Emotional engagement, educational aspirations, and their association during secondary school

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Abstract

Previous research has demonstrated the link between school engagement and academic attainment, but there is less understanding of the relationship between school engagement and educational aspirations. Using the Longitudinal Study of Young People in England (LSYPE), this study examines the association between emotional engagement and educational aspirations during secondary school, covering ages 14 to 16. On average, emotional engagement increased over time. A significant proportion of adolescents shifted from expressing uncertainty to aspiring to continue in education. Males were more likely than females to shift from aspiring to continue in education to planning to leave school early. Greater emotional engagement was associated with a lower likelihood of having low or uncertain aspirations, especially for high-achieving, ethnic minority, and male adolescents. Findings highlight the importance of emotional engagement, particularly for those at risk of uncertain educational aspirations and those least likely to continue in education following post-compulsory schooling.

Keywords: Emotional Engagement; Educational Aspirations; Secondary Schooling; Adolescence

Students' emotional engagement, educational aspirations, and their association during secondary school

A key developmental task during adolescence is to negotiate the demands of the school system, to develop goals and aspirations - and ways to achieve them. Yet, the progression through secondary school is characterised by ubiquitous uncertainties that can undermine goal pursuit and subsequent attainment. While there is ample evidence to suggest that high educational aspirations in adolescence are associated with later education participation and academic attainment (Anders & Micklewright, 2015; Croll, 2009; Majoribanks, 2005; Reynolds & Johnson, 2011; Schoon & Ng-Knight, 2017), there is less understanding regarding uncertainty in student's educational expectation. For example, although most British young people have aspirations to attend university (Schoon, 2010), recent research has shown that a sizeable percentage are either uncertain about their future educational plans or plan to leave school early; which, in turn, is associated with a lower level of educational attainment, a reduced likelihood of participation in higher education (Croll, 2009; Gutman, Sabates, & Schoon, 2014), and more precarious employment transitions (Schoon & Lyons-Amos, 2016; Vuolo, Staff, & Mortimer, 2012). School engagement may represent a possible antidote to early school leaving, as well as a crucial factor in supporting educational aspirations and attainment (Eccles & Roeser, 2004; Fredricks, Blumenfeld, & Paris, 2004; M.-T. Wang & Holcombe, 2010). However, research on the linkage between educational aspirations and school engagement and their correlates during adolescence is limited, especially for uncertain educational aspirations.

This study examines the association between school engagement and educational aspirations during secondary school, i.e. from ages 14 to 16. In particular, we focus on emotional engagement and uncertain or low expectations about whether or

not to continue in education past compulsory schooling age (16 years). Our study draws upon a nationally representative cohort of adolescents born in 1989/90, the Longitudinal Study of Young People in England (LSYPE). For this age cohort compulsory school leaving age was 16. The cohort members came of age during a long period of economic growth in England and by 2005 (when most were 16), aspirations to stay on in education beyond 16 years were increasingly becoming the norm (Schoon, 2010). However, one in ten young people between the ages of 16 and 18 were not enrolled in education, employment, or training (Office of National Statistics, 2010), placing them at risk of poor labour market opportunities later in life (Bynner, 2005; Schoon & Mark-Lyons, 2017).

Socio-Ecological Model of Agency Development

The study is guided by a socio-ecological framework for the study of human agency (Schoon & Lyons-Amos, 2017; Schoon & Ng-Knight, 2017). Within psychological theories of motivation, agency is conceptualised as a multi-dimensional construct, enabling the individual to navigate through a complex world (Bandura, 2001). Agency involves the formulation of intentions or goals, good judgements about one's own capabilities, appraisal of socio-structural opportunities and constraints, and regulation of behaviour and perceptions accordingly (Bandura, 2006). Recent attempts to reconceptualise the notion of agency within a life course approach acknowledge that individual action is circumscribed by structural constraints and aim to specify the processes supporting or hindering the expression of agency (Bandura, 2006; Hitlin & Elder, 2007; Hitlin & Kirkpatrick Johnson, 2015; Schoon & Lyons-Amos, 2016, 2017; Schoon & Ng-Knight, 2017). This study builds on these endeavours and aims to specify the processes shaping adolescent agency over time.

We focus on two dimensions of agency including forethought, when individuals set goals and anticipate future events, and self-reactiveness, which includes processes of self-motivation as well as emotional states that influence self-regulatory efforts (Bandura, 2009). For forethought, we focus on educational aspirations, differentiating among adolescents who anticipate leaving school, those who want to continue in education and those who are uncertain about their plans. Regarding indicators of self-reactiveness, we focus on emotional engagement, involving self-reactions, which support or undermine their school motivation (Bandura, 2009). This study contributes to our understanding of the links between these two crucial aspects of adolescent agency over time, taking into consideration key structural constraints, i.e., influence of family background, gender, and ethnicity.

