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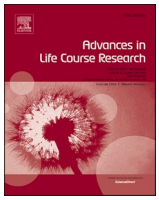

Revisiting the power of future expectations and educational path dependencies

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ABSTRACT

Individuals from more advantaged socioeconomic backgrounds and those with loftier future expectations typically have higher educational attainment. However, it is important to understand just how consequential future expectations are for educational attainment independent of socioeconomic origins—because these expectations might enable intergenerational social mobility. Moreover, it is unclear whether institutional structures moderate the influences of socioeconomic origins and future expectations on educational attainment. I address these questions by analyzing educational attainment as it relates to transitions in a system that offers multiple educational tracks. Using data from a 15-year longitudinal study conducted in Switzerland (N = 4986), I analyze transitions from lower- to upper-secondary education (academic vs. vocational tracks) and from there to university. Path models reveal that both socioeconomic origins and future expectations are significantly associated with individuals' probability of moving along academic paths and into university, but future expectations have a strong unique predictive power even when controlling for socioeconomic origins. However, because the education system partially channels educational trajectories along distinct educational tracks, it minimizes the beneficial effect of future expectations on educational attainment and—by extension—intergenerational social mobility. I conclude that socioeconomic advantage and optimistic future expectations may only shape educational attainment to the extent that institutional opportunity structures allow such resources to take effect.

1. Introduction

Across time and place, parental socioeconomic status has been shown to influence children's educational outcomes (e.g., Chmielewski, 2019). Parents with higher socioeconomic status typically create a particular developmental context for their children and provide them with experiences, skills, and knowledge. This in turn facilitates their learning and ultimately fosters their educational attainment (Fergusson et al., 2008; Lareau, 2002; Roksa & Potter, 2011). Divergent educational outcomes in children who come from different socioeconomic backgrounds are evident in children's educational careers early on (Heckman, 2006), they are cumulative (Kallio et al., 2016), and they often increase at educational transition points (Buis, 2017; Härkönen & Sirniö, 2020). They are the product of many forces, including differences in family interactions and orientations toward education and unequally distributed social, cultural, and economic resources that serve to provide educational opportunities (e.g., Bukodi & Goldthorpe, 2013; Manstead, 2018). In light of the vast body of literature on the links between socioeconomic origins and educational attainment, one may conclude that it is exceedingly difficult for individuals from socioeconomically disadvantaged backgrounds to overcome their disadvantages and steer toward higher educational attainment and a more privileged socioeconomic position.

However, while socioeconomic origins play a critical role in educational attainment, individuals set their own goals as they transition into adulthood (Schoon & Cook, 2021). Their imagined futures motivate and enable action (Frye, 2012). Thus, just as their socioeconomic origins can shape their educational attainment, so can their expectations about their own future (Bozick et al., 2010; Burger & Mortimer, 2021). Future expectations are subjective appraisals of the likelihood that specific events

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will occur (Oettingen & Mayer, 2002). These expectations influence goal setting, planning, motivation, and goal-oriented behavior, guiding individuals through life (Andres et al., 2007; Ou & Reynolds, 2008). However, despite a tradition of research on the role of expectations in socioeconomic status attainment (see also Andrew & Hauser, 2011; Hitlin & Johnson, 2015; Johnson & Reynolds, 2013; Sewell et al., 1969; Staff et al., 2010), it is unclear just how consequential future expectations are for educational attainment and, in particular, whether young people's future expectations shape educational attainment processes independent of socioeconomic origin, potentially enabling intergenerational social mobility.

In this study, I seek to assess the importance of socioeconomic origins and individuals' subjective expectations about their own future socioeconomic status for educational attainment, estimating the extent to which each of these factors predicts educational attainment when controlling for the other. More specifically, I analyze the extent to which each of these factors predicts educational attainment related to transitions at two key branching points in the education system—from lower- to academic upper-secondary education, and from upper-secondary to tertiary (university) education—in Switzerland. In so doing, I draw on life course theory which emphasizes that educational attainment processes take place within institutional settings and that, consequently, educational attainment is best understood as the result of an interplay between individual characteristics and institutional constraints and opportunity structures (e.g., Bernardi et al., 2019; Burger, 2021; Elder, 1998; Mortimer et al., 2005; Pfeffer, 2008). With this in mind, I seek to identify how the institutional tracking structure of the education system contributes to educational attainment and whether it moderates the effects of socioeconomic origins and future expectations on educational attainment. Specifically, I consider the educational pathways (tracks) along which students progress through the system, because these tracks have a channeling effect, influencing individuals' educational trajectories to a considerable degree (Domina et al., 2017; Holm et al., 2013). I also seek to account for the system's tracking structure because students from more privileged families (Lee & Byun, 2019) and those with more positive expectations (Buchmann & Park, 2009; Karlson, 2015) often cluster in more academic tracks. With this in mind, the Swiss education system is an ideal case for the present study because it utilizes the kind of tracking structure that is characteristic of many education systems worldwide (all education systems sort students into different tracks for purposes of instruction, although some systems use explicit between-school tracking, whereas others use more implicit within-school tracking or streaming (e.g., Chmielewski et al., 2013; Eurydice, 2022; Mijs, 2016)). Finally, note also that this study seeks to make a contribution to the literature by examining individuals' expectations about their own future socioeconomic status (occupational expectations) rather than educational expectations which have been investigated frequently in prior research, especially in the status attainment tradition (e.g., Andrew & Hauser, 2011; Hitlin & Johnson, 2015; Sewell et al., 1969).

2. Background

2.1. Socioeconomic origin and educational attainment

The links between socioeconomic origin and educational attainment have been identified in any country for which data exist. A large body of literature suggests that families with more socioeconomic resources provide more material and social support and create qualitatively better learning environments for their children than families with fewer socioeconomic resources. This enables their children to acquire more skills at home (Walker, 2011) and perform better in school (Heckman, 2006). Moreover, unequal learning opportunities related to differences in children's socioeconomic origins translate into inequalities in child development (Bradley & Corwyn, 2002), unequal achievement trajectories (Skopek & Passaretta, 2021), and ultimately quite different educational qualifications (e.g., Pfeffer & Hertel, 2015). Parents from higher socioeconomic strata are more familiar with the education system and are thus better able to help their children make favorable educational decisions and curricular choices than parents from lower strata (e.g., Schindler & Lörz, 2012). This means they can help their children navigate the complex education system (Jackson et al., 2007). In addition, families typically display a habitus—that is, an orientation and disposition toward education—that reflects what is possible for someone given their socioeconomic position (Bourdieu, 1986). The habitus influences an individual's understanding of the place they have in the social structure and therefore affects how likely they are to continue in education beyond compulsory schooling (Roksa & Robinson, 2017). More generally, socialization processes bring children in line with the societal status quo and they are consequently a major mechanism for educational and social reproduction (Guhin et al., 2021). Socialization processes are critical for the maintenance of a system, bringing about a social world that children do not entirely choose themselves and about which they lack a substantial amount of control. Such processes often benefit or harm children from diverse social backgrounds unequally because they establish and perpetuate norms to which these children are expected to conform in school and, more broadly, in society (Tyson, 2003; see also Calarco, 2018). Accordingly, children from diverse backgrounds are often channeled into distinct educational and, ultimately, social destinations. Finally, social mechanisms are not the only explanation for the influence of socioeconomic origin on educational attainment; genetic mechanisms also play a part. Research in behavioral genetics has shown that the influence of parental socioeconomic status on children's educational attainment is partly a result of heritable genetic dispositions (Okbay, 2016). While the present study did not investigate the specific mechanisms by which socioeconomic origin affects educational attainment, it was predicated on the assumption that socioeconomic origin and educational attainment may be linked via the above-mentioned mechanisms.

2.2. Expectations about one's future socioeconomic status and educational attainment

Expectations about the future constitute an evaluative judgment about what life holds in store (Hitlin & Johnson, 2015). Individuals with a positive future orientation anticipate positive life-course outcomes and believe that good things will frequently happen to them in the future and that bad things will rarely happen (Peterson, 2000). Positive future expectations also serve as a resource that mitigates the impact of setbacks and negative experiences (Oettingen & Mayer, 2002). When people think that their lives will go according to plan, they will set ambitious goals for themselves and strive to achieve those goals. They will also persist when confronted with difficulties (Bozick et al., 2010). Indeed, young people's expectations about their future socioeconomic position may well make the difference between achieving a goal or floundering (Bandelj & Lanuza, 2018). Therefore, positive future expectations can be understood as a psychological resource that is likely to drive future-oriented behavior (cf., Domina et al., 2011). Moreover, such expectations are associated with affect regulation and socioemotional functioning. For example, in a sample of children exposed to high levels of psychosocial stress, positive future expectations predicted enhanced socioemotional adjustment at school. They also led children to respond more effectively to stress and, ultimately, to thrive in educational settings (Wyman et al., 1993). Based on all these findings, it is plausible that positive future expectations are a fundamental part of how individuals engage with the world and that positive expectations would increase their future chances and decrease the likelihood of them giving up (Beal & Crockett, 2010; Browman et al., 2022; Mello, 2008; Nurmi, 1991).

