Visitor reported that the family was having 'financial difficulties' (1,0)	0.045	-----
Poverty at Age 11	The parents reported that they were having 'financial difficulty' in the past year (1,0)	-----	0.074
Parental Involvement			
Father Interest in School, Age 11	Father's interest in the child's school, as assessed by the teacher (0=little interest, 1=some interest, 2=very interested/overly interested)	1.274	----
Mother Interest in School, Age 11	Mother's interest in the child's school, as assessed by the teacher (0=little interest, 1=some interest, 2=very interested/overly interested)	1.230	----
Frequency of Outings with Father, Age 11	Parents are asked the questions "How often do you take your child out for walks, outings, picnics and visits?" (0=hardly ever, 1=occasionally, 2=most days)	1.486	----
Frequency of Outings with Mother, Age 11	Parents are asked the question "How often do you take your child out for walks, outings, picnics and visits?" (0=hardly ever, 1=occasionally, 2=most days)	1.532	----
Father Interest in School, Age 16	Father's interest in the child's school, as assessed by the teacher (0=little interest, 1=some interest, 2=very interested/overly interested)	----	1.339
Mother Interest in School, Age 16	Mother's interest in the child's school, as assessed by the teacher (0=little interest, 1=some interest, 2=very interested/overly interested)	----	1.384
Getting Along with Father, Age 16	The teen is asked to respond to the statement "I get on well with my father" using the response categories: very untrue/untrue=0, uncertain=1, true=2, very true=3	----	2.129
Getting Along with Mother, Age 16	The teen is asked to respond to the statement "I get on well with my mother" using the response categories: very untrue/untrue=0, uncertain=1, true=2, very true=3	----	2.267

Table A1: Control Variable Definitions, and Means for Both Samples. Intact Families Birth to Age 16

Variable	Definition	Means in Both Samples: Poverty 7, Interest 11 (n=3466)	Means in Both Samples: Poverty 11, Interest 16 (n=3367)
Background Controls			
Sex	Respondent is Male (1,0)	0.503	0.496
Low Father Social Class at birth	Father was employed in a semi- or un-skilled manual occupation at the birth of the respondent (1,0)	0.170	0.167
Young Parents at Birth	Both parents were young (Father <age 25; Mother <age 23) at the birth of the respondent (1,0)	0.096	0.097
Mother worked Before School	Mother worked full or part-time prior to the child starting school, measured at age 7 (1,0)	0.402	0.406
Father Left School at Young Age	Father/Father figure left school prior to age 15 (1,0)	0.557	0.561
Mother Left School at Young Age	Mother/Mother figure left school prior to age 15 (1,0)	0.456	0.447
Age 7 Controls			
Owner Occupied Home	Family lived in an owner occupied home, versus public and privately rented housing (1,0)	0.490	0.488
Low Father Social Class	Father was employed in a semi- or un-skilled manual occupation (1,0)	0.178	0.179
Mother Worked Since Child Started School	Mother worked full or part-time since child started school, measured at age 7 (1,0)	0.253	0.255
Number In Household	Number of People in the Household (0 to 8)	4.85	4.81
High Child Aggression	Parents were asked to rate whether their child fought with other children, were irritable, destructive, or disobedient (scale is frequently, sometimes or never). Items were summated, Range is 0-8. High aggression is defined having a score of 4 to 8 on this index. (1,0)	0.126	0.124
High Child Anxiety	Parents were asked to rate whether their child was a worrier, a loner, miserable or tearful, or afraid of new situations (scale is frequently, sometimes or never). Items were summated, Range is 0-8. High anxiety is defined having a score of 4 to 8 on this index. (1,0)	0.099	0.099
Low Reading Ability	Teacher rated respondent as being a poor reader, as compared to average and above average readers (1,0)	0.179	0.170

Table A1: Control Variable Definitions, and Means for Both Samples. Intact Families Birth to Age 16, Continued