Emotional Engagement

Engagement has been described as "energy in action" reflecting the connection between the person and the task (Connell, 1990; Finn & Rock, 1997). Being shaped by experiences in the school context, school engagement is presumed to be malleable and responsive to variations in the school environment, interpersonal relationships, and intellectual endeavours (Fredricks et al., 2004). Changes in school engagement may capture the gradual process involved in students' (dis)connection with school and learning, which is related to later decisions regarding dropping out versus continuing in education (Finn, 1989).

As a multi-dimensional construct, engagement has been conceptualised as having two or three components including behavioural and affective dimensions (Skinner et al., 2008) and cognitive engagement as a third dimension (Fredricks et al., 2004). Here we focus on emotional engagement, which is characterised by positive or negative reactions to school, learning, and schoolwork and a personal sense of school

belonging and valuing of education (Fredricks et al., 2004). Evidence suggests a strong connection between emotional engagement and students' achievement and school-related behaviours (Archambault, Janosz, Fallu, & Pagani, 2009; Goodenow, 1993; Klem & Connell, 2004).

Previous research has shown that emotional (dis)engagement in school is not a static event, but rather a gradual and changing process (Tuominen-Soini & Salmela-Aro, 2014; Wang & Eccles, 2012, 2013). Emotional (dis)engagement evolves over the years in response to the relationship between the students' needs and expectations and the demands and benefits of the school environment (Eccles et al., 1993; Finn, 1989; Schoon & Ng-Knight, 2017). On average, emotional engagement has been shown to decline from elementary to secondary school, with students reporting school as less enjoyable and less valuable, becoming more overwhelmed and anxious about school with the passing years (Touminen-Soini & Salmela-Aro, 2014; Wang, Chow, Hofkens, & Salmela-Aro, 2015; Wang & Eccles, 2012). However, using person-centred approaches, studies from the US and England have shown that there is evidence of both increasing and stable trajectories of positive engagement among students during secondary school as well as distinct pathways of disengagement, which were linked to academic and psychological outcomes (Archambault et al., 2009; Li & Lerner, 2011; Janosz et al., 2008; Symonds, Schoon & Salmela-Aro, 2016). In England, trajectories of disengagement have been shown among White British young people and those with low levels of prior academic attainment (Symonds et al., 2016).

Educational Aspirations

There is ample evidence to suggest that educational aspirations are associated with later education participation and academic attainment (Anders & Micklewright, 2015; Croll, 2009; Schoon & Parsons, 2002). More recently, researchers have gained

interest in understanding the associated processes and outcomes of young people who are uncertain about their future educational plans. Using the British Household Panel Survey, for example, Croll (2009) found that while 70 per cent of children at age 13 were certain that they wanted to stay in school after compulsory schooling age (16 years), 20 per cent were uncertain and 10 per cent were certain that they wanted to leave school (Croll, 2009). These intentions were highly predictive of whether they were enrolled in education three years later. Using the LSYPE, Gutman, Sabates, and Schoon (2012) found that adolescents who were uncertain about continuing in school had lower scores on their school exams at age 16 and were less likely to be enrolled in school at age 18. Together, these studies suggest that having uncertain aspirations for continuing in education places adolescents at risk for lower academic achievement and attainment.

Aspirations are shaped by individual's own perceptions of themselves, their experiences and the environment (Eccles, 2007). Aspirations tend to decline as children mature, in response to their growing understanding of the world, their perceptions of what is possible, and the constraints imposed by previous choices and achievements, which are particularly marked for those facing multiple barriers (Gutman & Akerman, 2008). Research examining change in educational aspirations during adolescence shows mixed findings. Some UK and US studies suggest that students lower their educational aspirations as they progress through the education system (Anders & Micklewright, 2015; Domina, Conley, & Farkas, 2011). There is also evidence of heterogeneity in developmental patterns, highlighting the need to differentiate between initially high, low, or uncertain aspirations and their change over time. For example, a study by Croll (2009) using the British Household Panel Survey shows that high educational aspirations increased during secondary schooling, while low aspirations

remained largely stable and increased slightly at the end of secondary school. Uncertainty about whether to stay on in education past compulsory schooling reduced over time (Croll, 2009), suggesting variation in the consistency of British adolescents' educational plans as they proceed through the education system.

Association between Emotional Engagement and Educational Aspirations

Previous research has demonstrated significant links between school disengagement and poor school outcomes at a later point in time. For example, a study of Canadian adolescents found that those who reported low engagement from the beginning of high school presented higher risks of later dropout (Archambault et al., 2009). Evidence from Finland suggests that disengagement from schoolwork during secondary school is associated with lowered educational aspirations (Tuominen-Soini & Salmela-Aro, 2014). Further research using a US sample of adolescents has shown that high levels of emotional engagement were associated with increases in educational aspirations and vice versa, suggesting reciprocal effects (Hill & Wang, 2014). Using the LSYPE, another study found that students showing school disengagement had lower levels of achievement during compulsory secondary school and were less likely to attend university (Symonds et al., 2016). Together, these findings indicate that high levels of school engagement are associated with higher educational aspirations, yet none of these studies has assessed the linkage between emotional engagement and the expression of uncertain or low aspirations to leave school early.