Expectations about future life outcomes also reveal individuals' knowledge of structural constraints and opportunities (Hitlin & Johnson, 2015). The material conditions individuals encounter in early life

may have a lasting impact on how they think about their future opportunities and social status (Manstead, 2018). Hence, a person's expectations partially reflect their place within the social stratification system (see also Baird et al., 2008; Geven & Forster, 2021; Johnson & Hitlin, 2017). However, there is considerable variation in the links between family socioeconomic status and adolescents' future expectations (Mortimer et al., 2020; Schoon & Lyons-Amos, 2017). For instance, recent research has found that socioeconomic background is an insignificant determinant of young people's economic expectations—which were measured as their subjective appraisal of the likelihood that they would end up in the job they most want, that their job would pay well, and that they would not have economic worries (Bandelj & Lanuza, 2018). This may be due to the fact that the future is always uncertain, especially during the transition from adolescence to adulthood (Caprara et al., 2009). This period is a time when many young people—even those who enjoy structural privileges, such as students at elite universities (Binder et al., 2016)—are often anxious and concerned about their future (Code et al., 2006). Conversely, and arguably paradoxically, early life adversity is also associated with optimistic future expectations, leading young people to think that life will get better in the future (Schafer et al., 2011). Accordingly, some young people from working-class backgrounds have a very positive future outlook (Halleröd, 2011). In fact, young people may exhibit optimistic future expectations even in circumstances where optimism clearly appears unfounded (Frye, 2012). Thus, although young people's future expectations partially reflect the structural circumstances in which they find themselves or their place in a given hierarchy (Reynolds et al., 2006; Schneider & Stevenson, 1999; see also Sharot, 2011), future expectations can be conceived to some extent as an inner psychological force that drives future-oriented behavior (Hitlin & Johnson, 2015).

Recent evidence from experimental research suggesting that expectations about the future can influence short-term educational outcomes more powerfully than socioeconomic origins was particularly relevant for the present study (Destin et al., 2018). If longitudinal research finds evidence suggesting that expectations about the future also lead to higher educational attainment in the long run, independent of socioeconomic origin, this would imply that expectations might enable intergenerational social mobility, meaning that individuals' social class destinations might ultimately be higher than their social class origins (e.g., Breen, 2010). Against this background, the first aim of this study was to disentangle the role of parental socioeconomic status (socioeconomic origin) from that of individuals' expectations about their own future socioeconomic status (or future expectations) to understand the unique predictive power of future expectations for educational attainment in the Swiss education system. The second aim of the study was to examine how socioeconomic origins and future expectations predict educational attainment when accounting for the tracking structure of the education system; this is because educational tracks typically influence educational trajectories, potentially moderating the influence of both socioeconomic origin and future expectations on educational attainment.

2.3. Educational tracks and attainment

Most education systems contain distinct tracks that students follow as they move through the system (Bol et al., 2014; Chmielewski et al., 2013; Hanushek and Wößmann, 2006). The main goal of tracking is to tailor instruction to students' specific skills, needs, and performance levels. However, educational tracks do not only create more homogeneous student groups, but also have a channeling function, leading students to a given educational destination (Domina et al., 2017). Once students enter a certain track, they are likely to follow a specific sequence of educational transitions within the system and ultimately attain a given educational qualification (Breen & Jonsson, 2000; Härkönen & Sirniö, 2020). Thus, students often follow an educational trajectory along tracks in a path-dependent process, in part independent of individual-level student characteristics such as academic performance or individual human agency (Buis, 2017; Burger, 2021; Pallas, 2003). In other words, educational tracks tend to mold and channel educational trajectories, to some degree limiting deviations from standard pathways through the education system (Heckhausen & Buchmann, 2019). Consequently, educational tracks will likely limit any potential effects of socioeconomic origin and future expectations on educational attainment. With this in mind, I examined whether the tracking structure of the education system restricted the influence of socioeconomic origin and future expectations on educational attainment.

2.4. Structure of the Swiss education system and educational trajectories

The Swiss education system uses a prototypical tracking system, thus making it an ideal case for the current study. The system sorts students into distinct tracks and thus channels educational trajectories to some extent. However, by offering various alternative routes into higher education, it also allows students to follow indirect pathways through the system. More specifically, this system consists of four main educational levels that are separated at three branching points at which educational trajectories diverge into distinct tracks (Fig. 1). Primary school is comprehensive. Lower-secondary school consists of different tracks linked to distinct academic requirements, ranging from basic to advanced (low, intermediate, and high track). However, some schools are comprehensive and include children with various performance levels without any formal tracking. At upper-secondary level, the two main tracks are the academic and vocational tracks. Whereas academic education (which is offered in the *Gymnasium* school type) allows students to gain the required qualification to enroll at university, vocational education primarily prepares students for entering the labor market or for colleges of higher education (i.e., specialized vocational schools that provide advanced application-oriented training for a specific occupation such as nursing, social work, hospitality, farming, forestry, or arts). Finally, the tertiary level includes different types of higher education tracks, including colleges of higher education, universities of applied sciences and teacher education, and the traditional universities which, in turn, offer a wide range of degree programs in various subject fields and are the only institutions that also offer doctoral programs (SKBF, 2014).

Importantly, although the educational tracks channel student trajectories to a considerable extent, the Swiss education system also offers various indirect pathways through the system. For instance, to enter academic upper-secondary education, a student typically needs to complete a high track at lower secondary level. However, at least formally, there are no dead ends. Students can continue their education once they obtain a given qualification from a specific track. That is, they can deviate from direct trajectories and instead follow indirect trajectories involving a more complex set of transitions between tracks, only to ultimately end up at the same educational destination as their counterparts who followed direct trajectories. To do so, they must complete additional educational programs that act as a bridge between distinct tracks. This is typical for many education systems that use tracking but also allow students to switch tracks (Crul, 2013; Eurydice, 2022).

3. The current study

Adopting a life course perspective, I sought to determine the importance of individuals' socioeconomic origins and expectations about their future socioeconomic status for educational attainment. Specifically, I examined the extent to which young people's probability of progressing along distinct educational tracks varied as a function of parental socioeconomic status and expected future socioeconomic status. I focused on educational transition probabilities at two critical junctures—from lower- to upper-secondary education and from there to university—in the Swiss system which provides multiple tracks through secondary and into tertiary education. Considering prior research (e.g.,

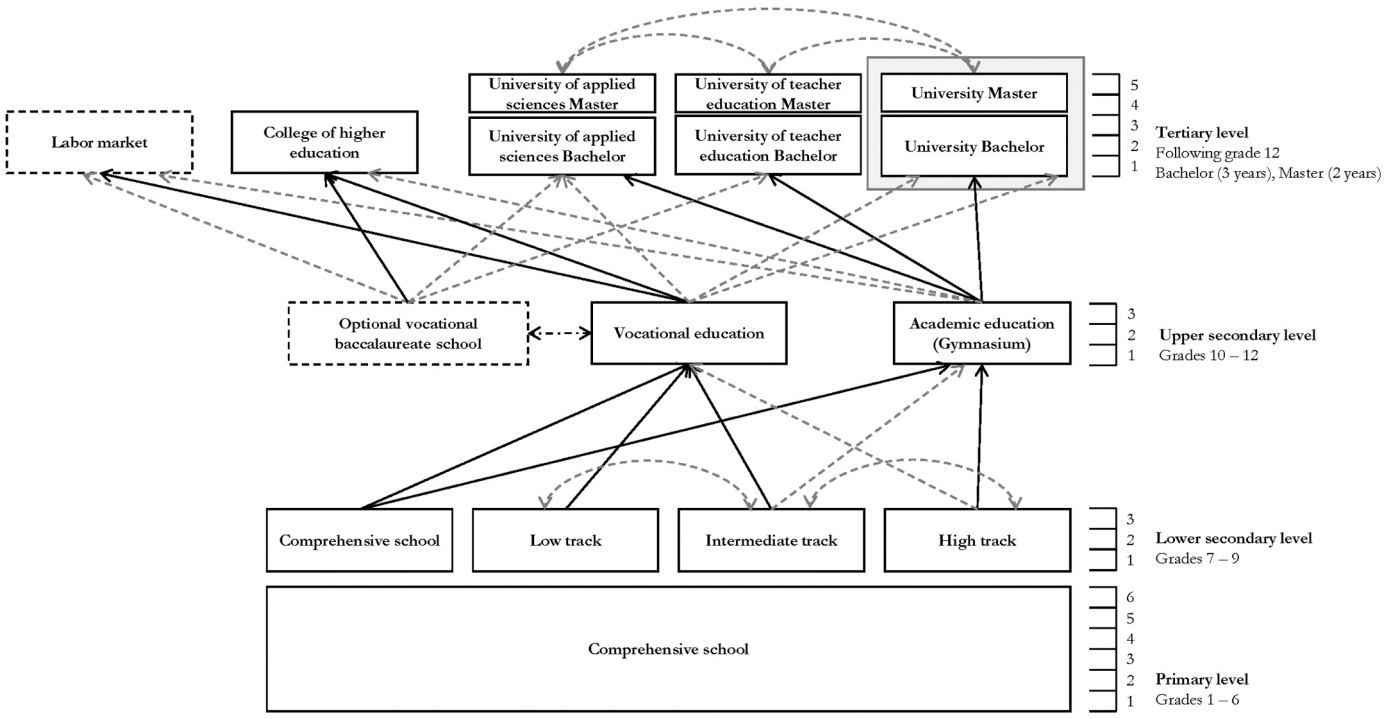

Fig. 1. Simplified illustration of the Swiss education system. **Note**: The education system consists of four main educational levels. Although the institutional structure varies to some degree between and within cantons (i.e., subnational administrative units), the key features are the same across Switzerland (SKBF, 2014). Primary school consists of either 5 or 6 grades, lower-secondary school consists of 3 or 4 grades, and upper-secondary school consists of 3 or 4 grades. The figure illustrates the most widespread variants. While primary school is comprehensive, there are different tracks at the lower-secondary level (low, intermediate, and high track) and there are some comprehensive schools that do not use tracking. At the upper-secondary level, the two main tracks are academic education and vocational education (the latter combines vocational education in specialized schools with work-based training in a firm). Students in vocational education can optionally follow a route via a vocational baccalaureate school. The system provides a structure of opportunity for students to pursue distinct trajectories through secondary and tertiary education. Comparatively large proportions of each student cohort follow direct trajectories either along academic tracks into university or along vocational tracks into colleges of higher education and the labor market, as indicated by solid arrows. However, students also have the option of following indirect trajectories to an educational destination. Solid arrows represent educational trajectories that are followed by a majority of students. Dashed arrows denote trajectories followed by a minority of students. Double-headed dashed arrows depict transition options between educational tracks that are open to students who pass supplementary tests and obtain specific qualifications needed for admission.