Variable	Definition	Means in Both Samples: Poverty 7, Interest 11 (n=3466)	Means in Both Samples: Poverty 11, Interest 16 (n=3367)
Age 11 Controls			
Owner Occupied Home	Family lived in an owner occupied home, versus public and privately rented housing (1,0)	0.529	0.526
Low Father Social Class	Father was employed in a semi- or un-skilled manual occupation (1,0)	0.192	0.190
Mother Worked Age 7-11	Mother worked for pay between child age 7 and 11 (1,0)	0.599	0.603
Mother Worked in Previous Year	Mother worked at least one week at a permanent full-time job in previous year (1,0)	0.173	0.176
Number In Household	Number of People in the Household (0 to 8)	4.97	4.93
High Child Aggression	Parents were asked to rate whether their child fought with other children, were irritable, destructive, or disobedient (scale is frequently, sometimes or never). Items were summated, Range is 0-8. High aggression is defined having a score of 4 to 8 on this index. (1,0)	0.102	0.098
High Child Anxiety	Parents were asked to rate whether their child was a worrier, a loner, miserable or tearful, or afraid of new situations (scale is frequently, sometimes or never). Items were summated, Range is 0-8. High anxiety is defined having a score of 4 to 8 on this index. (1,0)	0.249	0.254
Low Reading Ability	Child scored in lowest quartile on a reading comprehension test	0.132	0.117
Age 16 Controls			
Owner Occupied Home	Family lived in an owner occupied home, versus all other types including public and privately rented housing (1,0)	Not applicable	0.574
Low Father Social Class	Father was employed in a semi- or un-skilled manual occupation (1,0)		0.155
Mother Works for Pay	Mother does paid work currently (1,0)		0.686
Number In Household	Number of People in the Household (0 to 8)		4.72
High Child Aggression	Parents were asked to rate whether their child fought with other children, were irritable, destructive, or disobedient (scale is frequently, sometimes or never). Items were summated, Range is 0-8. High aggression is defined having a score of 4 to 8 on this index. (1,0)		0.026
High Child Anxiety	Parents were asked to rate whether their child was a worrier, a loner, miserable or tearful, or afraid of new situations (scale is frequently, sometimes or never). Items were summated, Range is 0-8. High anxiety is defined having a score of 4 to 8 on this index. (1,0)		0.090
Low Reading Ability	Child's English reading ability is considered below average by teacher (1,0)		0.143

TABLE A2: The Impact of Poverty at Age 7 and Paternal Involvement at Age 11 on Likelihood of Having No Qualifications (FULL LOGIT RESULTS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Family Experienced Financial Difficulty, Age 7	5.595***	2.777***	1.131	4.556***	1.241	1.282	1.111
	(1.019)	(0.551)	(0.265)	(0.855)	(0.290)	(0.299)	(0.261)
Father Interest in Education, Age 11		0.225***	0.396***				0.407***
		(0.021)	(0.042)				(0.044)
Frequency of Father Outings with Child, Age 11				0.515***	0.701***		0.781**
				(0.046)	(0.072)		(0.081)
Low Father Social Class at birth			0.820		0.845	0.861	0.813
			(0.138)		(0.142)	(0.143)	(0.138)
Young Parents at Birth			1.520*		1.858**	1.796**	1.550*
			(0.381)		(0.455)	(0.438)	(0.389)
Mother worked Before School			1.046		1.080	1.076	1.050
			(0.178)		(0.182)	(0.180)	(0.179)
Father Left School at Young Age			1.259		1.474**	1.446*	1.279
			(0.247)		(0.283)	(0.277)	(0.251)
Mother Left School at Young Age			1.380*		1.423**	1.448**	1.350*
			(0.230)		(0.234)	(0.237)	(0.226)
Cohort Member is Male			0.548***		0.560***	0.555***	0.552***
			(0.080)		(0.080)	(0.079)	(0.080)
Missing on Any of the Background Variables			0.720		0.728	0.764	0.702
			(0.236)		(0.234)	(0.244)	(0.230)
Owner-Occupied Home, Age 7			1.053		1.076	1.035	1.085
			(0.289)		(0.297)	(0.285)	(0.298)
Low Father Social Class, Age 7			1.582***		1.616***	1.601***	1.598***
			(0.275)		(0.277)	(0.274)	(0.279)
High Child Aggression, Age 7			0.989		1.040	1.055	0.977
			(0.197)		(0.205)	(0.208)	(0.196)
High Child Anxiety, Age 7			0.964		1.019	1.011	0.978
			(0.220)		(0.228)	(0.226)	(0.223)
Low Reading Ability, Age 7			2.634***		3.219***	3.227***	2.645***
			(0.415)		(0.504)	(0.503)	(0.417)
Mother Worked Since Child Started School, Age 7			1.008		1.024	1.033	0.998
			(0.175)		(0.176)	(0.176)	(0.174)
Number of People in Household, Age 7			1.056		1.037	1.039	1.055
			(0.066)		(0.066)	(0.066)	(0.066)
Missing on Any Age 7 Controls			1.312		1.382	1.372	1.319
			(0.360)		(0.372)	(0.368)	(0.363)
Owner-Occupied Home, Age 11			0.540**		0.430***	0.430***	0.531**
			(0.149)		(0.119)	(0.119)	(0.147)
Low Father Social Class, Age 11			1.332*		1.346*	1.376*	1.312
			(0.227)		(0.227)	(0.231)	(0.224)
High Child Aggression, Age 11			1.870***		1.869***	1.995***	1.790***
			(0.373)		(0.369)	(0.391)	(0.360)
High Child Anxiety, Age 11			0.729*		0.700**	0.706**	0.724*
			(0.129)		(0.122)	(0.122)	(0.128)
Low Reading Ability, Age 11			2.848***		3.370***	3.455***	2.815***
			(0.455)		(0.534)	(0.546)	(0.450)
Mom Worked Age 7-11			1.014		0.949	0.987	0.979
			(0.273)		(0.254)	(0.262)	(0.265)
Mom Worked in Previous Year, Age 11			1.297		1.332	1.331	1.301
			(0.247)		(0.249)	(0.248)	(0.248)
Number of People in Household, Age 11			1.074		1.155**	1.186**	1.055
			(0.078)		(0.085)	(0.086)	(0.078)
Missing on Any Age 11 Controls			1.045		0.953	0.995	1.006
			(0.269)		(0.245)	(0.253)	(0.261)
LR Chi Square	72.55	382.40	621.64	125.35	553.37	541.46	627.22
(df)	(1)	(2)	(26)	(2)	(26)	(25)	(27)
Log Likelihood	-1014.77	-859.85	-740.23	-988.37	-774.36	-780.32	-737.44

