



Aiming high, aiming low, not knowing where to go: Career aspirations and later outcomes of adolescents with special educational needs

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ABSTRACT

This study investigates the role of early career aspirations in predicting the later educational and occupational outcomes of adolescents designated as having special educational needs (SEN) in comparison to those without SEN. Drawing upon the Longitudinal Study of Young People in England, the sample includes adolescents with and without SEN who attended mainstream schools ($n = 9966$). Findings showed that high career aspirations at age 14 were more predictive of later educational and employment outcomes from ages 16 to 20 for adolescents with SEN compared to those without SEN. Findings underline the importance of helping adolescents with SEN identify their career aspirations in early adolescence and adopt appropriate strategies to encourage them to reach their potential.

1. Introduction

Previous research has shown that many adolescents with high career aspirations obtain higher educational qualifications as well as jobs with higher occupational prestige and wage attainments later in adulthood compared to those with low aspirations (Mello, 2008; Schoon, Martin, & Ross, 2007; Schoon & Parsons, 2002; Schoon & Polek, 2011). However, the association between early occupational aspirations and attainment is not necessarily a straightforward one (Carter-Wall & Whitfield, 2012; Gutman & Akerman, 2008). While most adolescents have aspirations to attend university and get a good job (Schoon, 2010), the barrier for many is not having low aspirations – but realizing their ambitions (Schneider & Stevenson, 1999).

The relationship between career aspirations and later attainment may be especially complicated for adolescents with special educational needs (SEN). While the identification of SEN is intended to provide additional support for the student, it also results in labeling with the risks of negative stigma, feelings of inferiority and reduced expectations from teachers and parents (Cambell et al., 2003; Cross & Donovan, 2002; Norwich, 1992). Studies have shown that adolescents with learning difficulties not only have lower career aspirations (Rojewski, 1996a, 1996b, 1999), they also experience significantly worse educational and employment outcomes compared to their peers without learning difficulties (Rojewski, Lee, & Gregg, 2014; Sanford et al., 2011).

In order to support young people with SEN, we need to have better understanding of the relationship between their career aspirations and later educational and employment outcomes, especially in comparison to those without SEN. While adolescents with SEN may be more likely to have lower career aspirations and outcomes, are their career aspirations more or less important in

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predicting their future educational and occupational pathways compared to those without SEN? While qualitative studies have emphasized the importance of early career planning for adolescents with SEN (e.g., Beyer, Kaehne, Grey, Sheppard, & Meek, 2008), there is less quantitative work investigating the association between the early career aspirations of young people with SEN and their later outcomes. In particular, we found no recent empirical studies comparing the association between early career aspirations and later educational and employment outcomes for adolescents with and without SEN. Such information would enhance our understanding of what early factors we can put in place to support young people with SEN as they prepare to make their school-to-work transition.

Using a nationally representative study of adolescents in England, we investigate the role of career aspirations at age 14 in predicting later educational and occupational outcomes from ages 16 to 20 of adolescents with SEN in comparison to those without SEN. For our outcomes, we focus on two important indicators of successful development for both education and employment: GCSE (General Certificate of Secondary Education) and NEET (not in education, employment or training) status. In England, GCSE acts as a gateway to later educational opportunities, offering students who have 5 A-C exam grades further study in preparation for university enrollment. NEET is an important indicator of worklessness and school disengagement for young people and is associated with worse labor market outcomes in the longer term (Britton, Gregg, Macmillan, & Mitchell, 2011; Dorsett & Lucchino, 2015). In England, young people with SEN are half as likely to achieve 5 or more GCSE exam grades A-C and are more than twice as likely to be NEET by the time they leave school than their peers without SEN (DfE, 2011). Young people who previously held a statement of SEN are also less likely to continue in education after compulsory schooling age (i.e., age 16) than those who have never been categorized as having SEN (DfE, 2011). Below, we provide a definition of SEN, then explain our theoretical framework and research hypotheses.

1.1. Defining SEN

Defining SEN is not a straightforward endeavor, as definitions vary across countries, comprising multiple manifestations and measures. According to the Office for Economic Collaboration and Development, a child is identified as having SEN “if he or she is not able to benefit from the school education made generally available for children of the same age without additional support or adaptations in the context of studies” (OECD, 2012). The classification of SEN can cover a range of needs including physical or mental disabilities, cognition or educational impairments. Country-specific definitions of SEN vary according to whether children with certain disabilities are included in the classification and depend on country-specific legislation. Thus, in some countries, such as Greece and Sweden, only children attending special programs in special schools are identified as having SEN, and not those attending mainstream school. In the UK, in contrast, most children with SEN are integrated into mainstream schooling, except those with more complex or profound needs requiring a special school (Ofsted, 2010). According to a review conducted by the UK Office for Standards in Education, Children’s Services and Skills, “pupils have special educational needs if they have learning difficulties that need special educational provision. They have learning difficulties if they find it much harder to learn than most pupils of the same age or they have disabilities that make it much more difficult for them in school” (Ofsted, 2010).¹ Their special needs can include profound and multiple learning difficulty; behavior, emotional and social difficulty; and speech, language and communication needs. The evidence presented in the review shows that in 2006 about 19% of pupils in England were identified as having SEN. Especially at risk were boys, children in receipt of free school meals and ethnic minorities.

In the following study, the operationalization of SEN is based on the identification and provision of additional educational support at school. In the LSYPE, linkage is available to other administrative data, such as the National Public Database (NPD), which includes individual school data including national assessments for all children in England. Using the NPD, we identified students with SEN who attended mainstream schools, excluding those who attended special schools for children with profound and severe needs and those with physical disabilities.