Destin et al., 2018; Hitlin & Johnson, 2015; Sewell et al., 1969), I assumed that both socioeconomic origins and individuals' expectations about their future socioeconomic status would significantly predict academic educational trajectories and—in particular—that future expectations would have unique predictive power for these trajectories even when controlling for socioeconomic origins. This led me to formulate the first hypothesis.

Hypothesis 1. Young people's expectations about their future socioeconomic status significantly predict subsequent educational attainment, independent of socioeconomic origins.

I took account of the education system's tracking structure because students from more privileged families and those with more positive expectations may cluster in more academic tracks. Moreover, tracks tend to lead students to a given educational destination. Once students enter a specific track, they are likely to follow a certain sequence of educational transitions along specific tracks, regardless of student characteristics (Breen & Jonsson, 2000; Härkönen & Sirniö, 2020). Against this background, any potential independent effects of socioeconomic origin and future expectations on educational attainment will likely prove limited after controlling for the system's tracking structure. This led me to formulate the second hypothesis.

Hypothesis 2. Educational tracks limit the influence of both socioeconomic origin and future expectations on educational attainment.

I used data from a panel survey that followed individuals from the ages of 15–30. These data allowed me to examine individuals' probability of transitioning into academic upper-secondary education and later to university, irrespective of the educational trajectories that individuals previously followed—be they direct trajectories along academic tracks or indirect (and, consequently, more time-consuming) trajectories from vocational tracks via academic tracks into university. I considered university enrollments up to the age of 30, thereby covering the entire life phase during which almost all university-bound students first enroll at a university (BFS, 2015).

4. Method

4.1. Data and sample

I used data from the TREE (Transitions from Education to Employment) study, a Swiss nationwide longitudinal study that has followed a cohort of individuals since 2000 (Jann et al., 2016). These data are uniquely suited to test the hypotheses of the current study. The sample initially included 6343 respondents who participated in the Program for International Student Assessment (PISA) during their last year of lower-secondary school in the year 2000. PISA used a two-step stratified sampling procedure. First, schools were sampled with probabilities proportional to the size of the student body. Second, students were sampled at random within schools.

The data used in this study pertain to the entire observation period, from 2000 to 2014. Between 2001 and 2007, the TREE panel waves were conducted annually (t_1 to t_7). In 2010 and 2014, two additional waves were carried out (t_8 and t_9). As I assessed educational trajectories up to

Table 1
Descriptive Statistics.

	Measure collected in	M	SD	Min.	Max.	*N*
Male	2000	0.44		0	1	4986
Age in years	2000	15.50	0.64	11.83	19.00	4974
Immigrant (1st generation)	2000	0.13		0	1	4962
Reading achievement	2000	519.97	85.12	27.60	884.49	4982
Math achievement	2000	545.44	88.60	202.14	815.90	2775
Science achievement	2000	516.88	93.81	168.60	830.09	2731
Homework time	2000	-0.17	0.81	-3.08	2.66	4947
Perseverance	2000	0.04	0.97	-3.12	2.20	4896
Academic self-efficacy	2000	0.10	0.88	-2.90	2.28	4898
Academic self-concept	2000	0.02	0.90	-2.51	1.84	4870
Parental education	2000	4.63	1.29	1	6	4851
Socioeconomic status	2000	51.00	16.25	16.00	90.00	4614
Expected socioeconomic status	2000	54.94	17.65	16.00	90.00	3839
Lower-secondary track	2000					4984
High track		0.40		0	1	
Intermediate track		0.32		0	1	
Low track		0.22		0	1	
No tracking		0.06		0	1	
Upper-secondary track	2002					4640
Vocational		0.60		0	1	
Academic		0.34		0	1	
Other education		0.06		0	1	
Tertiary track	2004–2014					4986
University		0.26		0	1	

Note: Descriptive statistics for all study variables. N = number of cases present in the dataset; $N_{complete}$ = 4986. First-generation immigrant = born abroad. The indices of homework time, perseverance, academic self-efficacy, and academic self-concept were standardized to have a mean of 0 and a standard deviation of 1 at the international level (i.e., among all PISA participant countries). 'Other education' = educational activities as described in the Method section. Note that 'university' refers to traditional universities and does not include colleges of higher education (universities offer science-based advanced academic education in a wide array of study programs, whereas colleges of higher education offer advanced application-oriented training to professionals in a given occupation).

university level, I restricted the sample to respondents for whom university enrollment data were available for any of the panel waves. The resulting analytic sample consisted of 4986 respondents at t_0 (in 2000). The analytic sample and the initial sample were very similar regarding the key sociodemographic variables. In comparison to the initial sample, the analytic sample included slightly lower percentages of male participants (43.76 % vs. 45.77 %) and first-generation immigrants (12.86 % vs. 14.30 %). Moreover, Welch two-sample t-tests revealed that participants in the analytic sample were almost identical to those in the original sample in terms of *parental* socioeconomic status ($M = 51.00$, $SD = 16.25$ versus $M = 50.38$, $SD = 16.28$, [$t(10{,}704) = 1.95$, $p = 0.052$]) and had almost identical *expected* future socioeconomic status ($M = 54.94$, $SD = 17.65$ versus $M = 54.09$, $SD = 17.60$, [$t(9981) = 1.99$, $p = 0.050$]). Regarding their PISA reading test scores, participants in the analytic sample scored only slightly higher than those in the original sample ($M = 519.97$, $SD = 85.12$ versus $M = 510.01$, $SD = 89.00$, [$t(10{,}905) = 6.08$, $p < 0.001$]). Participant age in the year 2000 was virtually identical in the two samples ($M = 15.5$, $SD = 0.60$ versus $M = 15.5$, $SD = 0.70$, [$t(11{,}243) = 0.00$, $p = 1.00$]).[2]

4.2. Measures

Data were collected using written questionnaires that were mailed to study participants in waves 1–4. In waves 5–9, a combination of questionnaires and computer-assisted telephone interviews was used. In each wave, most of the data collection took place between April and June. In the following, I describe the measures used for the current study. Table 1 reports the descriptive statistics for these measures and indicates when each measure was collected. Supplemental Material Tables A1 and A2 report the descriptive statistics of these measures for individuals in distinct educational tracks. Table 2 provides the zero-order correlations.

4.2.1. Socioeconomic status

Socioeconomic origin was operationalized through parental standing on the standard International Socio-Economic Index of Occupational Status (ISEI) scale (Ganzeboom et al., 1992). Students reported their parents' occupations. Their responses were converted into four-digit ISCO (International Standard Classification of Occupations) codes (International Labour Organisation, 1988) and then converted to ISEI scores. Where mothers and fathers differed in their score, the higher score was used.

4.2.2. Expected socioeconomic status

Young people's expectations about their future socioeconomic status were also assessed on the standard International Socio-Economic Index of Occupational Status (ISEI) scale. Consequently, the measure of parental socioeconomic status (origin) and the measure of individuals' future expectations were equivalent. Study participants were asked what kind of job they expected to have at around age 30. The job title was then converted into a score on the ISEI scale.

4.2.3. Lower-secondary track

The tracks at the lower-secondary school level differed in their academic requirements, ranging from basic to advanced (the low, intermediate, and high tracks). Moreover, some schools were comprehensive and did not use any formal tracking. Instead, they instructed students with diverse performance and ability levels. The four tracks—*low,*

[2] Regarding key behavioral and psychological variables, participants in the analytic sample reported spending slightly but significantly more time on homework in lower-secondary school than those in the initial sample ($M = -.165$, $SD = .808$ versus $M = -.299$, $SD = .881$, [$t(1954) = -5.00$, $p < 0.001$]); moreover, they exhibited slightly higher levels of perseverance ($M = .036$, $SD = .977$ versus $M = -.139$, $SD = 1.014$, [$t(1993) = -5.59$, $p < 0.001$]) and academic self-efficacy ($M = .099$, $SD = .885$ versus $M = -.037$, $SD = .929$, [$t(1997) = -4.76$, $p < 0.001$]) and a somewhat better academic self-concept ($M = .021$, $SD = .901$ versus $M = -.165$, $SD = .831$, [$t(2171) = -7.02$, $p < 0.001$]).