The aim of this study is to gain a better understanding regarding the association between two key processes of agency during adolescence – emotional engagement and educational aspirations. As students proceed through school, they can become more alienated and disengaged, which may eventually lead to dropping out (Entwisle, Alexander, & Olson, 2005). Conversely, when students experience positive feelings

about school and their schoolwork, this may help them self-actualize their potential and motivate their educational pursuits (Bandura, 2009). School engagement thus provides a means both for understanding how to bolster students' aspirations for continuing in school and intervening when signs of students' disconnection with school and learning are noted (Appleton, 2006). A longitudinal examination of the relationship between emotional engagement and uncertain or low educational aspirations during secondary school may provide a better understanding regarding the timing of possible interventions to prevent adolescents from discontinuing their education, especially as adolescents approach important junctures in their decision-making process.

Demographic Differences in Emotional Engagement and Educational Aspirations

School engagement and educational aspirations are often marked by individual differences in socioeconomic status (SES), gender, ethnicity, and prior achievement. Both are significantly shaped by socio-economic resources available to the family, suggesting cumulative processes of disadvantage (Johnson & Reynolds, 2013; Schoon, 2010; Schoon & Ng-Knight, 2017). In the US and UK, young people from less privileged backgrounds are more disengaged in school, report lower educational aspirations, and are more uncertain regarding their educational plans, especially males (Gutman, Peck, Malanchuk, Sameroff, & Eccles, 2017; Gutman, Schoon, & Sabates, 2012; Li & Lerner, 2011).

In terms of ethnicity, previous research from the US has shown that African American students tend to be classified into profiles of school disengagement (Li & Lerner, 2011). On the other hand, evidence has found that African Americans have higher mean levels of both educational aspirations and school engagement throughout adolescence than do their European American peers, when SES differences are taken into account (Gutman et al., 2017). Within the British context, there is also some

evidence to suggest that adolescents from ethnic minority backgrounds show higher levels of educational aspirations and school engagement than their White British peers, especially White British males who report the lowest educational aspirations compared to any other ethnic minority group (Gutman et al., 2014; Strand, 2007). This finding suggests high levels of educational ambition among British ethnic minority students, although British South-Asian, Black-African, and Black-Caribbean students are also more likely to fit into profiles of school disengagement compared to other ethnic minority groups (Ross, 2009).

There is also evidence showing a strong association between academic achievement and the development of educational aspirations in both US and UK studies. Aspirations may be raised for young people who do well in school, whereas they may be lowered for those who have poor school performance (Jencks, Crouse, & Mueser, 1983; Johnson & Reynolds, 2013; Mau & Bikos, 2000; Sacker, Schoon, & Bartley, 2002). In our modelling approach, we thus account for prior academic attainment in addition to gender, ethnicity, and family SES background.

Research Questions

In this study, we address three research questions. First, how does emotional engagement develop during secondary school, i.e. from ages 14 to 16 – and how does it differ for subgroups in the population? Based on previous research (Wang et al., 2015; Li & Lerner, 2011), we expect that, on average, emotional engagement will decline from ages 14 to 16, reflecting disengagement. Based on another study (Symonds et al., 2016), we expect that at-risk groups such as low-achieving and White British adolescents will show a greater decline in emotional engagement compared to high-achieving and ethnic minority adolescents.

Second, how do educational aspirations shift as adolescents approach the end of compulsory schooling, i.e. age 16? More specifically, what is the likelihood of having uncertain or low aspirations relative to high aspirations for continuing in education from ages 14 to 16 – and how does it differ for subgroups in the population? Based on previous findings (Croll, 2009), we expect that students with uncertain aspirations will shift to having high aspirations to continue in education from ages 14 to 16, suggesting that they become certain as they approach an important decision-making point, i.e. reaching the end of compulsory schooling. We do not make any specific predictions regarding low aspirations or group-based differences due to lack of previous research in a UK context.

Third, what is the association between emotional engagement and educational aspirations from ages 14 to 16 and how do key demographic characteristics moderate this association? Based on previous findings (Tuominen-Soini & Salmela-Aro, 2014), we expect that higher levels of emotional engagement will be associated with a lower likelihood of reporting uncertain or low relative to high aspirations for continuing in education. We also predict that the association between emotional engagement and educational aspirations will be stronger for low-achieving, male, and White British adolescents and those from lower SES backgrounds, based on studies showing that these groups are more likely to report uncertain and low aspirations and lower engagement compared to high-achieving, female, and ethnic minority adolescents and those from higher SES backgrounds (Gutman et al., 2012; Gutman et al., 2014; Strand, 2007).