1.2. Theoretical models of career development in adolescence

Adolescence represents an important developmental period when young people consider their educational trajectories and contemplate their future career choices. Early decisions set in motion a series of later options, leading to either greater opportunities or restricted pathways. Within ecological models of career development, it is recognized that the expression and realization of occupational choice has to be understood against the backdrop of socio-cultural constraints and opportunities, and perceptions of viable options within these constraints (Schoon & Eccles, 2014). Formulating aspirations regarding different educational and vocational pathways is a key developmental task of adolescents, and career theorists view career aspirations as a central component of vocational identity formation (Erikson, 1968; Skorikov & Vondracek, 2011). Career aspirations represent adolescent’s conceptualization of their own talents, goals and interests and serve as a vehicle through which they may actualize their emerging vocational identity. Career aspirations, therefore, can act as compass to navigate one’s occupational trajectory.

Gottfredson’s theory of circumscription and compromise (1981; 2005) describes how career choice develops across childhood and adolescence. As children mature into adolescents, their personal identities and external realities shape their career aspirations. Their self-concept in terms of their interests, values and talents plays an important role in occupational choice, yet perceived barriers such as the cost and effort of obtaining relevant education, training and employment may force compromise in their aspirations.

¹ In Scotland, however, the language and understanding of need is different and is referred to as Additional Support for Learning (ASL) in recognition that any young person, at any time, could have an additional need.

Gottfredson posits that there may be certain *boundaries of tolerable effort* in career choice. In other words, individuals may dismiss occupations if they appear too difficult to obtain with reasonable effort or present too high a risk of failure. The *boundary of tolerable effort* is largely based on one's own academic ability.

Motivation theories also underline the importance of personal and family factors in shaping adolescents' career aspirations. Social Cognitive Career Theory (SCCT) asserts that if individuals believe that they can succeed in an occupation, they are more likely to pursue it (Lent, Brown, Sheu, Schmidt, & Brenner, 2005). In a similar vein, Eccles' expectancy-value model emphasizes one's own self-concept of ability, motivation and perceived cost as important predictors of behavioral choice and later performance (Eccles & Wigfield, 2002; Eccles et al., 1983). The primacy of parents is also highlighted as shaping adolescents' aspirations (Eccles, 1993, 2006). In addition to structural features of the family, parental expectations have been shown to contribute to the development of adolescents' aspirations and choices (Eccles, Barber, & Jozefowicz, 1999; Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001; Schoon, 2010). These expectations, in turn, are affected by previous experiences and socialization influences such as prior achievement. For example, adolescents from higher socioeconomic backgrounds tend to have higher occupational aspirations than their counterparts from lower socio-economic backgrounds, even after controlling for academic ability – and so do their parents (Gutman & Schoon, 2012; Mau & Bikos, 2000; Schoon & Parsons, 2002).

The influence of socio-demographic variables such as gender and race/ethnicity have also been highlighted. These are significant variables for career aspirations as they influence individual's access to resources and opportunities, their experiences of discrimination and compromises in their career choice (Lent et al., 2005; Gottfredson, 2004). Previous research has shown that female adolescents tend to report occupational aspirations equal to or higher than male adolescents (Gutman & Schoon, 2012; Mello, 2008; Rojewski & Kim, 2003; Schoon, 2006), although no practical gender differences have been found in the career aspirations of adolescents with learning disabilities (Rojewski, 1996a, 1996b). In terms of race/ethnicity, studies using the LSYPE have found that ethnic minority adolescents living in England tend to have higher career aspirations compared to their White British counterparts (Gutman, Sabates, & Schoon, 2014; Gutman & Schoon, 2012; Strand, 2007), which has been explained by differences in cultural attitudes towards higher education (Torgerson, Gorard, Low, & Ainsworth, 2008), and the expectation that better qualifications will reduce the effect of possible future racial discrimination in the labor market (Connor, Tyers, Modood, & Hillage, 2004).

There are also different approaches to examining career aspirations. Many empirical studies have analyzed career aspirations as a dichotomous construct coded according to prestige or socioeconomic level (i.e., high, professional versus low, manual occupations). However, not all adolescents have definitive ideas concerning what they want to do for their future jobs. For example, research on adolescents in England finds that 20% express uncertainty in their career aspirations and do not know what sort of career they wish to have in the future (Gutman & Schoon, 2012). Students with learning difficulties have been shown to be more indecisive about future occupational alternatives compared to their peers without (Rojewski, 1996a, 1996b). Nevertheless, the relationship between uncertainties in career aspirations and later educational and employment outcomes have rarely been examined in quantitative research for adolescents with SEN.

1.3. Current study

Drawing upon the Longitudinal Study of Young People in England (LSYPE), this study examines the career aspirations of adolescents designated as having SEN, who attend mainstream schools in England. The research aims are twofold: (1) to provide descriptive information on the career aspirations, sociodemographic variables and outcomes of adolescents with SEN in comparison to those without SEN and (2) to analyse whether career aspirations at age 14 are more or less important in predicting later educational and employment outcomes from ages 16 to 20 for adolescents with SEN in comparison to those without.

In recognition of Gottfredson's *boundary of tolerable effort* (2005), as well as the notion of perceived costs in Eccles' expectancy-value model (Eccles & Wigfield, 2002) – and in light of previous evidence (Rojewski, 1996a, 1996b, 1999; Rojewski et al., 2014); we expect (1) that adolescents with SEN will have lower and more uncertain career aspirations than their peers without SEN. In consideration of previous evidence showing that career aspirations are not necessarily predictive of attainment in disadvantaged adolescents (Carter-Wall & Whitfield, 2012; Gutman & Akerman, 2008), we also postulate (2) that the association between career aspirations and later outcomes might be stronger for those without SEN, as they may have greater access to opportunities and be less likely to experience barriers to their aspirational fulfilment compared to those with SEN.