Table 2
Correlation Matrix.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	.056***																			
3	.004	.121***																		
4	-.129***	-.122***	-.247***																	
5	.120***	-.104***	-.220***	.616***																
6	.057**	-.106***	-.251***	.682***	.517***															
7	-.121***	.038**	.035*	.042**	-.003	.010														
8	-.051***	.051***	-.018	.103***	.063**	.080***	.267***													
9	.139***	.001	-.050**	.222***	.216***	.242***	.079***	.496***												
10	.056***	-.064***	.001	.211***	.223***	.213***	.029*	.369***	.519***											
11	.045**	-.129***	-.146***	.225***	.199***	.254***	.009	.021	.120***	.111***										
12	.007	-.135***	-.142***	.293***	.225***	.302***	-.020	.010	.125***	.092***	.522***									
13	.019	-.152***	-.007	.326***	.273***	.304***	.034*	.116***	.194***	.195***	.214***	.271***								
14	-.043**	-.036*	-.079***	.394***	.341***	.370***	.109***	.049**	.104***	.021	.203***	.271***	.383***							
15	.002	.020	-.040**	-.007	-.031	-.043*	-.099***	.017	-.004	.052***	-.036*	-.036*	-.135***	-.555***						
16	.046**	.043**	.135***	-.429***	-.366***	-.361***	-.022	-.069***	-.108***	-.073***	-.179***	-.248***	-.289***	-.438***	-.366***					
17	.003	-.042**	.005	-.044**	-.004	-.046*	.007	-.014	-.019	-.019	-.037**	-.057***	-.017	-.205***	-.172***	-.135***				
18	.110***	.155***	.004	-.333***	-.271***	-.274***	-.037*	-.106***	-.139***	-.179***	-.231***	-.286***	-.451***	-.440***	.218***	.261***	.029*			
19	-.079***	-.209***	-.054***	.419***	.344***	.363***	.056***	.133***	.177***	.220***	.280***	.342***	.522***	.512***	-.240***	-.316***	-.039**	-.882***		
20	-.070***	.099***	.099***	-.151***	-.137***	-.158***	-.036*	-.049**	-.067***	-.071***	-.083***	-.095***	-.114***	-.115***	.029*	.094***	.019	-.305***	-.181***	
21	-.016	-.174***	-.065***	.373***	.310***	.357***	.037**	.108***	.187***	.227***	.258***	.307***	.434***	.392***	-.154***	-.266***	-.039**	-.621***	.711***	-.141***

Note: 1 = Male; 2 = Age in years; 3 = Immigrant (1st generation); 4 = Reading achievement; 5 = Math achievement; 6 = Science achievement; 7 = Homework time; 8 = Perseverance; 9 = Academic self-efficacy; 10 = Academic self-concept; 11 = Parental education; 12 = Socioeconomic status; 13 = Expected socioeconomic status; 14 = High track; 15 = Intermediate track; 16 = Low track; 17 = No tracking; 18 = Vocational education; 19 = Academic education; 20 = Other education; 21 = University. Pearson coefficients are reported for correlations between continuous variables, point-biserial coefficients are reported for correlations including a dichotomous variable, and Phi coefficients are reported for correlations between two dichotomous variables.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

intermediate, high, and *comprehensive*—were dummy coded, with comprehensive schools representing the reference category.

4.2.4. *Upper-secondary track*

There were two main tracks at the upper-secondary level—academic and vocational. The *academic* track primarily prepared students for tertiary education, including university. The *vocational* track primarily prepared students for the labor market and for colleges of higher education. Vocational education consisted of education in specialized schools and firm-based training with immediate practical value. In addition, some individuals pursued *other education* activities, including short-term projects such as internships, language courses, and preparatory courses for vocational or academic education. A negligible percentage of study participants (< 1 %) who were not in education, employment, or training were also categorized in the *other* group (5.9 % overall). I dummy coded the three types of education (*academic*, *vocational*, *other*) and used the vocational track as the reference category because the majority of study participants (59.8 %) were in vocational education. I used data from the 2002 wave, which represented participants' upper-secondary education more accurately than the data from other waves.[3]

4.2.5. *University attendance*

I used a dichotomous variable to assess whether a study participant was ever enrolled at a university (highlighted in the gray box in Fig. 1) between 2004 and 2014 (the first university enrollments were observed in the 2004 wave). While I was initially hoping to examine educational trajectories up to "university graduation," rather than only "university attendance," I ultimately did not use the "university graduation" variable in the analyses due to a large proportion of missing values (48 %). Note also that I considered university attendance as the final outcome because universities are the traditional academic institutions for higher education in Switzerland. They provide science-based academic education and offer a wide range of study programs. Universities are characterized by the highest academic demands and are the only institutions that also offer doctoral degree programs. Universities differ from colleges of higher education which provide advanced vocational training to professionals in a given field of work who previously pursued vocational education at the upper-secondary level (colleges of higher education in Switzerland are not equivalent to colleges in countries such as the U.S.; they are inherently linked to a given profession and offer application-oriented training that leads to an advanced diploma, rather than Bachelor's, Master's, and doctoral degrees which can be obtained at universities).

4.2.6. *Covariates*

I controlled for *gender* (0 = female, 1 = male), *age* (measured in years), first-generation *immigrant status* (0 = born in the country, 1 = born abroad), and *parental education*, considering the final educational attainment of the parent with the higher level of education (using ISCED 1997 categories rescaled to range from 1 = ISCED 0 [did not go to school] to 6 = ISCED level 5 A, 5B or 6 [tertiary education]). Furthermore, I controlled for participants' PISA *reading, math*, and *science* scores

[3] Whereas 94.1 % of study participants were either in the vocational track or the academic track in 2002, only 83.3 % of participants were in one of these two main tracks in 2001, with 16.7 % of participants engaging in other educational activities. The data from 2002 reflect participants' upper-secondary education type most accurately, because 95 % of the participants who were in vocational education in that year were still pursuing vocational education in 2003, and 96 % of the participants who pursued academic education in 2002 were still pursuing academic education in 2003.

as indicators of academic achievement.[4] To control for further potential confounders, I also considered four additional constructs to assess different aspects of student motivation and cognitive self-appraisals: a measure of the time that students spent on homework (*homework time*), a four-item index of their study effort and perseverance (*perseverance*), a three-item index of perceived *academic self-efficacy*, and a three-item index of *academic self-concept* (these multi-item indices were composite measures provided by PISA; Adams & Wu, 2002).[5] All covariates were collected in 2000, when the respondents were in their last year of lower-secondary school (in school grade 9).

4.3. Treatment of missing data

Missing data are a common challenge in most longitudinal studies. In the current dataset, the percentage of missing data due to item nonresponse varied between 0 % and 55.7 %, but it was no more than 9.0 % on average across items and waves (see Table 1). I used full information maximum likelihood (FIML) estimation to adjust the estimation of parameters in light of missing data. FIML allows researchers to estimate parameters without discarding any data and is an ideal procedure for dealing with missing data (Lang & Little, 2018). It relies on the premise that missing values on a given variable are conditionally dependent on other observed variables in the data and it uses the observed data to supplement information affected by missing values (Enders, 2010; Little et al., 2014).

4.4. Analyses

I estimated path models to address the hypotheses. Path models allow researchers to simultaneously estimate path coefficients involving multiple, temporally ordered outcomes (e.g., Little, 2013). Here, I estimated path models to predict individuals' probability of transitioning from a given lower-secondary track to an academic upper-secondary track, and from there to university, as a function of socioeconomic origins and future expectations. To ease interpretation of the results and follow recent recommendations (Breen et al., 2018), I estimated linear probability path models, generating average effects that reflected the conditional average change in the probability of an outcome that is associated with a one-unit increase in the predictors. Linear probability path models have the advantage of offering parameter estimates that are directly interpretable in terms of probabilities across different groups (Angrist & Pischke, 2009); they are appropriate when average effects are of primary interest (Mood, 2010), as in the present case. They also provide an easily interpretable measure of effect size (Breen et al., 2018). Results from nonlinear (logistic) path models are reported in Supplemental Material B. These additional analyses confirm all key results of the linear probability models, providing additional evidence in support of the conclusions that I draw here.

I calculated main effects to address Hypothesis 1, which states that young people's future expectations significantly predict educational attainment, independent of socioeconomic origins. Subsequently, I used two analytic strategies to address Hypothesis 2, which states that educational tracks limit the influence of socioeconomic origin and future expectations on educational attainment. First, I assessed whether the main effects of socioeconomic origin and future expectations became weaker when controlling for individuals' educational track attendance. Second, by estimating interaction effects, I evaluated the extent to which particular educational tracks moderated (i.e., limited) any potential influence of socioeconomic origin and future expectations on educational attainment. All models included the above-mentioned covariates to control for potential confounding. In robustness tests, I re-estimated the models without controlling for indicators of student motivation and cognitive self-appraisals (homework time, perseverance, academic self-efficacy, academic self-concept) because these variables might constitute the mechanism through which socioeconomic origin influences educational attainment, hence complicating the identification of the effect of socioeconomic origin because of potential overcontrol. The results of these robustness tests were qualitatively unchanged and confirmed all key findings and conclusions presented here.

All models were computed using Mplus, version 8.6 (Muthén & Muthén, 2017). I calculated standard errors that are robust to the nonnormality and nonindependence of observations to account for the fact that study participants were nested in educational tracks and that the standard assumption of independent and identically distributed data may therefore not have been valid. Moreover, this was appropriate because error terms are always heteroskedastic in linear probability models. I also visualized the key results, creating graphs to illustrate how the predicted probabilities of making a given educational transition varied as a function of socioeconomic origin and future expectations when taking into account educational track attendance. These graphs were created in *R*, version 4.0.2 (R Core Team, 2020).

5. Results

5.1. Describing the context

To enable a better understanding of the results of the path models, I begin this section by providing some key contextual information.