Method

Participants

The study used data collected for the LSYPE, which is a panel study of young people born between 1st September 1989 and 31st August 1990. Sample members were selected to be representative of all young people in Year 9 (age 14) in England in February 2004. The LSYPE was sampled using schools and additionally stratified on deprivation levels of those schools, oversampling more deprived schools and oversampling pupils from minority ethnic groups (Department for Education, 2011a, pp. 7-12). After stratification, "the school selection probabilities and the pupil selection probabilities ensured that within a [school] deprivation stratum, all pupils within an ethnic group had an equal chance of selection" (Department for Education, 2011a, p. 7). Design weights provided by the LSYPE survey team were used to return the panel to representative proportions of individuals from each ethnic group and deprivation stratum (Department for Education, 2011a, pp. 55-76).

From the sampling, 21,000 households were contacted, of which yielded 15,500 responding households for Wave 1. Wave 2 included 13,539 households and Wave 3 included 13,525 households. In the present study, the analytic sample included 12,302 adolescents (6,028 = male; 6,274 = female), where 33% were ethnic minorities. On average, the highest parental occupational status in the household was a skilled occupation (see Table 1). Attrition analysis of the analytic sample revealed that White British (F = -8.21, p < .001) and lower SES adolescents (F = -8.73, p < .001) were more likely to drop out after Wave 1. Special sample weights, which are calculated and available from LSYPE website, were applied to account for non-response bias and sample attrition.

Procedure

Annual interviews were conducted with young people and their parents since 2004, and linkage is available to other administrative data, such as those held on the

National Pupil Database (NPD), which includes national assessments for all children in England. From LSYPE, we use information from Waves 1 to 3, when young people in the sample were in Year 9, Year 10 and Year 11, corresponding to ages 14, 15 and 16, respectively. In Waves 1 to 3, both parents/guardians were interviewed where possible along with the young person (in separate interviews) and all interviews took place face-to-face in respondents' homes. From NPD, we use a national assessment given at age 11 as an indicator of prior academic performance.

Measures

Table 1 presents the means and SD of emotional engagement and the covariates.

Emotional Engagement. (Wave 1 alpha = .76, Wave 2 alpha = .75, Wave 3 alpha = .80) Adolescents were asked the same six items including: "I am happy when I am at school," "School is a waste of time for me (recoded)," "The work I do in lessons is a waste of time (recoded)," "School work is worth doing," "Most of the time I don't want to go to school (recoded)" and "On the whole, I like being at school" (1=strongly disagree; 4= strongly agree). Using Mplus 7 (Muthén & Muthén, 1998–2012), we examined longitudinal measurement invariance. When sample size is large as in this study, the change in chi-square test can be statistically significant even when the change in the model is relatively small. We therefore used ΔCFI < .010 to establish longitudinal invariance (Cheung and Rensvold, 2002; Meade, Johnson, & Braddy, 2008). Comparing the configural invariance model (CFI = .921), we established metric invariance (ΔCFI = .000) and scalar invariance (ΔCFI = .001) across waves.

Educational Aspirations. Adolescents were asked whether they wanted to continue in school after compulsory education age (i.e., the school year that the young person is 16 years) at Waves 1, 2, and 3. Responses included (1 = don't know, 2 = leave education, 3 = stay in education). These categories were recoded so that 1 = uncertain

aspirations, 2 = low aspirations, and 3 = high aspirations. At Wave 1, 12% reported low aspirations, 6% were uncertain, and 82% reported high aspirations. At Wave 2, 12% reported low aspirations, 5% were uncertain, and 83% reported high aspirations. At Wave 3, 11% reported low aspirations, 2% were uncertain, and 87% reported high aspirations.

***Gender*.** Gender of the adolescent was coded as (1) male versus (0) female.

***Ethnicity*.** Ethnicity of the adolescent was coded as (1) White British versus (0) other ethnic groups. 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 in our model.

***Prior Achievement at age 11*.** Adolescents' prior achievement was standardized using total scores in math, English, and science in national curriculum tests given at the end of Key Stage 2 (i.e., age 11).

***Parental 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 such as waiters and kitchen assistants, 2 =skilled occupations such as teaching assistants and dental nurses, 3 = professional and managerial occupations such as senior managers and engineers).

Analytic Plan

Using growth curve modeling as implemented in HLM 6.02 (Raudenbush, Bryk, Cheon, & Congdon, 2000), three sets of analyses were conducted. For the first set of analyses, we examined emotional engagement from ages 14 to 16. In the second set of analyses, we examined educational aspirations from ages 14 to 16. In the third set of

analyses, we examine the association between educational aspirations and emotional engagement from ages 14 to 16. All models were conducted using full information maximum likelihood estimation (FIML). The time metric was centered at Wave 1 (age 14).

For the first set of analyses examining emotional engagement, we applied a two level HLM model with time nested within individuals, where the distribution of the outcome variable was specified as normal (continuous). The Level 1 model included linear components only, as follows:

$$B_{0i} + B_1(\text{Time}) + \varepsilon$$

For the second set of analysis examining educational aspirations, we used a hierarchical generalized linear model (HGLM), with a multinomial distribution of the dependent variable, with a generalized logit link function. Multinomial data are categorical, with arbitrary coding values. This setting uses the last category as the reference, which is high aspirations, and shows the probability (i.e., odds ratio) of having low or uncertain aspirations relative to having high aspirations. The Level 1 model included linear components only, as follows:

$$\log[P(1)/P(3)] = B_0(1) + B_1(1)*(\text{Time})$$

$$\log[P(2)/P(3)] = B_0(2) + B_1(2)*(\text{Time})$$

For both the first and second set of analyses, the Level 2 model included gender, ethnicity, SES and prior achievement at the intercept and linear slope.