Given the importance of prior academic ability, parental expectations, academic self-concept, school motivation and socio-demographic characteristics highlighted in socio-ecological theories of career development (e.g., Eccles et al., 1983; Lent et al., 2005; Schoon & Eccles, 2014), these covariates are taken into account in the analyses. Furthermore, the study takes a multi-dimensional view of career aspirations, including both prestige level and uncertainty.

2. Method

2.1. Data source

The study draws on data collected for the LSYPE (Department for Education National Centre for Social Research, 2012), a panel study of young people in Year 9 (age 14) in all secondary schools in England in February 2004 and born between 1st of September 1989 and 31st of August 1990. The achieved sample consisted of 15,570 pupils drawn from over 658 secondary schools. Annual face-to-face interviews were conducted with adolescents and their parents since 2004. There are seven waves of data covering ages 14–20.

As all longitudinal studies, LSYPE experienced sample loss between the multiple waves. Special sample weights which are calculated and available from the LSYPE website were applied. These weights correct for differential selection probabilities and non-response bias.

2.2. Analytic sample

The analytic sample used for the study comprises adolescents who attended mainstream schools, excluding those who attended special schools catering for students designated as having SEN due to severe learning difficulties, physical disabilities or behavioral problems ($n = 139$). Further excluded were adolescents who attended mainstream schools but whose specific SEN related to having physical disabilities, being gifted or talented or not having English as a first language, using parent-reported data at Waves 1 and 2 ($n = 389$). This provided a final analytic sample of 9966 adolescents with complete data on SEN provision and Wave 1 career aspirations.

2.3. Measures

2.3.1. SEN provision

Students with special educational needs comprise those identified to be in need of School Action (SA), School Action Plus (SAP) or a Statement of SEN. As defined by the SEN code of practice in England ([Department for Education & Skills, 2001](#)), SA is where the teacher or Special Educational Needs Coordinator (SENCO) decides to provide support for the child additional to or different from the school's usual differentiated approach to help children learn, SAP is where the school consults specialists and requests help from external services and a Statement is where the child requires support beyond that which the school can provide and the local authority arranges and funds appropriate provision such as classroom assistant. In the analytic sample, 84% did not have any SEN ($n = 8449$), 10% had SA ($n = 988$), 4% had SAP ($n = 384$) and 2% had a Statement ($n = 145$).

2.3.2. Adolescent gender

The gender of the adolescent was coded as (0) female versus (1) male.

2.3.3. Adolescent Race/Ethnicity

The ethnicity of the adolescent was coded as (1) ethnic minority versus (0) White. Given the ethnic diversity in England, the different ethnic groups were too numerous and the n of each group was too small to examine differences among the groups individually.

2.3.4. Prior academic performance at age 11

Academic performance was obtained from the NPD and calculated using a standardized average of math and English scores in national curriculum tests given at age 11.

2.3.5. Parental highest occupational status

Parental occupational status was assessed at Wave 1 based on the Standard Occupational Classification (OPCS, 1991) and was coded into three occupational categories of increasing occupational status (1 = unskilled occupations, 2 = skilled occupations, 3 = professional and managerial occupations).

2.3.6. Parental highest educational status

Parental educational status was assessed at Wave 1 and was coded into five categories of increasing educational attainment (1 = less than secondary school, 2 = GCSE completion, 3 = A-levels or equivalent, 4 = less than university, 5 = university degree or higher).

2.3.7. Parental marital status

Parental marital status was assessed at Wave 1, where 1 = married; 0 = single, divorced or widowed.

2.3.8. Parental educational expectations

Parents were asked with a single item at Wave 1 (age 14) what they expected their child to do when reaching school leaving age (after the school year when the student is age 16). Responses included (1 = continue in education, 2 = get an apprenticeship, 3 = learn a trade, 4 = get a job, 5 = something else). High parental expectations were assigned to parents who expected the cohort member to continue in education after age 16 (1 = continue in full-time education; 0 = not continue in education).

2.3.9. School motivation

($\alpha = 0.77$) Adolescents were asked seven items at Wave 1 (age 14). Items included: "I am happy when I am at school." "School is a waste of time for me (recoded)." "The work I do in lessons is interesting to me." and "I do not like school (recoded)." (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree). The validity of the school motivation scale has been demonstrated in studies linking it to educational and occupational attainment ([Schoon, 2008](#)), especially among disadvantaged adolescents ([Duckworth & Schoon, 2012](#)).

2.3.10. Academic self-concept

($\alpha = 0.76$). Adolescents were asked six items at Wave 1 (age 14). Items included: “I am good at math.” “I am good at English.” and “I am good at science.” (1 = not good at all, 2 = fairly good, 3 = good, 4 = very good); “I am good at school work.” and “My teachers think I am good at school work.” (1 = not good at all, 2 = below average, 3 = average or above average, 4 = very good) and “I get good marks for my work.” (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree).

2.3.11. Career aspirations

The starting point was a question asked of all adolescents at age 14 (Wave 1): “Do you have any ideas of the kind of job you want to do after full-time education?” Those who answered ‘no’ were defined as having uncertain career aspirations. For those who knew the kind of job they wanted to do after full-time education, an open-ended question was then asked to describe this job. Next, each of their career aspirations were coded according to the following three categories: professional/managerial occupations, skilled occupations (e.g., technical and administrative) and semi-skilled and unskilled (e.g., service and operative). The use of a one-item measure of occupational aspirations is justified, since expressed interest in a profession has been shown to predict the category of a person’s future occupation (Holland, Gottfredson, & Baker, 1990).

2.3.12. Academic performance at age 16

A measure of academic performance was calculated using total capped GCSE scores taken from the NPD in individual academic subjects given at the end of Key Stage 4.

2.3.13. Not in education, employment or training (NEET) from ages 16 to 20

The total number of months being NEET from September 2006 (two months after the respondents completed compulsory education) until May 2010 (the first month of interviews for Wave Seven) was calculated.

