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## Chapter 9

# Positive Youth Development in Norwegian Upper Secondary: The Impact of Sex, Socio-economic Status, and Immigrant Background on the Developmental Trajectories of Academic Initiative, Academic Self-efficacy, and Grade Point Average

Anne Grete Danielsen<sup>1</sup>, Sara Madeleine Kristensen<sup>2\*</sup>, Torill Bogsnes Larsen<sup>2</sup>, and Helga Bjørnøy Urke<sup>2</sup>

<sup>1</sup> Department of Education, University of Bergen

<sup>2</sup> Department of Health Promotion and Development, University of Bergen

\* Corresponding author: [Madeleine.Kristensen@uib.no](mailto:Madeleine.Kristensen@uib.no)

**Abstract:** The positive youth development (PYD) and social justice perspectives assume that it is important to consider challenges related to equity and inequality in education to understand academic processes and outcomes of the increasingly diverse student population. Students' socioeconomic status, parents' educational level, sex, and immigrant background impact on students' motivation, learning, grades, and development. Norway is considered to have robust conditions for PYD and fair allocation of resources because of the country's active and supportive welfare state model. Equity, equal opportunities, and inclusion are consistently cited as the goal of schooling in the country. This chapter investigates how sex, socioeconomic status, and immigrant background relate to the developmental trajectories of academic initiative, academic self-efficacy, and grade point average (GPA) throughout upper secondary education in Norway. The authors used data from 1508 general education students attending 16 schools that participated in the COMPLETE study, a randomised controlled trial aimed to improve the psychosocial environment in upper secondary schools and decrease dropout rates. Results from latent growth curve modelling indicated group differences related to changes over a three year-period (2016–2019) in GPA, but not in academic initiative or self-efficacy. Girls reported greater improvement in GPA than boys, students with a high socioeconomic status had a larger improvement in their GPA than students with a low socioeconomic status, and Norwegian immigrant youth experienced a greater improvement in their GPA compared to their non-immigrant peers. Findings are discussed considering school as a socially equalising actor.

*Keywords:* equity, inequality, education, socio-economic status, sex, immigrant background, academic initiative, academic self-efficacy, GPA, latent growth curve modelling, COMPLETE

## Introduction

Equity and fair allocation of resources are indicators of a just society. Smith and Smith Lee (2020) argue that promoting social justice within developmental science concerns the affirmation of the validity of three points. First, social justice encompasses all individuals being worthy of the right to humanity. Second, acknowledgement and condemnation of oppression is social justice. Third, directly addressing oppression is social justice. Barbarin et al. (2020) point out that recognising the extensive and intricate effects of adversity on marginalised youth is essential to achieve social justice. Because disadvantaged children often become psychosocially competent enough to avoid the detrimental effects of racism, resource insufficiency, and inequality, the study of positive youth development (PYD) and social justice promotion should be linked in developmental science (Barbarin et al., 2020). Indeed, over recent decades, the resource-based perspective on youth development has become widely acknowledged as a fruitful approach to emphasise youth as a period of opportunity and growth (Lerner et al., 2011). The school is widely recognised as one of the most important settings for youth development (OECD, 2021), as children and youth spend half of their awake time there (Rutter, 1979).

There have been major advances in our knowledge of how settings (like schools) shape the development of young people into successful young adults (Ginner Hau et al., 2021; Larsen, 2016). We now know that the PYD and success of young people are determined by the balance between the settings in which they develop (here: schools) and the strengths and vulnerabilities they bring to those settings (Larsen, 2016; Larsen & Holsen, 2021). To better understand academic processes and outcomes in adolescence, it is important to explicitly study the diversity in the adolescent population within an equity perspective in education. This chapter will therefore shed light on how sex, socioeconomic status (SES), and immigrant background relate to the developmental trajectories of academic initiative, academic self-efficacy, and grade point average (GPA) throughout upper secondary education in Norway. While the school context is our primary concern in this chapter, given the economic, social, and political dimensions related to equity and inequality in youth development, we acknowledge that challenges related to equity are unlikely to be understood and solved within the school and classroom alone (Braathe & Otterstad, 2014).

Nevertheless, in Norway schools are considered one of the most important arenas for levelling out social inequality, educating for democracy (Frønes, Pettersen, et al., 2020; Ministry of Education, 2006) and securing equity and social justice (Frønes, Pettersen, et al., 2020). Yet, we still find that schools are reproducing inequalities, and figures show a clear correlation between parents' educational level and children's education (Dahl et al., 2014; Statistics Norway, 2022c). International comparisons show that quite a few other countries have been more successful than Norway in achieving social equalisation in their educational systems (Frønes, Pettersen, et al., 2020; Haahr et al., 2005; Ministry of Education, 2006). Thus, there is room for improvement. Regardless, Norway is still among the countries reporting the lowest impact of socioeconomic factors on student performance (Frønes, Pettersen, et al., 2020; OECD, 2019). Educational inequalities in Norway have further decreased in recent years, and students with the least-educated parents have been shown to be able to catch up with other students' performance in several areas (Statistics Norway, 2022c).