First, the zero-order correlation between individuals' socioeconomic origins and their expectations about their future socioeconomic status in the entire sample was $r = .271$, $p < .001$ (Table 2). This suggests that socioeconomic origins and future expectations in adolescence were not completely independent from each other. However, when accounting for observable potential confounders, regression analyses indicated considerably weaker links between the two variables, with regression coefficients varying between $\beta = .00$, $p > .05$ and $\beta = .18$, $p < .01$ (see Supplemental Material C for details).

Second, Fig. 2 reports the student participation rates in different tracks and the transition rates to these tracks. It documents educational path dependencies, meaning that track attendance strongly predicted the educational pathways that students would follow. Normative educational trajectories (from a high track via academic education) to university occurred much more often than nonnormative trajectories (such as trajectories from intermediate or low tracks via vocational education to university).

Finally, it is important to understand whether students from specific

[4] Reading performance scores indicated the ability to retrieve information from a text, interpret it, and reflect upon and appraise information contained within it. Math performance scores indicated the ability to recognize and interpret mathematical problems, to use mathematical knowledge and procedures to solve mathematical problems, to reflect upon methods applied, and to interpret and communicate results. Science performance scores indicated the ability to understand scientific concepts, to recognize scientific questions and understand the nature of scientific investigation, to use scientific evidence, and to communicate these aspects of science (Adams & Wu, 2002).

[5] The index of homework time was derived from students' reports on the time they devoted to homework using a four-point scale (no time, 3 h per week). The index of study effort and perseverance (perseverance) was derived from students' responses to four items ("I work as hard as possible," "I keep working even if the material is difficult," "I try to do my best to acquire the knowledge and skills taught," and "I put forth my best effort") using a four-point scale (almost never, sometimes, often, almost always). The index of perceived academic self-efficacy was derived from students' responses to three items ("I'm certain I can understand the most difficult material presented in texts," "I'm confident I can do an excellent job on assignments and tests," and "I'm certain I can master the skills being taught") using a four-point scale (almost never, sometimes, often, almost always). The index of academic self-concept was derived from students' responses to three items ("I learn things quickly in most school subjects," "I'm good at most school subjects," and "I do well in tests in most school subjects") using a four-point scale (disagree, disagree somewhat, agree somewhat, agree). All indices were standardized to have a mean of 0 and a standard deviation of 1.

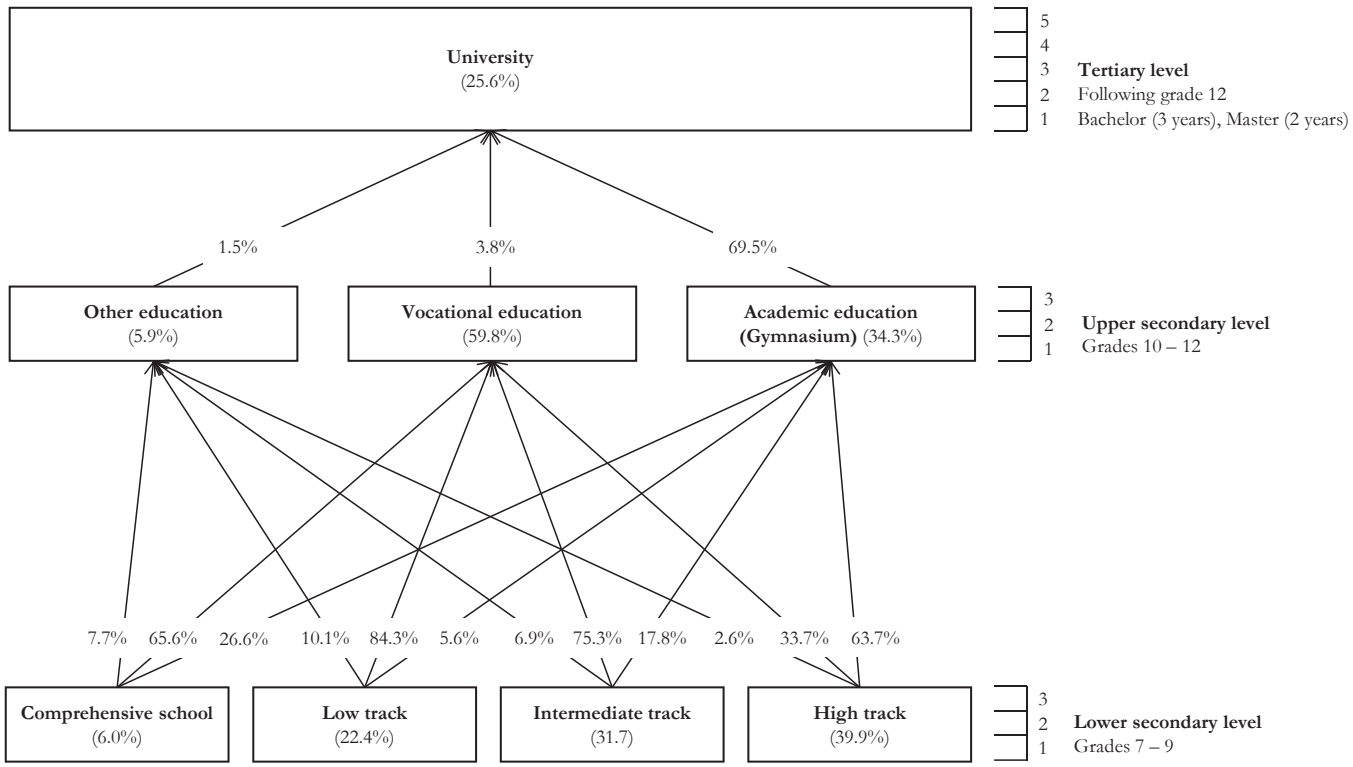

Fig. 2. Participation rates in different educational tracks and transition rates to these tracks (in %). $N = 4986$.

socioeconomic backgrounds and with particular future expectations may have clustered in specific tracks. Figs. 3 and 4 illustrate how students' socioeconomic origins (socioeconomic status) and future expectations (expected socioeconomic status) were distributed across distinct tracks at lower- and upper-secondary school levels. These figures show that students from more privileged socioeconomic backgrounds and those with more positive future expectations clustered in more academic tracks, although there were substantial overlaps in both socioeconomic origins and future expectations between tracks. Consider, for instance, Fig. 3 in which the blue bubbles represent students who attended the high track at lower secondary level. They are concentrated predominantly in the upper right area of the graph, revealing that the students in the high track mostly came from socioeconomically privileged families and exhibited quite optimistic future expectations. In contrast, the red bubbles represent students who attended the low track. These students came from comparatively disadvantaged families and had relatively low future expectations, as indicated by the fact that they are mostly clustered in the lower left area of the graph (see Supplemental Material A for all descriptive statistics).

5.2. The predictive power of future expectations

Model 1 (in Table 3) allowed me to evaluate Hypothesis 1, which posited that young people's expectations about their future socioeconomic status would significantly predict subsequent educational attainment, independent of socioeconomic origin. The results of this model are in line with this hypothesis, revealing highly significant links between *expected socioeconomic status* and the probability of subsequently transitioning into academic education at upper-secondary level ($\beta = .161$, $p < .001$) and the probability of enrolling at a university ($\beta = .123$, $p < .001$), when controlling for the effect of parental *socioeconomic status* and other covariates. Supplementary analyses even suggest that *expected socioeconomic status* was more strongly related to individuals' educational attainment than *socioeconomic status*. On average, an increase in *expected socioeconomic status* of one standard deviation was associated with an increase of 16.1 % points in the probability of transitioning into academic education. In contrast, an increase in *socioeconomic status* of one standard deviation was associated with an 8.6 % point increase in the probability of transitioning into academic education. A chi-square difference test showed that the two coefficients were significantly different from each other, $\Delta\chi^2(1) = 10.034$, $p = .002$ (cf., Gelman & Stern, 2006). Moreover, a one-standard-deviation increase in *expected socioeconomic status* was associated with a 12.3 % point increase in the probability of enrolling at a university. In contrast, a one-standard-deviation increase in parental *socioeconomic status* was associated with a 7.5 % point increase in the probability of enrolling at a university. A chi-square difference test revealed that the two coefficients were significantly different from each other, $\Delta\chi^2(1) = 3.999$, $p = .046$. In conclusion, although it was not the main aim of this study to compare the magnitude of the effects of socioeconomic origins and future expectations, these supplementary analyses are testimony to the strong and unique predictive power of future expectations for educational attainment.