2.3.14. Analytic plan

First, descriptive statistics are presented. For career aspirations, chi-squared tests were performed to assess differences among the categories of SEN provision. Post-hoc tests were then conducted to compare all possible pairwise differences among the categories. We used the Bonferroni correction to adjust for multiple comparisons. An analysis of variance (ANOVA) was conducted to assess differences among the categories of SEN provision for the covariates and outcomes. Again, post-hoc tests were conducted using the Bonferroni correction to adjust for multiple comparisons.

Second, a series of multiple regression models were run for both academic performance at age 16 and months being NEET from ages 16 and 20. For the categorical measures, dummy codes were created for the regression models. For parental occupational status, we differentiated between parents having a professional/managerial position (which was the reference category) versus parents with skilled and unskilled occupations. For career aspirations, we differentiated between aspirations for professional/managerial jobs (reference category), skilled jobs, unskilled jobs and uncertain aspirations. For SEN, we identified adolescents with no SEN (reference category), those with SA and those with either SAP or a Statement (combining the two categories). A combined SAP/Statement category was justified for four reasons: First, SAP and Statement represent those who receive specialist provision. Second, both SAP and Statement had small sample sizes, especially across the different categories of career aspirations (see Tables 1 and 2). Third, there were no significant differences in percentages of adolescents with either SAP or a Statement who had professional/managerial, skilled or unskilled career aspirations, although those with a Statement had more uncertain career aspirations than those with SAP (see Table 1). Lastly, there were no significant differences in the later educational and employment outcomes of adolescents with either SAP or a Statement, whereas those with SA had significantly better outcomes compared to both groups (see Table 2).

Table 1
Career Aspirations of Young People According to SEN.

SEN Category	No SEN	SA	SAP	Statement
Career Aspirations				
Professional/Managerial	30% ^a	19% ^b	15% ^c	15% ^c
Skilled	40% ^a	48% ^b	50% ^b	44% ^b
Unskilled	10% ^a	13% ^b	15% ^b	11% ^{ab}
Uncertain	20% ^a	20% ^a	20% ^a	30% ^b
N	8449	988	384	145

Note. SEN categories with the same superscript letter do not differ significantly from each other at the 0.05 level, while those SEN categories with different superscript letters differ significantly at the 0.05 level.

Table 2
Differences among SEN provision for covariates and outcomes.

Variables	Means(SD)				F-Test
	No SEN	SA	SAP	Statement	
Male	0.49(0.50) ^a	0.59(0.49) ^b	0.62(0.49) ^c	0.81(0.39) ^d	38.77***
Ethnic Minority	0.32(0.47) ^a	0.40(0.49) ^b	0.35(0.48) ^b	0.33(0.47) ^a	7.91***
Parental Occupation	3.01(0.93) ^a	2.64(0.96) ^b	2.52(0.96) ^b	2.73(0.90) ^b	82.05***
Parental Education	2.32(1.33) ^a	1.89(1.19) ^b	1.88(1.20) ^b	1.85(1.17) ^b	45.83***
Parental Marital Status	0.77(0.42) ^a	0.63(0.48) ^b	0.56(0.50) ^b	0.69(0.47) ^{ab}	60.15***
Prior Academic Ability at 11	0.24(0.83) ^a	−0.85(0.95) ^b	−0.92(1.04) ^b	−1.67(1.00) ^c	867.11***
Parental Expectations	0.78(0.42) ^a	0.57(0.49) ^b	0.49(0.50) ^{bc}	0.48(0.50) ^c	132.07***
School Motivation	3.22(0.47) ^a	3.07(0.56) ^b	2.99(0.57) ^c	3.01(0.53) ^{bc}	61.78***
Academic Self-Concept	3.09(0.40) ^a	2.96(0.43) ^b	2.89(0.46) ^c	2.82(0.53) ^c	74.07***
Academic Performance at 16	325.25(81.64) ^a	222.75(103.22) ^b	177.43(114.90) ^c	164.98(104.83) ^c	874.74***
NEET (16–20 years)	2.84(6.59) ^a	6.41(9.91) ^b	8.06(11.38) ^c	7.99(10.97) ^c	143.81***

Note. SEN categories with the same superscript letter do not differ significantly from each other at the 0.05 level, while those SEN categories with different superscript letters differ significantly at the 0.05 level.

3. Results

3.1. Descriptive statistics

Table 1 presents the percentages of adolescents who aspire to unskilled, skilled or professional careers or those who are uncertain according to the different categories of SEN provision. A chi-square test of independence between SEN provision and career aspirations was statistically significant, $\chi^2 (9, N = 9966) = 131.87, p < .001$. Post-hoc analyses revealed there were significant differences in aspirations among the categories of SEN, with adolescents with a Statement being more likely to report uncertain aspirations than adolescents without SEN, those with SA or those with SAP (see Table 1). Adolescents with SEN (including those with SA, SAP or a Statement) were less likely to aspire to a professional/managerial job and more likely to aspire to a skilled job than those without SEN. Those with SAP or a Statement were less likely to aspire to a professional/managerial job compared to those with SA. Adolescents with SA or SAP were more likely to aspire to an unskilled job compared to those without SEN.

Table 2 presents the means and SD of the covariates and outcomes according to the different categories of SEN provision. There were significant differences among the categories of SEN for all of the covariates and outcomes. Post-hoc analyses revealed significant differences between the specific categories of SEN. Adolescents with SEN were more likely to be male than those without SEN and the percentage of males significantly increased with greater provision. Adolescents with SA or SAP were more likely to be ethnic minorities than those without SEN or those with a Statement. Parents of adolescents with SEN had lower occupational status and educational attainment than parents of adolescents without SEN, and were less likely to be married, although there were no differences in parental marital status between those with a Statement and those without SEN. Parents of adolescents with SEN also had lower educational expectations for them and adolescents with SEN reported having lower school motivation and a lower academic self-concept than those without SEN. Adolescents with SEN also had lower levels of academic achievement at both 11 and 16 years, as well as more months being NEET from ages 16 to 20 than those without SEN. There were, however, differences in academic attainment and NEET status among those with SEN. Adolescents with either SA or SAP had higher achievement at age 11 than those with a Statement and adolescents with SA had higher achievement at age 16 than those with either SAP or a Statement. Moreover, those with either SAP or a Statement had more months at being NEET from ages 16 to 20 than those with SA.