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). N=3466

TABLE A3: The Impact of Poverty at Age 7 and Maternal Involvement at Age 11 on Likelihood of Having No Qualifications (FULL LOGIT RESULTS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Family Experienced Financial Difficulty, Age 7	5.595***	3.884***	1.217	4.560***	1.212	1.282	1.157
	(1.019)	(0.744)	(0.285)	(0.857)	(0.284)	(0.299)	(0.273)
Mother Interest in Education, Age 11		0.349***	0.545***				0.556***
		(0.029)	(0.054)				(0.055)
Frequency of Mother Outings with Child, Age 11				0.495***	0.661***		0.694***
				(0.048)	(0.072)		(0.076)
Low Father Social Class at birth			0.831		0.827	0.861	0.804
			(0.139)		(0.139)	(0.143)	(0.136)
Young Parents at Birth			1.632**		1.898***	1.796**	1.707**
			(0.402)		(0.465)	(0.438)	(0.422)
Mother worked Before School			1.066		1.085	1.076	1.072
			(0.179)		(0.182)	(0.180)	(0.181)
Father Left School at Young Age			1.310		1.490**	1.446*	1.347
			(0.253)		(0.287)	(0.277)	(0.261)
Mother Left School at Young Age			1.439**		1.425**	1.448**	1.408**
			(0.237)		(0.235)	(0.237)	(0.233)
Cohort Member is Male			0.552***		0.537***	0.555***	0.534***
			(0.080)		(0.077)	(0.079)	(0.078)
Missing on Any of the Background Variables			0.691		0.726	0.764	0.667
			(0.224)		(0.235)	(0.244)	(0.218)
Owner-Occupied Home, Age 7			1.056		1.082	1.035	1.101
			(0.288)		(0.301)	(0.285)	(0.303)
Low Father Social Class, Age 7			1.606***		1.650***	1.601***	1.653***
			(0.276)		(0.284)	(0.274)	(0.285)
High Child Aggression, Age 7			0.992		1.053	1.055	0.994
			(0.197)		(0.207)	(0.208)	(0.197)
High Child Anxiety, Age 7			0.988		1.018	1.011	0.999
			(0.222)		(0.227)	(0.226)	(0.225)
Low Reading Ability, Age 7			2.879***		3.254***	3.227***	2.906***
			(0.451)		(0.510)	(0.503)	(0.458)
Mother Worked Since Child Started School, Age 7			1.003		1.016	1.033	0.986
			(0.173)		(0.174)	(0.176)	(0.171)
Number of People in Household, Age 7			1.053		1.042	1.039	1.055
			(0.066)		(0.066)	(0.066)	(0.067)
Missing on Any Age 7 Controls			1.387		1.404	1.372	1.414
			(0.379)		(0.378)	(0.368)	(0.386)
Owner-Occupied Home, Age 11			0.489***		0.429***	0.430***	0.483***
			(0.134)		(0.120)	(0.119)	(0.133)
Low Father Social Class, Age 11			1.374*		1.341*	1.376*	1.349*
			(0.232)		(0.226)	(0.231)	(0.228)
High Child Aggression, Age 11			1.882***		1.876***	1.995***	1.791***
			(0.375)		(0.370)	(0.391)	(0.359)
High Child Anxiety, Age 11			0.734*		0.709**	0.706**	0.736*
			(0.128)		(0.123)	(0.122)	(0.128)
Low Reading Ability, Age 11			3.115***		3.291***	3.455***	2.985***
			(0.495)		(0.525)	(0.546)	(0.479)
Mom Worked Age 7-11			1.033		0.951	0.987	0.997
			(0.275)		(0.255)	(0.262)	(0.267)
Mom Worked in Previous Year, Age 11			1.312		1.317	1.331	1.303
			(0.247)		(0.247)	(0.248)	(0.246)
Number of People in Household, Age 11			1.132*		1.154*	1.186**	1.107
			(0.082)		(0.084)	(0.086)	(0.081)
Missing on Any Age 11 Controls			1.043		0.951	0.995	0.995
			(0.266)		(0.245)	(0.253)	(0.256)
LR Chi Square	72.55	252.46	580.08	124.51	555.65	541.46	591.01
(df)	(1)	(2)	(26)	(2)	(26)	(25)	(27)
Log Likelihood	-1014.77	-924.82	-761.01	-988.79	-773.22	-780.32	-755.54