For the third set of analyses, we added the time-varying covariate of emotional engagement to the uncertain and low aspirations models, as follows:

$$\log[P(1)/P(3)] = B_0\,(1) + B_1\,(1)*(\text{Time}) + B_2\,(1) * (\text{Emotional Engagement})$$

$$\log[P(2)/P(3)] = B_0\,(2) + B_1\,(2)*(\text{Time}) + B_2\,(2) * (\text{Emotional Engagement})$$

The individual mean of emotional engagement was added to the intercept to restrict the relation to within-individual change. Both the time-varying covariate and the individual mean of the variable were grand mean centred, which ensured that adding these variables did not change the meaning of the other coefficients in the model. For Emotional Engagement (β_{2i}), Level 2 demographic characteristics (i.e., gender, ethnicity, SES and prior achievement) were included to determine whether certain characteristics of the adolescents moderate the association between emotional engagement and uncertain or low aspirations. Due to the restriction in degrees of freedom, the residual variance components of the Level 1 variables were not included.

Results

Descriptive Statistics and Preliminary Analysis

Table 1 presents the correlations among emotional engagement and the covariates. Point-biserial correlation coefficients are shown for associations between continuous and dichotomous variables and Pearson correlation coefficients are shown for relationship between continuous variables. There were significant positive associations among emotional engagement, prior achievement, and parents' occupational status and significant negative associations between emotional engagement and being male or White British.

Emotional Engagement

Table 2 presents the growth curve coefficient estimates for intercept and slope/ changes in emotional engagement. At age 14, White British, male, and lower achieving adolescents and those whose parents had lower occupational status had lower levels of school engagement compared to ethnic minority, female, and higher achieving

adolescents and those whose parents had higher occupational status. Emotional engagement increased slightly from ages 14 to 16 for the average adolescent, although ethnic minority adolescents experienced a greater increase than did White British adolescents. The quadratic slope was not significant and therefore not included in the final model.

Uncertain and Low Educational Aspirations

Table 3 presents the coefficient estimates and the odds ratios for intercept and slope/shifts in uncertain versus high aspirations and low versus high aspirations for continuing in education. If an odds ratio is larger than 1, it would indicate a positive association of the predictor on the probability of having uncertain or low aspirations relative to high aspirations, while a smaller than 1 odds ratio would indicate a negative association of the predictor on the probability of having uncertain or low aspirations relative to high aspirations for continuing in school.

At age 14, male adolescents were 1.51 times more likely of having uncertain aspirations and 2.39 times more likely of having low aspirations about continuing in education than were female adolescents. White British adolescents were 2.33 times more likely of having uncertain aspirations and 7.70 more likely of having low aspirations than were ethnic minority adolescents at age 14. Adolescents with higher levels of prior achievement and whose parents had higher occupational status at age 14 had a lower likelihood of having uncertain or low aspirations compared to adolescents with lower prior achievement and whose parents had lower occupational status. For ages 14 to 16, a significant proportion of adolescents shifted from expressing uncertainty to aspiring to continue in education. For low aspirations, males were more likely than females to shift from aspiring to continue in education to planning to leave school early.

Association between Emotional Engagement and Educational Aspirations

For uncertain aspirations, there was a negative association between emotional engagement and uncertain educational aspirations (see Table 4). Adolescents who were more engaged in school were less likely to report uncertain aspirations and more likely to report high aspirations from ages 14 to 16. The negative association between emotional engagement and uncertain aspirations was stronger for higher achieving, ethnic minority, and male adolescents compared to lower achieving, White British, and female adolescents, indicating that prior achievement, ethnicity, and gender moderated the negative relationship between emotional engagement and uncertain educational aspirations from ages 14 to 16. Emotional engagement explained 48% of the previously unexplained variance in the intercept of uncertain aspirations relative to high aspirations.

For low aspirations, there was a negative association between emotional engagement and low educational aspirations. Adolescents who were more engaged in school were less likely to report low aspirations and more likely to report aspirations to continue in education from ages 14 to 16. The negative association between emotional engagement and low aspirations was stronger for higher achieving adolescents compared to lower achieving adolescents, indicating that prior achievement moderated the negative relationship between emotional engagement and low aspirations from ages 14 to 16. Emotional engagement explained 10% of the previously unexplained variance in the intercept of low aspirations relative to high aspirations.