3.2. Career aspirations as predictors of educational and employment outcomes

As shown in Tables 3 and 4, we ran a series of regression models using career aspirations as predictors of later educational and employment related outcomes. For both, we adopted a hierarchical strategy to assess different underlying processes. In a first model, the relationship between SEN provision and the later educational or employment outcome was examined, taking into account the covariates (i.e., adolescents' gender, race/ethnicity and prior academic performance at age 11; parental occupational, educational and marital status; parental expectations and adolescents' school motivation and academic self-concept). In a second model, career aspirations were entered. This provided the association between career aspirations and the later outcome, taking into account the covariates and adolescents' SEN provision. The last model examined whether the relationship between career aspirations and the later outcome was stronger for those with SEN compared to those without SEN. In order to do this, a series of interaction terms between SEN provision and career aspirations were entered into the regression models. Figs. 1 and 2 present the significant interactions between SEN provision and career aspirations for GCSE scores and months of NEET, respectively. In the figures, the average scores on the outcomes were calculated for the average person with varying SEN provision and career aspirations.

3.3. Academic performance at age 16

As shown in the first model, adolescents with SEN had lower GCSE scores at age 16 than those without SEN, taking into account

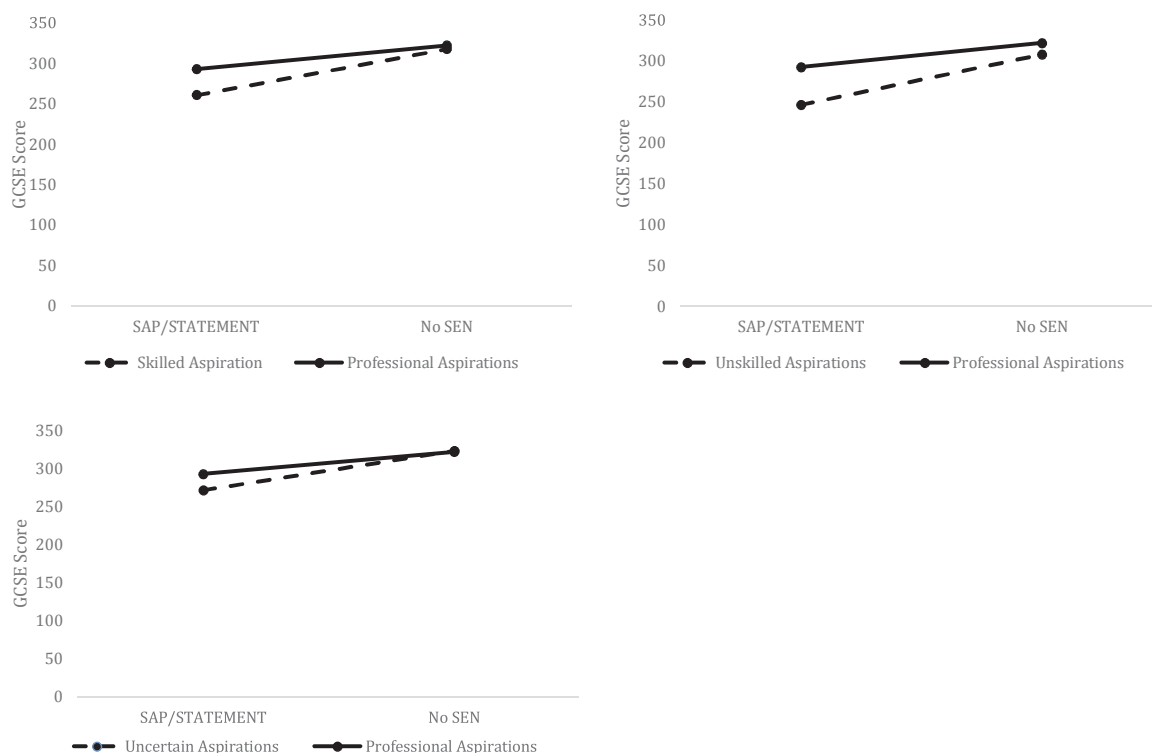


Fig. 1. Significant Interactions between SEN and Career Aspirations for Academic Performance at Age 16.