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). N=3466

TABLE A4: The Impact of Poverty at Age 11 and Paternal Involvement at Age 16 on Likelihood of Having No Qualifications (FULL LOGIT RESULTS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Family Experienced Financial Difficulty, Age 11	4.262***	2.558***	1.451	4.227***	1.581**	1.578**	1.449
	(0.713)	(0.475)	(0.343)	(0.708)	(0.367)	(0.367)	(0.343)
Father Interest in Education, Age 16		0.183***	0.384***				0.382***
		(0.019)	(0.049)				(0.049)
How Well Child Gets Along with Father, Age 16				0.889	0.949		1.041
				(0.067)	(0.088)		(0.099)
Low Father Social Class at birth			0.711*		0.739	0.742	0.713*
			(0.145)		(0.149)	(0.150)	(0.146)
Young Parents at Birth			1.562		1.631*	1.637*	1.568
			(0.431)		(0.440)	(0.441)	(0.433)
Mother worked Before School			0.810		0.874	0.872	0.808
			(0.161)		(0.172)	(0.172)	(0.161)
Father Left School at Young Age			1.471*		1.601**	1.597**	1.469*
			(0.330)		(0.351)	(0.350)	(0.330)
Mother Left School at Young Age			1.227		1.230	1.236	1.230
			(0.238)		(0.235)	(0.236)	(0.238)
Cohort Member is Male			0.505***		0.475***	0.474***	0.505***
			(0.089)		(0.082)	(0.082)	(0.088)
Missing on Any of the Background Variables			0.864		0.980	0.982	0.863
			(0.319)		(0.349)	(0.350)	(0.319)
Owner-Occupied Home, Age 7			1.224		1.175	1.173	1.223
			(0.396)		(0.375)	(0.375)	(0.395)
Low Father Social Class, Age 7			1.455*		1.626**	1.627**	1.456*
			(0.310)		(0.340)	(0.341)	(0.310)
High Child Aggression, Age 7			1.349		1.384	1.390	1.353
			(0.312)		(0.311)	(0.312)	(0.313)
High Child Anxiety, Age 7			0.771		0.759	0.762	0.774
			(0.215)		(0.205)	(0.206)	(0.216)
Low Reading Ability, Age 7			1.440*		1.649***	1.640***	1.434*
			(0.269)		(0.303)	(0.301)	(0.268)
Mother Worked Since Child Started School, Age 7			0.880		0.940	0.942	0.879
			(0.176)		(0.185)	(0.185)	(0.176)
Number of People in Household, Age 7			1.036		1.038	1.036	1.034
			(0.074)		(0.074)	(0.074)	(0.073)
Missing on Any Age 7 Controls			0.876		0.845	0.845	0.875
			(0.202)		(0.191)	(0.191)	(0.202)
Owner-Occupied Home, Age 11			0.681		0.652	0.648	0.678
			(0.283)		(0.268)	(0.266)	(0.281)
Low Father Social Class, Age 11			1.277		1.163	1.170	1.282
			(0.272)		(0.248)	(0.249)	(0.274)
High Child Aggression, Age 11			1.425		1.451	1.450	1.426
			(0.343)		(0.345)	(0.345)	(0.343)
High Child Anxiety, Age 11			0.872		0.862	0.865	0.874
			(0.181)		(0.174)	(0.175)	(0.182)
Low Reading Ability, Age 11			2.509***		2.483***	2.481***	2.507***
			(0.465)		(0.454)	(0.454)	(0.465)
Mom Worked Age 7-11			1.463		1.485	1.475	1.457
			(0.469)		(0.465)	(0.462)	(0.467)
Mom Worked in Previous Year, Age 11			1.544**		1.521**	1.529**	1.549**
			(0.336)		(0.325)	(0.327)	(0.337)
Number of People in Household, Age 11			0.925		0.983	0.982	0.924
			(0.107)		(0.110)	(0.110)	(0.106)
Missing on Any Age 11 Controls			1.283		1.311	1.307	1.283
			(0.374)		(0.374)	(0.373)	(0.375)