Discussion

This study provides a more detailed understanding of the linkages between two key processes of adolescent agency reflecting forethought (educational aspirations) and self-reactiveness (emotional engagement) during secondary school. As expected,

adolescents' aspirations and their emotional engagement show significant associations over time, indicating that emotional self-reactions to school can support or undermine future aspirations to continue in education. High levels of emotional engagement appear to be especially important to the educational aspirations of males, ethnic minority students, and those with higher prior academic attainment.

Emotional Engagement

We found a slight increase in emotional engagement from ages 14 to 16 years. Although school engagement has shown to decline for the average adolescent in both US and Finnish samples (Wang et al., 2015; Touminen-Soini & Salmela-Aro, 2014), our finding may reflect differences in school structure and thus potential influences of the wider socio-cultural context. In the US, previous research (c.f. Eccles & Wigfield, 2002; (M. T. Wang & Eccles, 2012, 2013) has noted a decline in school engagement and motivation when students make the junior high (age 12) and high school transitions (age 15). In Finland, where previous research also reported a decline in school engagement (Touminen-Soini & Salmela-Aro, 2014), there are no mandatory exams until the end of upper secondary education around ages 17 to 19. However, in England, students make the transition to secondary school at age 11 and then from ages 14 to 16, the school curriculum is focused on preparing for the general exams at the end of compulsory schooling (at age 16). As a result, the average English student may be more engaged in school as they study for their exams, which determine the next step in their educational process. Our findings are thus more in line with studies examining distinctive developmental pathways that have shown some adolescents experience positive or increasing trajectories of engagement (Li & Lerner, 2011; Symonds et al., 2016). In support of our predictions based on UK evidence (Symonds et al., 2016), we further find that compared to White British adolescents, adolescents with an ethnic

minority background had higher initial levels of school engagement and a slightly greater increase in school engagement as they approach age 16. This points to differences in socialisation experiences regarding the importance of academic attainment (Strand, 2014), suggesting that White British students are both at-risk of lower school engagement and lower increases in their trajectory of school engagement in secondary school compared to ethnic minority students.

Educational Aspirations

As adolescents reached the end of compulsory schooling, they shifted from expressing uncertainty in educational aspirations to having high aspirations to continue in education, while males were more likely than females to shift to aspiring to leave school early relative to staying in school from ages 14 to 16. White British and male adolescents had a greater likelihood of reporting uncertain or low aspirations compared to ethnic minority and female adolescents. Changes in the labour market have tightened the availability of semi-skilled and skilled employment, the traditional career path of White British males (Ashton, 2017), potentially leading to uncertainty regarding future careers. Given the small numbers of uncertain or low aspiring adolescents in the sample, coupled with the numerous minority ethnic groups, we were not able to examine differences in low or uncertain aspirations for different ethnic minority groups. Yet, previous research indicates there are wide variations in the academic achievement and attainment of ethnic minorities in England (Cassen & Kingdon, 2007; Strand, 2014). Thus, some ethnic minority groups may be at greater risk of uncertain or low educational aspirations than others (Ross, 2009), prompting further investigation.

Association between Educational Aspirations and School Engagement

In line with our third set of hypotheses, higher levels of emotional engagement were negatively associated with having either uncertain or low aspirations relative to

high aspirations about continuing in education from ages 14 to 16, i.e. students who are engaged in school are more likely to aspire to continue in education. This implies that these two agency processes are linked over time, shaping adolescents' plans and their strategies for realising them. In support of Bandura (2009), adolescents appear to adjust their ambitions in light of self-reflections of their functioning in school, fostering or foreclosing different life pathways.

It is noteworthy that the association between emotional engagement and educational aspirations is significant despite controlling for adolescents' gender, ethnicity, socio-economic background, and prior academic achievement. Our findings thus suggest the potential of emotional engagement to bolster adolescents' certainty to continue in education past compulsory schooling age, even given social constraints, which impinge on adolescent agency (Bandura, 2009). This is an important finding for initiatives focused on raising students' aspirations and educational attainment, highlighting the potential boost of students' emotional engagement in school.

In contrast to our expectations, the negative association between high levels of emotional engagement and uncertain or low aspirations was strongest for high-achieving adolescents compared to low-achieving adolescents. Thus, high levels of prior academic attainment appear to have a signalling effect regarding the expression of high educational aspirations and high levels of emotional engagement. This may reflect the strong association between achievement and self-regulatory agency (Bandura, 2009), such that students' motivation is often a product of their previous academic success (Eccles & Roeser, 2004; Schoon & Ng-Knight, 2017). High-achieving adolescents may be better placed to channel their emotional engagement into greater certainty regarding their aspirations to continue in education – or vice versa – and to link their high

aspirations to raised levels of engagement, fuelled by positive experiences in the school system, i.e. good grades.

Also contrary to our expectations, emotional engagement had a stronger negative relationship with uncertain aspirations for ethnic minority students in comparison to White British students. Given previous findings that uncertain aspirations have more negative effects on White British than ethnic minority students (Gutman et al., 2012), we thought that emotional engagement might have a protective effect for White British youth, who are also more likely to report uncertain aspirations than their ethnic minority peers. Our findings however suggest that emotional engagement is more strongly associated in a positive direction with the affirmation of high and certain aspirations for continuing in school for ethnic minority students, acting as a potential buffer against uncertainty and possibly indicating a cumulative beneficial effect during secondary school.