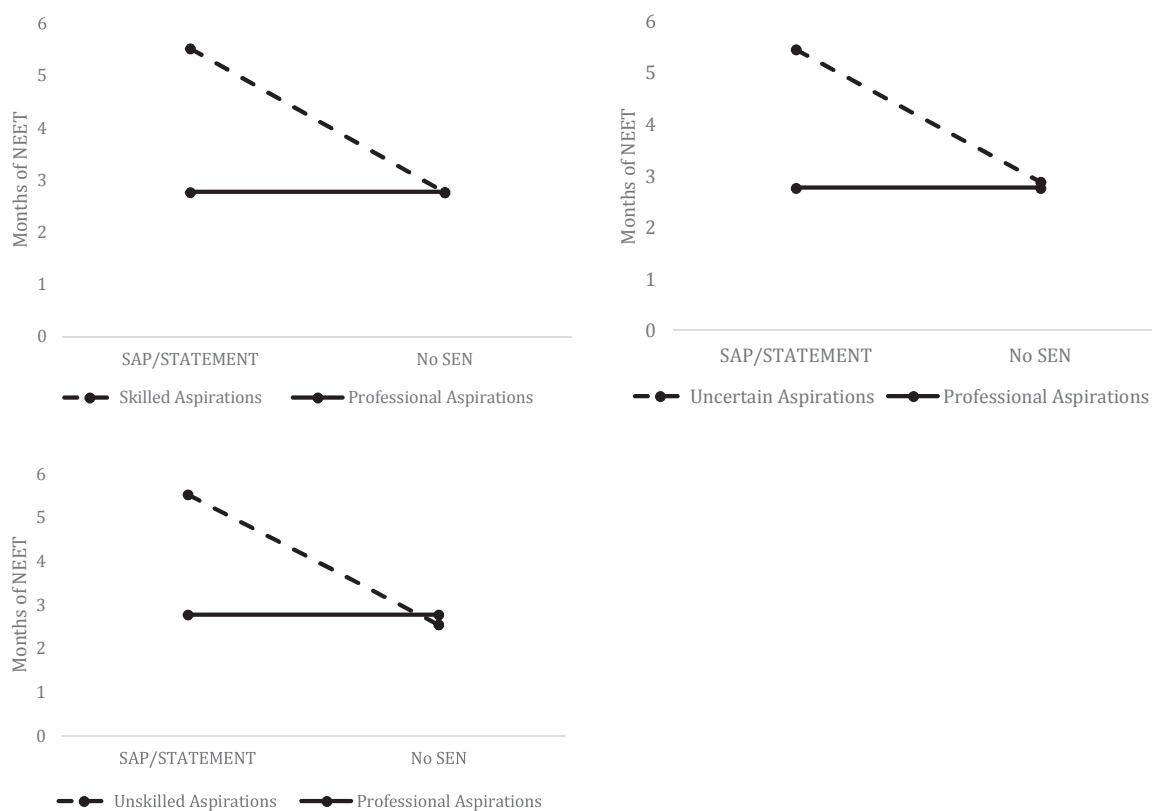


Fig. 2. Significant Interactions between SEN and Career Aspirations for Months being NEET from Ages 16 to 20.

Table 3
Regression Models of Academic Performance at Age 16.

Variables	Model 1	Model 2	Model 3
Constant	149.77(6.11) ^{***}	157.87(6.42) ^{***}	157.45(6.43) ^{***}
SA	–27.69(2.25) ^{***}	–27.75(2.24) ^{***}	–24.00(4.81) ^{***}
SAP/Statement	–51.66(3.02) ^{***}	–51.86(3.01) ^{***}	–29.32(7.21) ^{***}
Male	–14.34(1.28) ^{***}	–16.22(1.33) ^{***}	–16.11(1.33) ^{***}
Ethnic Minority	12.98(1.43) ^{***}	11.00(1.45) ^{***}	10.95(1.45) ^{***}
Skilled Parent Occupation	–6.84(1.60) ^{***}	–6.60(1.60) ^{***}	–6.65(1.60) ^{***}
Unskilled Parent Occupation	–19.07(1.76) ^{***}	–18.93(1.76) ^{***}	–18.94(1.76) ^{***}
Highest Parental Education	5.15(0.55) ^{***}	5.10(0.55) ^{***}	5.08(0.54) ^{***}
Parental Marital Status	25.04(1.50) ^{***}	24.63(1.49) ^{***}	24.61(1.49) ^{***}
Prior Academic Ability	51.02(0.83) ^{***}	50.19(0.83) ^{***}	50.18(0.83) ^{***}
Parental Expectations	25.91(1.59) ^{***}	24.55(1.60) ^{***}	24.52(1.60) ^{***}
School Motivation	25.99(1.36) ^{***}	25.73(1.36) ^{***}	25.71(1.36) ^{***}
Academic Self-Concept	12.65(1.70) ^{***}	12.44(1.70) ^{***}	12.36(1.70) ^{***}
Skilled Career Aspirations		–5.59(1.58) ^{***}	–4.29(1.66) ^{***}
Unskilled Career Aspirations		–16.12(2.38) ^{***}	–13.67(2.57) ^{***}
Uncertain Career Aspirations		1.58(1.84)	1.82(1.96)
SA*Skilled			–5.79(5.64)
SA*Unskilled			–11.82(7.52)
SA*Uncertain			1.88(6.65)
SAP/Statement *Skilled			–27.33(8.25) ^{***}
SAP/Statement *Unskilled			–32.16(10.38) ^{***}
SAP/Statement*Uncertain			–22.46(9.35) [*]
F	1213.87 ^{***}	981.59 ^{***}	702.73 ^{***}
R ²	0.60	0.60	0.61

* p < 0.05.

** p < 0.01.

*** p < 0.001.

the covariates (see Table 3). In the second model, adolescents who reported career aspirations for skilled or unskilled jobs had lower GCSE scores at age 16 than those with aspirations for professional/managerial jobs, taking into account the covariates. There were no differences in the GCSE scores of adolescents who reported uncertain career aspirations compared to those who reported aspirations for professional/managerial jobs, however.

As shown in the third model, there were significant interactions between SEN provision and career aspirations for adolescents with SAP/Statement. For adolescents with SAP/Statement, those who reported skilled, unskilled or uncertain career aspirations had significantly lower GCSE scores than those who reported professional/managerial aspirations; while there were little or no differences in the GCSE scores of adolescents without SEN, regardless of their career aspirations (see Fig. 1). As shown in Fig. 1, for example, the total GCSE score of the average young person with SAP/Statement who had aspirations for a skilled job was 31.62 points lower (equivalent to one-half of an extra GCSE exam at grade A*) than the average young person with SAP/Statement who reported professional/managerial aspirations, while the difference between adolescents without SEN who reported professional/managerial versus skilled aspirations was 4.29 points. For those adolescents with SA, there were no significant interactions, only significant main effects.