5.3. The role of educational tracks

Hypothesis 2 stated that educational tracks would limit the influence of both socioeconomic origin and future expectations on educational attainment. To test this hypothesis, I first assessed whether controlling for educational track attendance reduced the main effects of socioeconomic origin and future expectations on educational attainment. Model 2 (in Table 3) indeed indicates that, after controlling for track

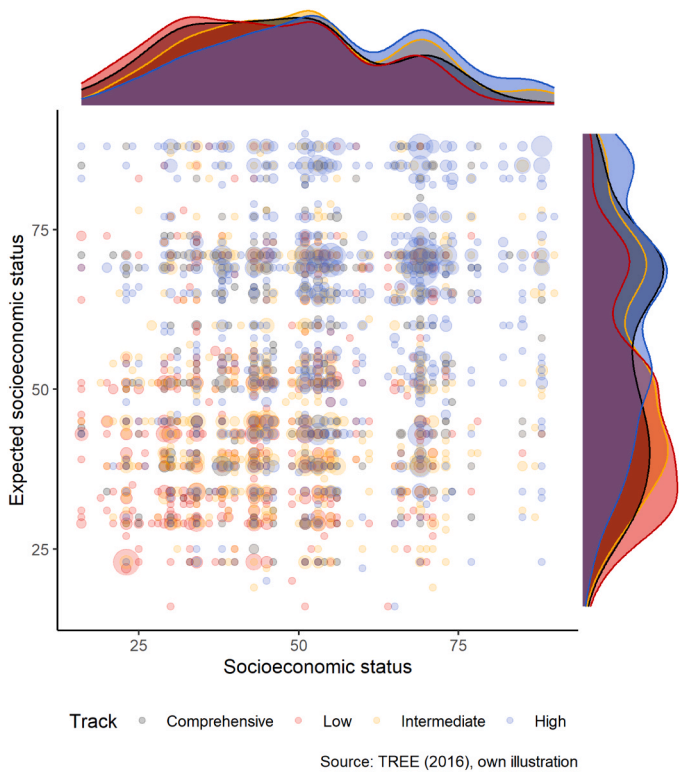

Fig. 3. Bubble plot of the distributions of individuals' socioeconomic status and expected socioeconomic status in the high track (blue bubbles), intermediate track (yellow bubbles), low track (red bubbles), and in the comprehensive track (gray bubbles) at the lower-secondary school level, with marginal density plots of socioeconomic status (upper side) and expected socioeconomic status (right side) across tracks.**Note:** The density curves reflect estimates of the probability density function. $N_{\text{comprehensive}} = 297$, $N_{\text{low track}} = 1118$, $N_{\text{intermediate track}} = 1578$; $N_{\text{high track}} = 1989$. Socioeconomic status differed significantly between all track types (all $p < .05$ at least). Expected socioeconomic status differed significantly between all track types (all $p < .001$), except between comprehensive and intermediate tracks (Bonferroni adjusted tests).

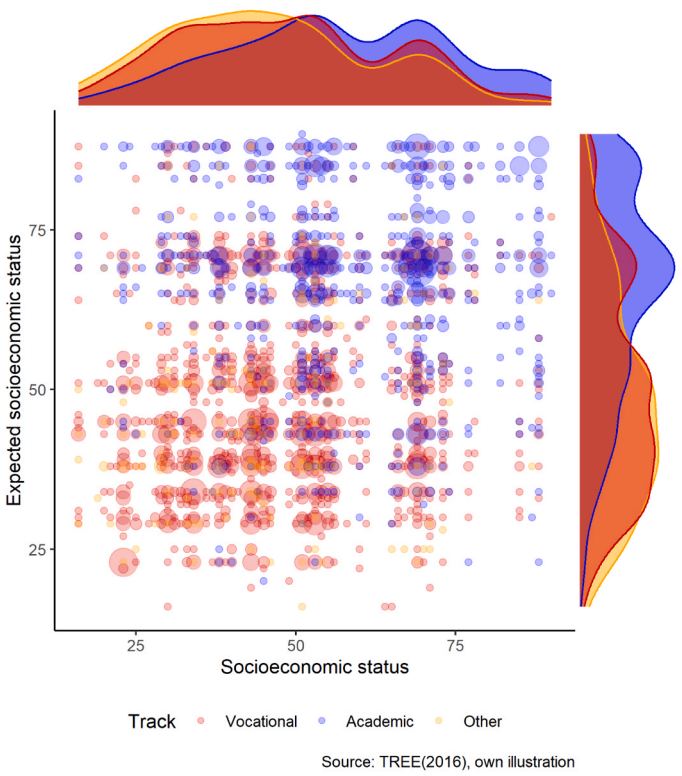

Fig. 4. Bubble plot of the distributions of individuals' socioeconomic status and expected socioeconomic status in the vocational track (red bubbles), academic track (blue bubbles), and in other tracks (yellow bubbles) at the upper-secondary school level, with marginal density plots of socioeconomic status (upper side) and expected socioeconomic status (right side) across tracks. **Note:** The density curves reflect estimates of the probability density function. $N_{\text{vocational track}} = 2776$; $N_{\text{academic track}} = 1591$; $N_{\text{other}} = 273$. Socioeconomic status differed significantly between vocational and academic tracks, and between academic and other tracks (both $p < .001$), but not between vocational and other tracks. Expected socioeconomic status differed significantly between vocational and academic tracks, and between academic and other tracks (both $p < .001$), but not between vocational and other tracks (Bonferroni adjusted tests).

attendance in the model, both socioeconomic origins and future expectations became weaker predictors of individuals' probability of transitioning into academic upper-secondary education, with linear probability coefficients now amounting to $\beta = .077$ and $\beta = .108$, respectively (versus $\beta = .086$ and $\beta = .161$ in Model 1). Moreover, socioeconomic origin and future expectations also became weaker predictors of individuals' probability of continuing onto university, with coefficients now amounting to $\beta = .032$ and $\beta = .029$, respectively (versus $\beta = .075$ and $\beta = .123$ in Model 1). These results provide evidence in line with Hypothesis 2 that educational tracks limit the influence of socioeconomic origin and future expectations on educational attainment.

In a second step, I estimated interactions between educational tracks on the one hand and socioeconomic origin and future expectations on the other. Analyzing these interactions allowed me to evaluate the extent to which particular educational tracks moderated (i.e., limited) any potential effects of socioeconomic origin and future expectations on educational attainment. I used dummy variables to capture educational track attendance and estimated all possible (i.e., 36) interactions. To ease the interpretation of the interactions, I also expressed the results as predicted probabilities, creating graphs that visually represent the predicted transition probabilities of students in each track separately (see Figs. 5 and 6). Here, I was not interested in average effects. Instead, I sought to get valid predicted probabilities across the entire range of values of socioeconomic status and expected socioeconomic status, avoiding out-of-bound predictions (Hippel, 2015; Mize, 2019). Hence, the graphs rely on a nonlinear (logistic) model specification. However, I report the results from both linear and nonlinear models (in Supplementary Material D) and I summarize the key findings hereafter.[6]

Fig. 5 shows how the probability of transitioning to academic upper-secondary education varied as a function of lower-secondary track attendance as well as socioeconomic origin (left panel) and future expectations (right panel). It illustrates that the predictive power of both *socioeconomic status* and *expected socioeconomic status* for that transition probability varied across educational tracks. To give an example, it was significantly weaker in the low track than in the high track (see Supplemental Material Tables D1.a–D1.d for more details).

Moreover, Fig. 6 illustrates how the probability of transitioning to university varied as a function of upper-secondary track attendance as well as socioeconomic origin (left panel) and future expectations (right panel). Both *socioeconomic status* and *expected socioeconomic status*

[6] Note that in nonlinear models, the coefficient on the interaction term is often uninformative and a misleading representation of the interaction effect (Greene, 2010). In fact, it is not a test of interaction in terms of the predicted probabilities (Mize, 2019). I therefore draw conclusions on the basis of the coefficients from the linear probability models, thereby taking into account that the interaction effect in nonlinear models cannot be evaluated simply by assessing the sign, size, or statistical significance of the coefficient (Ai & Norton, 2003).

predicted the probability of transitioning to university significantly more strongly among students in the academic track than among students in vocational and other education (see Supplemental Material Tables D2.a–D2.c).[7]

To summarize, Figs. 5 and 6 illustrate that the importance of socioeconomic origin and future expectations for educational attainment was significantly restricted in some, albeit not all, tracks. These results provide further evidence consistent with Hypothesis 2 that (at least some) educational tracks limit the influence of socioeconomic origin and future expectations on educational attainment.

6. Discussion

Applying a life course perspective, I examined the importance of socioeconomic origin and future expectations for educational trajectories in a system that partially channels students along certain educational tracks. In particular, I sought to assess the extent to which young people's future expectations predict educational attainment when controlling for socioeconomic origin. If young people's future expectations are an important driver of educational attainment regardless of their socioeconomic origins, they might enable intergenerational social mobility. The findings suggest that young people's expectations about their future socioeconomic status were indeed a powerful predictor of academic educational trajectories, even when controlling for socioeconomic origins. Individuals' probabilities of transitioning into academic upper-secondary education and into university were significantly related to their future expectations, even though future expectations were measured two years prior to the transition to upper-secondary education and up to fifteen years prior to the transition to university (depending on when young people first enrolled in university). These findings suggest that future expectations are crucial for socioeconomic success. They support prior research indicating that an optimistic socioeconomic outlook plays an important role in attainment processes (Bozick et al., 2010; Burger & Mortimer, 2021; Destin et al., 2018)—it may enhance goal-directed behaviors and thereby contribute to educational and social status attainment among both advantaged and disadvantaged individuals (Hitlin & Johnson, 2015; Schoon & Burger, & Cook, 2021). Young people appraise their life chances; and those who develop positive future orientations will be likely to strive to achieve their goals and to achieve them ultimately. Importantly, the findings of the current study were confirmed by robustness tests in which I refrained from controlling for indicators of student motivation and cognitive self-appraisals to avoid potential overcontrol bias (controlling for such indicators might lead to an underestimation of the influence of future expectations on educational attainment). Beyond confirming the results, the robustness tests (reported in Table 4) also indicated that future expectations exhibited slightly stronger predictive power for educational attainment when not controlling for student motivation and self-appraisals (homework time, perseverance, academic self-efficacy, and academic self-concept) than when controlling for them.