### **The Norwegian Setting**

Norway is a unitary state in Scandinavia with well-established welfare services and benefit systems, characterised by a social democratic welfare state model (van Kersbergen & Metliaas, 2020). Compared to other countries, Norway should therefore have robust conditions for PYD, owing to its fundamental welfare state model. In addition, the country has been at the forefront of recognising international conventions on humanitarianism, solidarity, equal rights and opportunities, and justice (Aadnesen & Hærem, 2005).

The Norwegian school system is mandatory, free of charge for all children and youth from grades 1 to 10, and is mandated to secure equal rights for every child, independent of social class, gender, age, religion, and ethnicity. Since 1994, all students have been granted free entry to upper secondary schools (grades 11–13), and about 98 per cent of all youth in Norway begin upper secondary school either on an academic track or a vocational track directly after mandatory schooling (Utdanningsforbundet, 2019). Furthermore, higher education is free in state-owned universities and colleges. These core values are partially based on the UNESCO's Salamanca Declaration, the UN Convention on the Rights of the Child (CRC) and the UN Convention on the Rights of

Persons with Disabilities (CRPD). The CRC was incorporated into Norwegian law by the 1999 Human Rights Act, and some core principles of CRC are made part of Norwegian constitutional law by the amendment of Section 104 into the constitution (Søvig, 2019). While the CRPD was ratified in Norway in 2013, it has not yet been incorporated into Norwegian law.

To promote school as a socially equalising actor, the former Norwegian Minister of Education (1990–1995) and sociologist Gudmund Hernes (1974) launched four differentiated concepts (or perceptions) of equality. These four equality concepts function as guidelines for the unified school policy in the country. This policy has primarily focused on mandatory elementary education (grades 1–10) (Møller & Skedsmo, 2013) but has also comprised upper secondary school in recent decades.

Hernes (1974) distinguishes between formal equality, resource equality, competence equality, and results equality. Formal equality means that all have formal rights to enter education. In addition, the students should be granted free entry, which corresponds to resource equality. The third concept, competence equality, means that it is the competence of the students that decides how far in the educational system a student reaches, beyond mandatory school, and thus how many years of educational and financial support the student receives. However, results equality is the only kind of equality that truly promotes equalisation, according to Hernes (1974). Results equality is about compensation for differences in the students' social backgrounds. This implies that to achieve equality, one must treat with inequality. Hernes argues: "Equality in results is ensured by inequality in the resources directed towards each student" (translated by Carlsen, 2009, p. 349; originally in Hernes, 1974, p. 249). Thus, results equality corresponds to equity, because equity takes into consideration how well the requirements of individual needs are met (Frønes, Pettersen, et al., 2020).

Rawls (1971) argues in a similar vein that for people to have the same chances in life, in some contexts (here: school), one must distribute differently. According to Rawls, opportunities to acquire cultural knowledge and skills should not depend upon one's social class, so the school system, whether public or private, should be designed to even out class barriers (Rawls, 1971, p. 73). Rawls claims that justice cannot be achieved by absolute or strict equality (meaning sameness in treatment; Frønes, Pettersen, et al., 2020) but by fairness, i.e., the fair distribution of social goods. Fairness in the educational

system is achieved when the individual student has access to the education they need and makes the least advantaged students better off than they would be under strict equality (without making it significantly worse for others). Fair allocation of resources is an indicator of a just society, according to Rawls's (1971) theory of justice.