3.4. Months being NEET from ages 16 to 20

As shown in the first model, adolescents with SEN experienced more months of being NEET than those without SEN, taking into account the covariates (see Table 4). In the second model, there were no differences in the number of months of being NEET for those with skilled, unskilled or uncertain aspirations compared to those with professional/managerial aspirations, taking into account the covariates.

As shown in the third model, there were significant interactions between SEN provision and career aspirations for adolescents with SAP/Statement. For adolescents with SAP/Statement, those with aspirations for skilled, unskilled or uncertain jobs experienced more months of being NEET compared to those with professional/managerial aspirations, while there were negligible differences in the number of months being NEET for those without SEN, regardless of their career aspirations (see Fig. 2). As shown in Fig. 2, for example, the average young person with SAP/Statement who had skilled aspirations experienced 2.75 additional months of being NEET than the average young person with SAP/Statement who reported professional/managerial aspirations, whereas there was no difference between adolescents without SEN who reported skilled versus professional/managerial aspirations. As with Academic Performance at age 16, there were no significant interactions for those adolescents with SA, only significant main effects.

4. Discussion

This study highlights the importance of career aspirations for adolescents with SEN. Adolescents with SEN had lower and more uncertain career aspirations at age 14, as well as worse educational and employment outcomes from ages 16 to 20 than adolescents

Table 4
Regression Models of Months in NEET between ages 16 and 20.

Variables	Model 1	Model 2	Model 3
Constant	9.15(0.80) ^{***}	8.96(0.84) ^{***}	9.03(0.84) ^{***}
SA	1.32(0.29) ^{***}	1.32(0.29) ^{***}	0.72(0.64)
SAP/Statement	2.18(0.42) ^{***}	2.18(0.42) ^{***}	0.00(0.91)
Male	−0.04(0.16)	−0.07(0.17)	−0.08(0.17)
Ethnic Minority	−0.49(0.19) ^{**}	−0.49(0.19) ^{**}	−0.49(0.19) ^{**}
Skilled Parental Occupation	−0.09(0.20)	−0.09(0.20)	−0.08(0.20)
Unskilled Parental Occupation	1.02(0.22) ^{***}	1.02(0.22) ^{***}	1.03(0.22) ^{***}
Highest Parental Education	−0.12(0.07)	−0.12(0.07)	−0.12(0.07)
Parental Marital Status	−1.36(0.20) ^{***}	−1.36(0.20) ^{***}	−1.36(0.20) ^{***}
Prior Academic Ability	−0.99(0.11) ^{***}	−0.99(0.11) ^{***}	−0.98(0.11) ^{***}
Parental Expectations	−1.25(0.21) ^{***}	−1.24(0.21) ^{***}	−1.24(0.21) ^{***}
School Motivation	−1.11(0.18) ^{***}	−1.11(0.18) ^{***}	−1.10(0.18) ^{***}
Academic Self-Concept	−0.09(0.22)	−0.09(0.22)	−0.09(0.22)
Skilled Career Aspirations		1.22(0.20)	0.00(0.20)
Unskilled Career Aspirations		0.03(0.31)	−0.22(0.33)
Uncertain Career Aspirations		0.22(0.23)	0.12(0.25)
SA*Skilled			0.66(0.75)
SA*Unskilled			1.57(1.00)
SA*Uncertain			0.48(0.88)
SAP/Statement *Skilled			2.75(1.08) [*]
SAP/Statement *Unskilled			2.97(1.41) [*]
SAP/Statement*Uncertain			2.57(1.22) [*]
F	60.39 ^{***}	48.37 ^{***}	35.03 ^{***}
R ²	0.09	0.09	0.10

* p < 0.05.

** p < 0.01.

*** p < 0.001.

without SEN. Furthermore, the consequences of their aiming high, low or being uncertain played a more significant role in their later outcomes compared to those without SEN. Findings underline the importance of helping adolescents with SEN identify their career aspirations in early adolescence and adopt appropriate strategies to encourage them to reach their potential.

This study specified the percentage of adolescents with SEN who aspire to different status occupations in comparison to those without. Compared to those without SEN, a lower percentage of those with SEN hoped to have professional/managerial careers, while a higher percentage aspired for skilled and unskilled jobs. There were differences in the aspirations of adolescents with SEN, and a greater percentage of adolescents with a Statement reported uncertain career aspirations compared to those with SA, SAP or no SEN. The findings potentially reflect the perceived barriers to eventual occupational attainment, as suggested in theories emphasizing *boundaries of tolerable effort* (Gottfredson, 1981, 2004), or perceived costs (Eccles, 1993, 2006) and associated uncertainties. In interpreting the findings, one has to take into consideration that aspirations for skilled or unskilled jobs are not necessarily a negative choice, especially in the light of changing employment opportunities and existing constraints. There is not an unlimited supply of high status occupations, and in addition to a rising demand for highly qualified workers, recent labor market changes have led to an increasing demand for low-skilled workers, mainly in the service sector (Goos & Manning, 2007; Karoly, 2009).

Adolescents with SEN showed worse academic performance at ages 11 and 16 and had more months of NEET from ages 16 to 20 than their counterparts without SEN. Young people with SEN also were less motivated in school, had lower confidence in their academic ability and had parents who had lower expectations for their educational future compared to their peers without SEN. These findings possibly indicate the effects of socio-cultural constraints and perceptions of limited opportunities (Schoon & Eccles, 2014); as well as social bias, discrimination or structural barriers associated with disability status (Rojewski, 1996a, 1996b, 1999), also emphasized in the social-cognitive theory of career development (Lent et al., 2005). Yet, those with SA had higher academic attainment than those with SAP or a Statement, which may reflect that those with SA have less serious needs not requiring specialist provision in comparison to those with SAP or a Statement.