Our findings further suggest that being emotionally engaged in school is more strongly associated in a positive direction with having high aspirations about continuing in education for males, in particular. The findings underline previous research indicating that the great majority of persistently low achievers are males, outnumbering females by three to two (Cassen & Kingdon, 2007). According to Cassen and Kingdon (2007), a key explanation for this gender gap in educational attainment, favoring females in both school performance and attainment regardless of SES, may be the failure of the English school system to engage young males in the school context. Thus, it might be fruitful for future studies to assess the role of low levels of emotional engagement coupled with having uncertain or low educational aspirations in shaping extended education participation and university attendance among male students.

Limitations

In interpreting the findings, several limitations need to be considered. First, although useful for capturing developmental trajectories of intra-individual change and how they vary according to different socio-economic factors and adolescents' characteristics over time, focusing on growth trajectories does not allow us to examine atypical developmental pathways. Future studies may adopt a person-centered, multivariate profile approach to reveal additional forms of heterogeneity in adolescents' trajectories of educational aspirations and emotional engagement. Second, as with all longitudinal studies, the analysis is constrained by having to make the best use of available data and the attrition of respondents over time. It may be that missing data at the individual level and at the variable level has affected the validity of the results. The FIML approach has been adopted as a 'best effort' technique for dealing with these problems (Schafer & Graham, 2002), although bias in our model estimates might still be present. Third, the study follows students only during secondary school and future studies should examine the longer-term outcomes. Fourth, our study does not capture all possible processes involved in shaping uncertain and low educational aspirations as well as emotional engagement. For example, previous studies have highlighted the role of parental attitudes as significant predictors of adolescent aspirations and engagement (Garg, Kauppi, Lewko, & Urajnik, 2002; Hill & Wang, 2014; Marjoribanks, 2005). Future studies should therefore look at influences from significant others, such parents, peers, and teachers, more closely. Lastly, our study is based on data collected in England and examines educational aspirations for continuation in education past the compulsory schooling age (age 16) in a specific age cohort (those born in 1989/90). The country-specific and cohort-specific context limits the generalization of findings. Comparability should be examined in countries where the compulsory schooling age is 18 years and students have more time to decide on their future pathways. Future studies should also

consider comparing the experiences to those of later born cohorts, since compulsory school leaving age was raised in England to age 17 (in 2013) and to 18 (in 2015), while for the current cohort it was age 16.

Conclusions

Our study highlights the importance of having a multi-dimensional and developmental definition of agency. Findings show the significant and ongoing relationship between two aspects of adolescent agency; emotional engagement and educational aspirations in a nationally representative sample and underline the importance of structural factors in these processes. In aiming to support student's educational aspirations and achievement, it is important to recognize the crucial role of sustaining long-term emotional engagement with school and learning, especially among White British males from less privileged family backgrounds. Our study examines a crucial period (age 14 to 16) when adolescents in the UK are considering their options regarding whether or not to continue in education. We expect that the combination of high levels of emotional engagement and high and certain aspirations during secondary school has beneficial effects regarding future outcomes, such as the enrolment in higher education and greater protection against early school leaving.

Our study is relevant to intervention efforts focused on increasing educational attainment through students' positive experiences in school, as well as their connection to their peers, teachers, and the larger school environment. Our findings contribute to these efforts by highlighting the relationship between dimensions of adolescent agency, including goal setting and self-regulatory processes. Findings emphasize the importance of the affective component of self-regulation, as emphasized in emotional engagement, for potentially boosting aspirations and further attainment. This is particularly critical for those most at risk of experiencing uncertain and low educational

aspirations and being least likely to continue in education, including White British and male students. Teachers and educators may consider how schools can continually bolster students' emotional connection to school, encouraging their sense of mastery, autonomy, and belonging (Eccles & Roeser, 2007), as they progress and reach critical junctures in their education. This is especially important in England, where exams dominate the school lives of secondary students as they approach school-leaving age.

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Table 1

Correlations, Means, and SD of Emotional Engagement and Covariates

	1	2	3	4	5	6	7	*Mean*	*SD*
1. W1 Engagement	1.00							3.14	.49
2. W2 Engagement	**.62**	1.00						3.12	.51
3. W3 Engagement	**.56**	**.69**	1.00					3.17	.53
4. Male	**-.05**	**-.05**	**-.05**	1.00				.51	.50
5. White British	**-.14**	**-.12**	**-.14**	n/a	1.00			.67	.47
6. Prior Achievement	**.18**	**.20**	**.21**	**-.09**	**.10**	1.00		.00	1.00
7. Occupational Status	**.07**	**.09**	**.08**	.00	**.21**	**.32**	1.00	1.94	.96

Note. Correlation coefficients shown in bold are significant, where $p < .001$. Pearson correlations coefficients are shown for relationships between continuous variables (Engagement, Prior Achievement and Occupational Status) and point-biserial correlation coefficients are shown for relationships between continuous and dichotomous variables (Male and White British). n/a = non-applicable.