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). N=3367

TABLE A4: The Impact of Poverty at Age 11 and Paternal Involvement at Age 16 on Likelihood of Having No Qualifications (FULL LOGIT RESULTS). Continued.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Owner-Occupied Home, Age 16			1.003		0.826	0.831	1.008
			(0.332)		(0.270)	(0.270)	(0.333)
Low Father Social Class, Age 16			0.991		1.054	1.048	0.987
			(0.224)		(0.236)	(0.235)	(0.223)
High Child Aggression, Age 16			0.956		0.802	0.820	0.972
			(0.395)		(0.327)	(0.333)	(0.403)
High Child Anxiety, Age 16			1.085		1.059	1.059	1.087
			(0.305)		(0.291)	(0.291)	(0.305)
Low Reading Ability, Age 16			8.474***		12.440***	12.431***	8.453***
			(1.580)		(2.248)	(2.247)	(1.577)
Mom Worked For Pay, Age 16			0.881		0.876	0.879	0.885
			(0.170)		(0.165)	(0.165)	(0.170)
Number of People in Household, Age 16			1.230**		1.237**	1.245**	1.235**
			(0.123)		(0.122)	(0.122)	(0.124)
Missing on Any Age 16 Controls			1.344		1.312	1.321	1.350
			(0.349)		(0.335)	(0.337)	(0.351)
LR Chi Square	61.66	399.57	748.99	64.08	688.75	688.43	749.17
(df)	(1)	(2)	(34)	(2)	(34)	(33)	(35)
Log Likelihood	-882.26	-713.31	-538.60	-881.05	-568.72	-568.88	-538.51