Between the late 1930s and the 1990s, the egalitarian ideology and main goals of equality, community, prosperity, solidarity, and welfare were, in a way, taken for granted in Norway, as the social democratic country was striving for social justice as well as equity (Braathe & Otterstad, 2014, p. 1194). Although these egalitarian ideals are still prominent in the governing political instruments of the school, discourses of competition and inequality during the 1990s and the following decades, with new neo-liberal and conservative policies, challenged solidarity and equality (Braathe & Otterstad, 2014). Ideas connected to new public management (NPM) were introduced and interpreted in the Norwegian education sector and sped up after Norway was listed with mediocre results in the Program for International Student Assessment (PISA) in 2001 (Møller & Skedsmo, 2013). However, at present, educational equity and equality receive renewed emphasis in educational policies, which can be related to increased social inequality and student diversity due to migration, especially in the last decade (Frønes, Pettersen, et al., 2020). Equity, equal opportunities, and inclusion are consistently cited as the goal of schooling in Norway (Frønes, Pettersen, et al., 2020). These ideals are reinforced in the 2020 National curriculum for primary, lower secondary and upper secondary education. Educational policy documents today reflect an understanding of "equity through diversity"; however, no specification is given as to how equity is understood and can be achieved (Frønes, Pettersen, et al., 2020, p. 14). At the same time, it seems that educational policies in today's Norway may be more inclined towards a performance-oriented and economically efficient educational system that might challenge the image of an egalitarian system (Frønes, Pettersen, et al., 2020).

In Norway at present, the completion rates in upper secondary education are clearly related to students' gender in that the completion rates of boys are 76.2% compared to the 84.7% completion rates of girls (completion within five/six years) (Statistics Norway, 2022a). About half of the students are enrolled in a general study programme (which refers to study preparation courses for higher education). In these general study programmes, the completion rates

are 89.4% for all students. The completion rates for boys are 86.3% compared to 91.8% for girls. Among students on the vocational programs the completion rates are 70%. Boys on the vocational programs have a completion rate of only 67.7% compared to that 73.5% for girls. Moreover, the choice of study program differs between genders. Boys attend the vocational programs to a higher degree than girls (boys 59%). The choice of program is furthermore related to parents' educational level. Almost half of the vocational students have parents with only upper secondary education, while the equivalent for the students on the general program is over one in four. The completion rates are lowest for boys attending the vocational programs, having parents with only primary school education (Statistics Norway, 2022a; 2022c; 2014).

### **Differences in Academic Initiative, Self-efficacy, and Grade Point Average Based on Sex, Socioeconomic Status, and Immigrant Background – the PYD Perspective.**

The PYD perspective is focused on the strengths and resources of individuals and how they can be promoted through positive interaction with the context (Lerner et al., 2015). One central objective of PYD approaches is fostering self-determination and self-efficacy as important adolescent resources (Catalano et al., 2004). Under school-related PYD models, this can translate into fostering academic initiative and academic self-efficacy as important individual resources for academic achievement. The promotion of these school-related constructs across the adolescent period can be considered important for an overall PYD. However, as the PYD perspective emphasises, contextual aspects may play significant roles in academic trajectories. Hence, to understand variations in academic outcomes, there have been increasing research efforts studying sociodemographic predictors of favourable academic outcomes, such as academic initiative, self-efficacy, and achievements.

Even though nearly all students in Norway attend upper secondary school, there still are major differences in achievements depending on background characteristics. The completion rates of students in upper secondary education are about 80.4% (Statistics Norway, 2022a). Completion is clearly related to the students' socioeconomic background, such as parents' educational level, income, as well as student sex (Statistics Norway, 2014, 2022a, 2022c). Because it is not solely the competence of the individual students that determines

how far they reach in the educational system, the aim of competence equality (Hernes, 1974) is not met.

Students with immigrant backgrounds are slightly less likely than others to complete upper secondary education or training; however, many immigrant students do very well in the Norwegian education system (Statistics Norway, 2022a). In Norway, 11.7%, or 115 000 children, belonged to low-income families in 2020 (Statistics Norway, 2022b). Children with an immigrant background make up a total of 18% of all children in the country. Despite constituting a minor proportion of the population, they account for six of ten children belonging to persistently low-income families, and it is in this group that we have seen the greatest increase in low-income in recent years (Statistics Norway, 2022b). It seems, however, that students with an immigrant background and lower socioeconomic status (SES) are a more heterogeneous group than non-immigrant students, making statistical comparisons simply based on SES variables difficult or even inappropriate (Johnsen et al., 2015). Overall, available data suggest that SES is more influential for Norwegian-born compared to immigrants (Johnsen et al., 2015). Johnsen (2021) states that the welfare state system acts as an environmental protective factor that reduces some of the disadvantages associated with low SES and having an immigrant background in Norway. However, this is not the case for the poor non-immigrant children in Norway (Johnsen, 2021). In addition, a tendency for second-generation immigrant students in Norway to partly overcome their disadvantages over time has been documented, although this does not appear to apply to boys from lower-income groups (Frønes, Pettersen, et al., 2020).