I also analyzed whether educational tracks limited the influence of socioeconomic origin and future expectations on educational attainment. I assumed that this would be the case (a) because tracks have a channeling effect, typically leading students to a given educational destination regardless of individual-level student characteristics, and (b) because socioeconomic origins and future expectations and track attendance are usually confounded. Indeed, I found that students' probabilities of transitioning to academic education at upper-secondary level and university were strongly related to the educational tracks that they attended—thus, there were clear path dependencies in students' educational trajectories. Consequently, when I accounted for individuals' track attendance in the model, socioeconomic origin and future expectations became less predictive of individuals' academic educational trajectories. Given the strong channeling effects of the educational tracks, it is remarkable that both socioeconomic origin and future expectations remained significant predictors of educational attainment, even when I accounted for educational track attendance in the model. However, educational tracks appeared to structure

Table 3
Coefficients from the Linear Probability Path Models Predicting Academic Education at Upper-Secondary Level and University Attendance at Tertiary Level.

Outcome	Predictor	Model 1 β	SE	Model 2 β	SE
Upper-secondary level					
Academic education	Male	-.128***	.029	-.123***	.028
	Age	-.075***	.023	-.088***	.022
	Immigrant	.111**	.037	.094**	.036
	Reading achievement	.064**	.019	.047*	.018
	Math achievement	.041*	.018	.028	.017
	Science achievement	.011	.021	-.019	.020
	Homework time	.034*	.014	.026	.014
	Perseverance	.049**	.017	.049**	.016
	Academic self-efficacy	-.019	.018	-.028	.017
	Academic self-concept	.036*	.017	.059***	.016
	Parental education	.030*	.012	.030**	.011
	SES	.068***	.017	.060***	.016
	Expected SES	.163***	.015	.110***	.016
	Lower-secondary track (Ref.: Comprehensive)				
	High track			.210**	.062
	Intermediate track			-.126*	.058
	Low track			-.118*	.057
Tertiary level					
University	Male	-.018	.029	.053*	.024
	Age	-.066**	.021	-.023	.020
	Immigrant	.086*	.037	.028	.031
	Reading achievement	.069**	.020	.036*	.018
	Math achievement	.029	.018	.007	.016
	Science achievement	.002	.022	-.011	.019
	Homework time	.019	.014	.001	.013
	Perseverance	.009	.017	-.015	.014
	Academic self-efficacy	.000	.019	.005	.016
	Academic self-concept	.024	.017	.006	.015
	Parental education	.033**	.012	.015	.010
	SES	.056**	.017	.023	.015
	Expected SES	.120***	.015	.024	.014
	Upper-secondary track (Ref.: Vocational)				
	Other education			-.022	.017
	Academic education			.570***	.039
Fit measures					
Log-likelihood		-468.29		-388.33	
AIC		998.57		846.66	
BIC		1142.77		1006.55	
Adjusted BIC[(a)]		1044.33		895.41	

Note: $N = 4986$ in both models. The table reports linear probability coefficients (β) with cluster-robust standard errors (SE). The coefficients reflect the conditional average change in the probability of an outcome that is related to a one-unit increase in a given predictor. Continuous predictors (except age) were standardized to have a mean of 0 and a standard deviation of 1. Positive (vs. negative) coefficients indicate that an increase in the predictor is associated with an increase (vs. decrease) in the predicted probability of the outcome. [(a)] Sample-size adjusted BIC.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$ (two-tailed tests).

[7] The fact that socioeconomic status and expected socioeconomic status predicted the probability of transitioning to university more powerfully among students in the academic track than among those in other tracks reflects a resource multiplication mechanism (Ross & Mirowsky, 2006) whereby the best educational outcome (university enrollment) occurs for those who have the most socioeconomic and psychological resources as well as the most favorable structural location. In other words, students in the academic track seemed to be able to derive much greater benefits from their socioeconomic resources and future expectations than their counterparts in other tracks. The (socioeconomic and psychological) resources and the structural advantage reinforced each other's effects on educational attainment, which corroborates prior research in the field (e.g., Brumley et al., 2019; Mele et al., 2023).

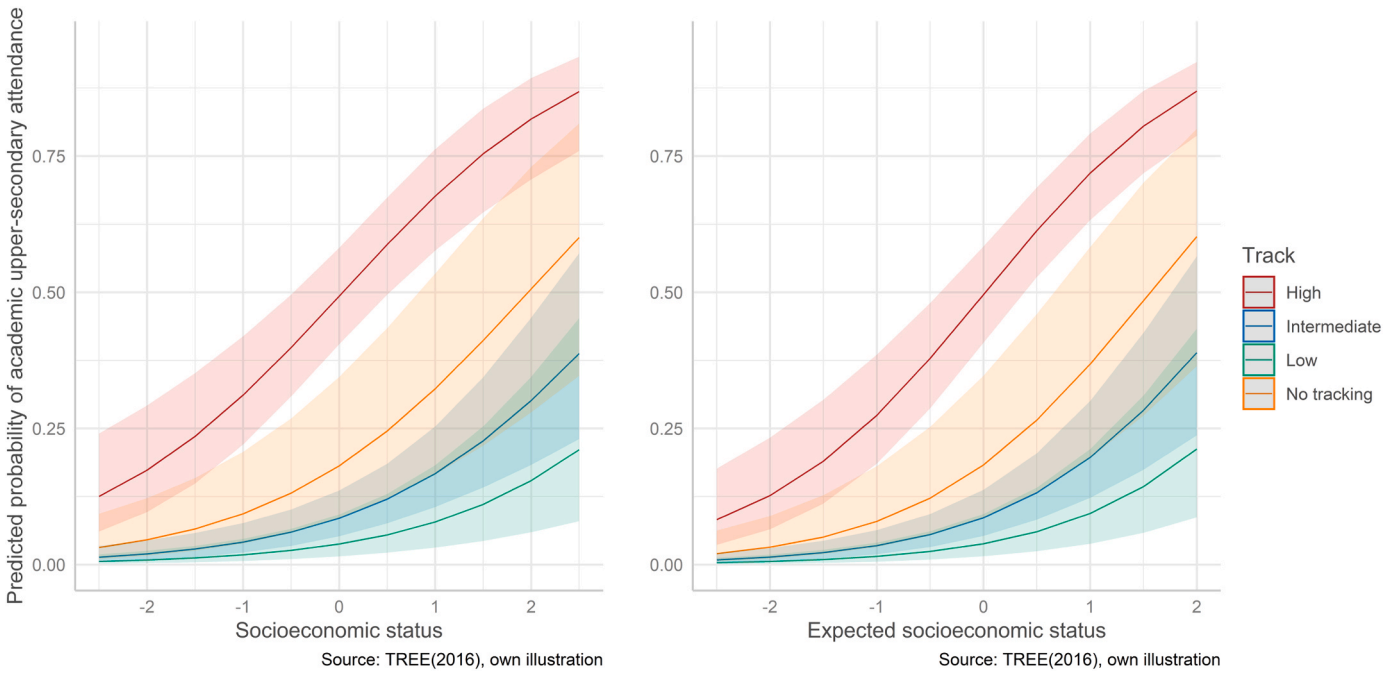

Fig. 5. Predicted probabilities of attending academic upper-secondary education. **Note:** Predicted probabilities of attending academic upper-secondary education as a function of lower-secondary track attendance (high, intermediate, low, comprehensive) as well as socioeconomic status (left panel) and expected socioeconomic status (right panel), with 95 % confidence intervals. $N_{high} = 1989$ (red (top) line); $N_{intermediate} = 1578$ (blue line (second from bottom)); $N_{low} = 1118$ (green (bottom) line), $N_{comprehensive} = 297$ (orange line (second from top)).

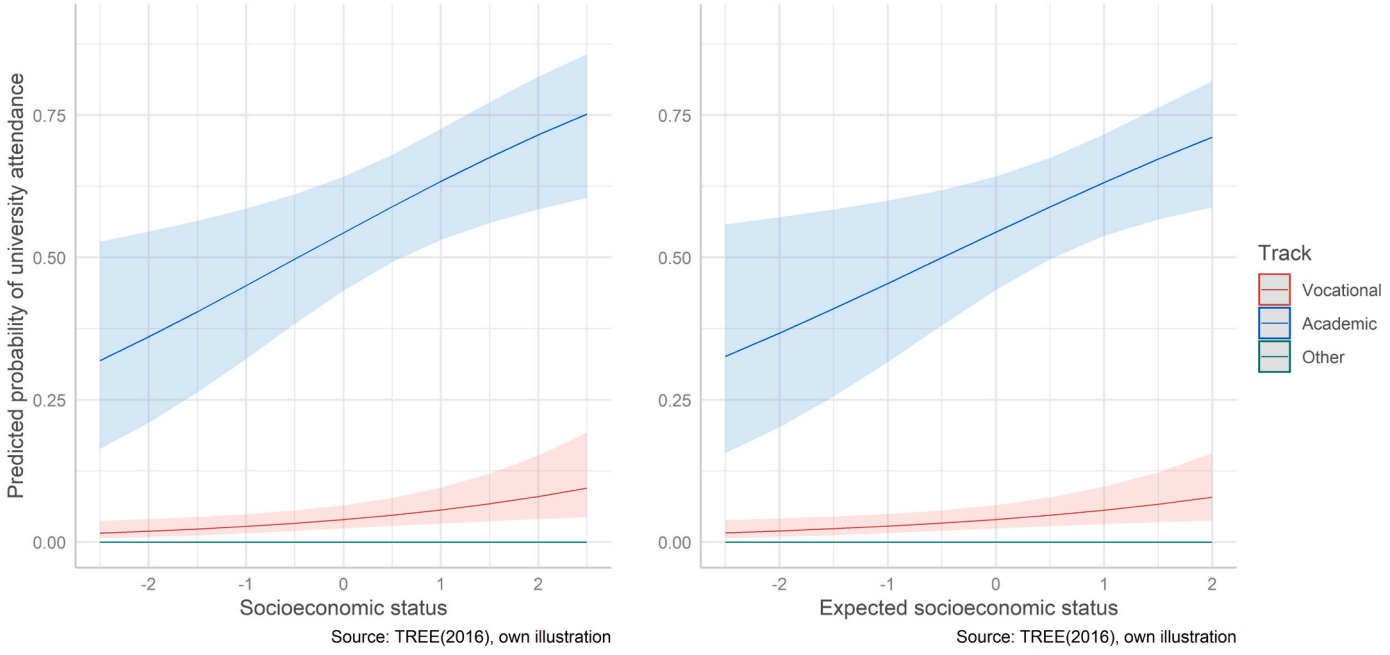

Fig. 6. Predicted probabilities of university attendance. **Note:** Predicted probabilities of attending university as a function of the track pursued at the upper-secondary level (vocational, academic, other) as well as socioeconomic status (left panel) and expected socioeconomic status (right panel), with 95 % confidence intervals. $N_{vocational} = 2776$ (red line (second from bottom)); $N_{academic} = 1591$ (blue (top) line); $N_{other} = 273$ (green (bottom) line).