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). N=3367

TABLE A5: The Impact of Poverty at Age 11 and Maternal Involvement at Age 16 on Likelihood of Having No Qualifications (FULL LOGIT RESULTS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Family Experienced Financial Difficulty, Age 11	4.262***	2.725***	1.454	4.260***	1.581**	1.578**	1.450
	(0.713)	(0.500)	(0.344)	(0.713)	(0.367)	(0.367)	(0.344)
Mother Interest in Education, Age 16		0.216***	0.445***				0.442***
		(0.021)	(0.054)				(0.054)
How Well Child Gets Along with Mother, Age 16				0.959	0.957		1.040
				(0.083)	(0.099)		(0.111)
Low Father Social Class at birth			0.735		0.740	0.742	0.736
			(0.150)		(0.149)	(0.150)	(0.150)
Young Parents at Birth			1.515		1.635*	1.637*	1.517
			(0.415)		(0.441)	(0.441)	(0.416)
Mother worked Before School			0.816		0.870	0.872	0.817
			(0.162)		(0.171)	(0.172)	(0.163)
Father Left School at Young Age			1.505*		1.598**	1.597**	1.506*
			(0.336)		(0.350)	(0.350)	(0.336)
Mother Left School at Young Age			1.201		1.238	1.236	1.198
			(0.232)		(0.236)	(0.236)	(0.232)
Cohort Member is Male			0.493***		0.473***	0.474***	0.494***
			(0.086)		(0.082)	(0.082)	(0.086)
Missing on Any of the Background Variables			0.877		0.980	0.982	0.877
			(0.323)		(0.349)	(0.350)	(0.323)
Owner-Occupied Home, Age 7			1.240		1.170	1.173	1.245
			(0.401)		(0.374)	(0.375)	(0.403)
Low Father Social Class, Age 7			1.513*		1.630**	1.627**	1.509*
			(0.322)		(0.341)	(0.341)	(0.321)
High Child Aggression, Age 7			1.343		1.379	1.390	1.352
			(0.307)		(0.311)	(0.312)	(0.310)
High Child Anxiety, Age 7			0.773		0.764	0.762	0.769
			(0.214)		(0.206)	(0.206)	(0.214)
Low Reading Ability, Age 7			1.483**		1.648***	1.640***	1.477**
			(0.277)		(0.302)	(0.301)	(0.276)
Mother Worked Since Child Started School, Age 7			0.901		0.943	0.942	0.898
			(0.179)		(0.185)	(0.185)	(0.179)
Number of People in Household, Age 7			1.033		1.039	1.036	1.029
			(0.074)		(0.074)	(0.074)	(0.074)
Missing on Any Age 7 Controls			0.866		0.847	0.845	0.863
			(0.199)		(0.192)	(0.191)	(0.198)
Owner-Occupied Home, Age 11			0.716		0.656	0.648	0.709
			(0.296)		(0.270)	(0.266)	(0.294)
Low Father Social Class, Age 11			1.256		1.171	1.170	1.256
			(0.267)		(0.249)	(0.249)	(0.268)
High Child Aggression, Age 11			1.421		1.453	1.450	1.419
			(0.342)		(0.346)	(0.345)	(0.341)
High Child Anxiety, Age 11			0.892		0.865	0.865	0.892
			(0.184)		(0.175)	(0.175)	(0.184)
Low Reading Ability, Age 11			2.559***		2.487***	2.481***	2.552***
			(0.474)		(0.455)	(0.454)	(0.473)
Mom Worked Age 7-11			1.501		1.480	1.475	1.497
			(0.484)		(0.463)	(0.462)	(0.483)
Mom Worked in Previous Year, Age 11			1.554**		1.529**	1.529**	1.554**
			(0.336)		(0.327)	(0.327)	(0.336)
Number of People in Household, Age 11			0.934		0.976	0.982	0.939
			(0.107)		(0.110)	(0.110)	(0.108)
Missing on Any Age 11 Controls			1.259		1.315	1.307	1.252
			(0.370)		(0.376)	(0.373)	(0.369)

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). N=3367

TABLE A5: The Impact of Poverty at Age 11 and Maternal Involvement at Age 16 on Likelihood of Having No Qualifications (FULL LOGIT RESULTS). Continued.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Owner-Occupied Home, Age 16			0.915		0.824	0.831	0.923
			(0.300)		(0.269)	(0.270)	(0.303)
Low Father Social Class, Age 16			1.004		1.050	1.048	1.003
			(0.227)		(0.235)	(0.235)	(0.227)
High Child Aggression, Age 16			0.873		0.809	0.820	0.882
			(0.361)		(0.329)	(0.333)	(0.365)
High Child Anxiety, Age 16			1.110		1.060	1.059	1.109
			(0.306)		(0.291)	(0.291)	(0.306)
Low Reading Ability, Age 16			9.032***		12.429***	12.431***	9.016***
			(1.679)		(2.246)	(2.247)	(1.677)
Mom Worked For Pay, Age 16			0.874		0.878	0.879	0.876
			(0.167)		(0.165)	(0.165)	(0.168)
Number of People in Household, Age 16			1.242**		1.246**	1.245**	1.241**
			(0.123)		(0.122)	(0.122)	(0.123)
Missing on Any Age 16 Controls			1.363		1.323	1.321	1.360
			(0.351)		(0.337)	(0.337)	(0.350)
LR Chi Square	61.66	349.23	734.69	61.90	688.60	688.43	734.83
(df)	(1)	(2)	(34)	(2)	(34)	(33)	(35)
Log Likelihood	-882.26	-738.48	-545.75	-882.15	-568.79	-568.88	-545.68

* p < .10; ** p < .05; *** p < .01 (Standard errors in parentheses). N=3367