We also found that adolescents who were designated as having SEN were predominately male (confirming findings from the 2010 OSTED review), and the proportion of males increased with greater provision of specialist care, which might suggest raised attention to boys with special needs. Moreover, adolescents with SEN tended to be from a less privileged background. Furthermore, there were more ethnic minorities who were designated as SA or SAP, compared to their peers without SEN or with a Statement. Thus, ethnic minorities do not appear to be overrepresented in the category of SEN with a Statement in this sample. This again confirms previous findings of the *Ofsted review* (2010) that ethnic minority students were only over-represented among those SEN categories without statements at secondary schools. Together, these findings present a portrait of adolescents who are most at risk of having specialist provision for SEN – boys from lower socio-economic backgrounds, and highlight the variations in attainments among adolescents with SEN, potentially reflecting reduced access to opportunities and potential barriers facing the fulfilment of their ambitions.

In support of Eccles' expectancy-value model (Eccles & Wigfield, 2002; Eccles et al., 1983), we found that adolescents' own self-

concept of ability, school motivation and parental expectations were significant predictors of their later academic performance, while school motivation and parental expectations predicted months of NEET from ages 16 to 20. Regarding the predictive value of early career aspirations on later outcomes, there was a significant association between career aspirations and academic performance at age 16, after controlling for SEN status, socio-demographic factors, parents' educational expectations, prior academic ability, school motivation and academic self-concept. Adolescents with aspirations for skilled or unskilled jobs had lower academic performance at age 16 than those with professional/managerial aspirations, potentially pointing to a degree of realism in career aspirations among young people with SEN.

There were no significant associations between uncertain career aspirations and academic performance at age 16, and between career aspirations of any type and the number of months being NEET between ages 16 to 20. However, we find significant interactions between career aspirations and the SAP/Statement classifications of SEN, suggesting that adolescents who were designated as having either SAP or a Statement and who expressed skilled/unskilled or uncertain aspirations had lower GCSE scores and a more extended experience of NEET than those in the same situation with aspirations for professional or managerial jobs. The findings highlight the potential motivational role of high aspirations among young people with high levels of specialist provision (SAP or Statement), giving them a special push to attain educational qualifications and avoid precarious transitions. They could however also indicate the benefits of specialist attention and advice encouraging those with special needs to aim high and enabling them to do better than expected. In contrast, these significant interactions showed that the career aspirations of those without SEN had little discernable impact on their later outcomes when important covariates were taken into account, reflecting their academic abilities and parents' expectations for them as well as their own self-conceptions and motivation which together likely drive their efforts for success. Furthermore, there were no significant interactions between career aspirations and the SA classification of SEN, showing that the strength of the association between career aspirations and later educational and employment outcomes was similar for those with SA in comparison to those without SEN.

We expected that career aspirations would be more predictive of later outcomes for those without SEN rather than those with SEN, yet found the opposite effect. Early career aspirations played a more important role in the educational and employment outcomes of adolescents with SAP or a Statement in comparison to those without SEN or SA. Thus, having high career aspirations appears to have a protective effect for adolescents with SAP or a Statement, perhaps by offering a compass to guide and motivate their efforts toward the fulfilment of a future goal (Vondracek, 2001). It may also signify an individual's willingness to go beyond their *boundaries of tolerable effort* (Gottfredson, 2004), to seek out new opportunities and surmount existing barriers. However, this finding was not pertinent for those with SA, perhaps reflecting that those with SA might have slightly better educational and occupational opportunities than those with SAP or a Statement, whatever their aspirations.

4.1. Limitations

This study has several limitations that need to be considered in light of the findings. First, the study investigated the career aspirations of adolescents with SEN at only one point in time (age 14), thus limiting the understanding of processes which help to form their aspirations and whether their aspirations change as they proceed through schooling. However, other studies have shed light on these areas of research (Rojewski, Lee, Gregg, & Gemici, 2012a; Rojewski, Lee, Gregg, & Gemici, 2012b). On average, occupational aspirations of young people with disabilities tend to increase during high school, but then decrease after school completion (Rojewski et al., 2012a). Second, although a number of personal and family covariates were included, other family and school factors are likely to play a role in students' aspirations and attainment, such as parental involvement and teacher support. This omission may explain the low R^2 , especially for the model predicting NEET. Lastly, the identification of adolescents with SEN can be challenging using nationally representative data not specifically designed for this purpose. Given the intricacies involved in identifying children and adolescents with SEN, it is possible that some adolescents were misidentified. In order to reduce this possibility, we excluded those who attended special schools and were identified by their parents as having SEN due to physical difficulties, being bright or gifted only or not having English as a first language. Despite these methodological concerns, LSYPE provides unique access to a nationally representative sample of adolescents with data from ages 14 to 20, allowing the examination of career development in this much understudied population.

5. Conclusions

This study aids in the understanding of the complex relationship between career aspirations and later educational and employment outcomes for adolescents with SEN. As this study suggests, aspirations do matter for young people with SEN, even more so perhaps than their peers without SEN. Findings indicate that young people with SEN would benefit from having career counseling in early adolescence to work out possible career options for their future which maximize their potential. In light of previous research (Eccles et al., 1999; Jodl et al., 2001; Schoon, 2010), involving parents and teachers as key players in supporting and encouraging the fulfilment of their ambitions also seems promising. In addition, opportunities which may help to reduce perceptions of socio-cultural constraints and barriers such as work skills training, internships and apprenticeships may further encourage young people with SEN to have high aspirations and to pursue them.

Future studies should examine the processes which can circumvent low, uncertain aspirations in more detail and encourage adolescents with SEN to aim toward their highest goals. Research which investigates the trajectories of adolescents with SEN, as they navigate through education and training, would provide more information on how best to support them through the process of becoming a young adult and in realizing their ambitions.

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