educational trajectories to some extent—they restricted the importance of both socioeconomic origins and future expectations for educational attainment. As in some other education systems (Crul, 2013; Domina et al., 2017; Pfeffer, 2008), the tracking structure of the system meant that academic trajectories were enabled and constrained in unequal ways—those who initially embarked on academic tracks were kept on these paths and deviations were limited. Thus, I conclude that institutional structures strongly matter for educational trajectories and that socioeconomic advantage and optimistic future expectations may only shape attainment to the extent that institutions provide opportunity structures that allow such social and psychological resources to take effect (Heckhausen & Buchmann, 2019; Schoon & Heckhausen, 2019). The fact that the education system worked as a powerful sorting machine must be taken seriously by any policymaker who seeks to take

Table 4
Robustness Tests—Coefficients from Linear Probability Path Models Predicting Academic Education at Upper-Secondary Level and University Attendance at Tertiary Level.

		Model 1		Model 2	
Outcome	Predictor	β	SE	β	SE
Upper-secondary level					
Academic education	Male	-.124***	.029	-.118***	.027
	Age	-.061**	.022	-.077***	.021
	Immigrant	.110**	.038	.093*	.036
	Reading achievement	.080***	.019	.064**	.019
	Math achievement	.030	.019	.020	.018
	Science achievement	.009	.020	-.021	.019
	Parental education	.034**	.012	.033**	.011
	SES	.062***	.017	.057***	.016
	Expected SES	.172***	.015	.122***	.016
	Lower-secondary track (Ref.: Comprehensive)				
	High track			.195**	.066
	Intermediate track			-.133*	.061
	Low track			-.118*	.060
Tertiary level					
University	Male	-.015	.028	.052*	.023
	Age	-.058**	.021	-.024	.019
	Immigrant	.087*	.036	.029	.031
	Reading achievement	.077***	.020	.034*	.017
	Math achievement	.027	.017	.011	.016
	Science achievement	.002	.021	-.010	.018
	Parental education	.034**	.011	.014	.010
	SES	.056**	.017	.025	.014
	Expected SES	.122***	.015	.022	.014
	Upper-secondary track (Ref.: Vocational)				
	Other education			-.020	.016
	Academic education			.568***	.038
Fit measures					
Log-likelihood		-490.07		-412.19	
AIC		1026.14		878.39	
BIC		1133.83		1002.51	
Adjusted BIC[(a)]		1060.79		916.78	

Note: $N = 4986$ in both models. The table reports linear probability coefficients (β) with cluster-robust standard errors (SE). The coefficients reflect the conditional average change in the probability of an outcome that is related to a one-unit increase in a given predictor. Continuous predictors (except age) were standardized to have a mean of 0 and a standard deviation of 1. Positive (vs. negative) coefficients indicate that an increase in the predictor is associated with an increase (vs. decrease) in the predicted probability of the outcome. [(a)] Sample-size adjusted BIC.
*$p < .05$, **$p < .01$, ***$p < .001$ (two-tailed tests).

measures to prevent the system from serving as an agent of inequality (see also Domina et al., 2017). At the very least, policymakers should ensure that the system be reasonably permeable, not imposing any unnecessary barriers and allowing students to move between different educational tracks as appropriate.

This study is not without limitations and suggests promising avenues for further investigation. First, socioeconomic status and expectations about future socioeconomic status were measured using a single-item scale, the standard International Socio-Economic Index of Occupational Status scale. This scale has been cross-validated against multiple alternative indexes of socioeconomic status and has been recognized as a reliable instrument for capturing socioeconomic status in social science research (Ganzeboom et al., 1992; Hauser & Warren, 1997). Indeed, it is the most widely-used single indicator of socioeconomic standing (Connelly et al., 2016). Nevertheless, future research could capture socioeconomic status from a multidimensional perspective that includes various measures such as educational attainment, occupational status, and income.

Second, it would have been ideal to have measured future expectations at multiple time points across students' educational careers because such expectations might be sensitive to educational tracking experiences and other environmental influences. Moreover, it is clear that young people's future expectations are to some degree an outcome of the social class context in which young people have grown up and, hence, socioeconomic origins and future expectations cannot be interpreted as entirely independent forces. Here, I investigated whether young people's future expectations contribute to educational attainment processes when controlling for socioeconomic origins. By controlling for socioeconomic origins, I controlled for the social class influences that accompanied the formation of young people's future expectations, ensuring that I capture the unique predictive power of young people's future expectations. In supplementary analyses, I also examined the extent to which origins and expectations were linked. Specifically, I ran linear regression models to predict *expected future socioeconomic status* (future expectations) as a function of *parental socioeconomic status* (socioeconomic origins) while controlling for relevant potential confounders. Those models indicated that the predictors jointly explained only a small proportion of the variance in *expected socioeconomic status*, ranging from 5 % to 14 % in lower-secondary tracks and from 0 % to 11 % in upper-secondary tracks (see Supplemental Material C). These results minimize concerns that future expectations would mainly result from socioeconomic origin or other potential confounders.

Third, to control for academic achievement, I used standardized measures from the PISA survey collected in the year 2000. The TREE study did not collect any standardized measures of academic achievement in subsequent years. It would have been interesting to use such measures to evaluate the extent to which academic achievement predicts students' transition probabilities at different systemic junctures throughout an educational career. Moreover, in future research, it would be worth examining the predictive power of both occupational and educational expectations for educational attainment in rigidly tracked systems. It would also be interesting to consider, for instance, whether future expectations are more predictive of educational attainment than dreams, considering that scholars have argued that expectations entail concrete plans to achieve a goal, whereas dreams do not include any plans or the struggle and competition of attaining a given status (Cerulo & Ruane, 2021).

Fourth, the education system in Switzerland is decentralized, with subnational administrative units (cantons) retaining jurisdiction over a great deal of education policy. Although school types and cantons were not systematically confounded in the analyses, future research should collect more region-specific data to examine variations in educational transition probabilities across cantons.[8]

Finally, note again that the findings of this study are based on the data from the analytic sample which included only the respondents for whom university enrollment data were available. Given that the analytic sample and the original sample were virtually identical with respect to a wide range of key study variables—including individuals' socioeconomic origins and future expectations—however, there is little reason to suspect that the results observed here would be specific to the analytic sample. Moreover, it is clear that this study cannot unambiguously determine causal effects. I used data from a longitudinal cohort study and controlled for observable potential confounders with the intent to generate exchangeable comparison groups. A randomized controlled trial would potentially enable researchers to identify causal effects more accurately. However, in view of the ethical issues that such a trial would present, the value of observational longitudinal research is indisputable,

[8] The structure of the cantonal education systems therefore varies. Twelve cantons use tracked schools only, whereas fourteen cantons use tracked schools alongside comprehensive schools. Note also that only a minority of schools are comprehensive. The sample reflects this, with 6 % of study participants attending a comprehensive school. However, given that I found significant differences in transition probabilities between students from comprehensive schools and those from tracked schools, I conclude that these differences were substantively meaningful, especially in light of limited statistical power due to the relatively small number of students attending comprehensive schools.

especially because it may yield findings with greater ecological validity than experiments.

7. Conclusion

This study showed that young people's expectations about their own future socioeconomic status represented an independent force underlying academic educational trajectories even when young people's socioeconomic origins were taken into account. Hence, what young people think about their futures likely influences status attainment processes, with optimistic future orientations helping them to overcome disadvantageous socioeconomic conditions. Positive future expectations may thus help steer young people toward a successful future and enable intergenerational social mobility. However, educational tracks structure educational trajectories. When controlling for the tracks along which students progressed through the education system—i.e., when taking into account educational path dependencies—the analysis found that the degree to which future expectations predicted academic educational trajectories declined. Hence, any intervention aimed at fostering academic attainment will likely only be effective if it simultaneously considers psychological, social, and institutional determinants of educational attainment within a broad multidimensional approach.

Research ethics

The data were entirely de-identified. All research procedures conformed with the ethical standards, applicable laws, and guidelines of the institutions involved in the data collection. For the current secondary analysis of the data, an examination by the Institutional Review Board of the [blinded] was therefore not required.

Declaration of Competing Interest

I have no known conflict of interest to disclose.

Data availability

This study uses data that are publicly available at SWISSUbase and can be accessed at doi.org/10.23662/FORS-DS-816-7.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.alcr.2023.100581.

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