Table 2

Emotional Engagement from 14 to 16 Years

Variables	*Coefficient*	*SE*
Intercept		
Intercept	3.22***	.01
Male	-.03**	.01
White British	-.18***	.01
Prior Achievement	.08***	.01
Parental Occupational Status	.02***	.01
Linear Slope		
Intercept	.01***	.00
Male	.00	.00
White British	-.01*	.00
Prior Achievement	.01	.00
Parental Occupational Status	.00	.00
Residual Variance	Variance	
For Intercept	.17	
For Linear Slope	.01	

Note. ***$p < .001$, **$p < .01$, *$p < .05$.

Table 3

Uncertain and Low Aspirations versus High Aspirations from 14 to 16 Years

Variables	*Coefficient Estimate*	*Odds Ratio*	*Confidence Interval*
Uncertain vs. High Aspirations			
Intercept			
Intercept	-3.20	.04***	(.03, .05)
Male	.41	1.51***	(1.30, 1.77)
White British	.84	2.33***	(1.95, 1.80)
Prior Achievement	-.51	.60***	(.56, .65)
Parental Occupational Status	-.15	.86***	(.79, .93)
Linear Slope			
Intercept	-.55	.58***	(.47, .73)
Male	.09	1.09	(.95, 1.25)
White British	.14	1.15	(.97, 1.37)
Prior Achievement	-.03	.97	(.91, 1.05)
Parental Occupational Status	.01	1.01	(.92, 1.12)

Residual Variance	Variance
For Intercept	1.07

Variables	*Coefficient Estimate*	*Odds Ratio*	*Confidence Interval*
Low vs. High Aspirations			
Intercept			
Intercept	-3.98	.018***	(.015, .024)
Male	.87	2.39***	(2.10, 2.72)
White British	2.04	7.70***	(6.27, 9.46)
Prior Achievement	-.89	.41***	(.39, .44)
Parental Occupational Status	-.26	.77***	(.72, .83)
Linear Slope			
Intercept	-.12	.89	(.74, 1.07)
Male	.12	1.13*	(1.02, 1.25)
White British	-.07	.93	(.79, 1.09)
Prior Achievement	.09	1.10	(1.05, 1.31)
Parental Occupational Status	.04	1.04	(.98, 1.10)

Residual Variance	Variance
For Intercept	1.49

Note. ***$p < .001$, **$p < .01$, *$p < .05$.

Table 4

Association between Uncertain and Low Aspirations with Emotional Engagement from 14 to 16 Years

Variables	*Coefficient Estimate*	*Odds Ratio*	*Confidence Interval*
Uncertain vs. High Aspirations			
Intercept			
Intercept	-3.18	.04***	(.03, .05)
Mean Engagement	-.75	.47***	(.37, .60)
Male	.37	1.44***	(1.24, 1.69)
White British	.73	2.08***	(1.73, 2.51)
Prior Achievement	-.46	.63***	(.58, .68)
Parental Occupational Status	-.14	.87***	(.80, .95)
Linear Slope			
Intercept	-.55	.58***	(.47, .73)
Male	.09	1.09	(.95, 1.25)
White British	.14	1.15	(.97, 1.39)
Prior Achievement	-.03	.97	(.91, 1.05)

Parental Occupational Status	-.06	.94	(.87, 1.02)
Emotional Engagement			
Intercept	-.55	.57***	(.39, .86)
Male	-.23	.80*	(.63, 1.00)
White British	.37	1.45*	(1.08, 1.95)
Prior Achievement	-.24	.78***	(.70, .87)
Parental Occupational Status	-.02	.98	(.87, 1.12)
Residual Variance	Variance		
For Intercept	.56		
Low vs. High Aspirations			
Intercept			
Intercept	-4.06	.02***	(.01, .02)
Mean Engagement	-1.06	.35***	(.29, .42)
Male	.90	2.46***	(2.13, 2.84)
White British	1.82	6.14***	(4.96, 7.60)
Prior Achievement	-.82	.44***	(.41, .47)

Parental Occupational Status	-.22	.80***	(.74, .87)
Linear Slope			
Intercept	-.15	.86	(.71, 1.04)
Male	.14	1.16**	(1.04, 1.86)
White British	-.06	.94	(.80, 1.11)
Prior Achievement	.10	1.11***	(1.05, 1.60)
Parental Occupational Status	.03	1.03	(.98, 1.09)
Emotional Engagement			
Intercept	-.97	.38***	(.26, .55)
Male	-.09	1.09	(.90, 1.32)
White British	.30	1.35	(.99, 1.84)
Prior Achievement	-.27	.77***	(.70, .83)
Parental Occupational Status	-.03	.97	(.88, 1.08)
Residual Variance	Variance		
For Intercept	1.34		

Note. ***$p < .001$, **$p < .01$, *$p < .05$.