Based on international research, Schotte et al. (2022) emphasise that the findings are mixed regarding how well immigrant students adapt to school. Findings indicate that the relationship between parental education and students' school achievement is weaker for immigrant children in Nordic countries than for their non-immigrant peers (Johnsen et al., 2015). Further, immigrant youth from some ethnic minorities in Europe tend to have high educational aspirations, although they perform worse at school and hold lower social status than their non-immigrant peers (Salikutluk, 2016). This is referred to as the immigrants' aspiration paradox in the research literature. For example, Salikutluk (2016) found a gap in educational aims between Turkish immigrant students' and native German students. The higher educational ambitions of Turkish immigrant students, compared to native German



students, were associated with a higher motivation to improve their status. In other words, the immigrant youth is motivated by a desire for upward status mobility to be able to work in better occupations than their parents. A similar aspiration-achievement picture is found among other immigrant groups in the Netherlands, France, Sweden, and Belgium (Salikutluk, 2016).

### ***Academic Initiative***

To promote the positive development of youth, it may be particularly important to stimulate their self-determination and ability to take initiative (Larson, 2000). Initiative relates closely to the capacity for agency or autonomous action. The three components of initiative are engagement (focused attention and effort toward a challenging goal), intrinsic motivation (motivation from within), and that this motivation and engagement occur over time (Larson, 2000). From a self-determination perspective, academic initiative is regarded as an expression of autonomous self-regulated learning (Danielsen, 2010; Danielsen et al., 2010; Jenö & Diseth, 2014; Reeve et al., 2008).

Some research indicates that girls experience higher school engagement than boys (Bang et al., 2020). One longitudinal study found that boys and girls started off with similar school engagement in grade 7 but that boys experienced a more rapid decline than girls toward grade 12 (van de Gaer et al., 2009). Similarly, another study showed that boys were more likely to have a less favourable trajectory of engagement compared to girls (Li & Lerner, 2011). Other studies on intrinsic motivation have found similar effects, wherein girls report higher intrinsic motivation than boys across time (D'Lima et al., 2014; Miyamoto et al., 2020).

A Norwegian study found no significant sex differences in academic initiative at age 13, while Norwegian boys at age 15 reported significantly lower levels of academic initiative than 15-year-old girls (Danielsen et al., 2011). Further, the means in academic initiative were significantly lower for 15-year-olds than 13-year-olds in both sexes (Danielsen et al., 2011).

Concerning SES, one study found that intrinsic motivation was consistently higher over time for youths with a high SES compared to others with lower SES (Miyamoto et al., 2020). Moreover, youths from lower-income families were more likely to be members of less favourable trajectory groups of school engagement, such as those with more rapid declines or unstable trajectory developments (Li & Lerner, 2011).

Many Norwegian immigrant students appear to value education more than non-immigrant students and work harder in school than majority children to earn better grades, which Lauglo (1999), Johnsen (2021), and Johnsen et al. (2015) refer to as the “harder drive”. European research literature has found a similar pattern of high aspirations among other immigrant groups (Salikutluk, 2016). We interpret the “harder drive” as an expression of school behaviours that the students experience as personally important, goal-directed, and self-determined. Such engaged behaviours are consistent with academic initiative.

### ***Academic Self-efficacy***

Research shows differences in academic self-efficacy (i.e., capability beliefs for specific academic tasks such as schoolwork: Bandura, 1977, 1997) across genders, SES, and immigrant background. Boys tend to experience a higher level of academic self-efficacy compared to girls in adolescence (Huang, 2013). Moreover, one longitudinal study showed that boys experience higher academic self-efficacy than girls across time (D’Lima et al., 2014). SES is related to academic self-efficacy, wherein individuals with a higher SES report higher academic self-efficacy compared to individuals with a lower SES (Demanet & Van Houtte, 2019). According to international studies, immigrant students often show similar or even higher levels of school satisfaction and academic self-concept than non-immigrant students (Schotte et al., 2022). School satisfaction is an affective variable which includes students’ enjoyment, well-being, and their subjective, cognitive appraisals of the overall positivity of school experiences (Huebner, 1994; Huebner & Gilman, 2006). Further, academic self-concepts may reflect how well the students succeed and experience mastery in the academic domain.

The results of Johnsen et al. (2015) indicated that having an immigrant background in Norway was significantly associated with higher self-perceived school competence in low-income groups. Self-perceived school competence is important for students’ adjustment to schooling and may be indicative of good mastery experiences (Danielsen et al., 2009). Students’ judgements of their school competence are believed to influence their academic self-efficacy because they represent students’ cognitive self-evaluative judgements about their present abilities to accomplish tasks (Harter, 1982). Self-efficacy beliefs are influenced by a self-appraisal of capabilities (Bandura, 1986). Because self-perceived school competence is likely to indicate students’ self-perceptions of their capacity to be successful in the academic domain, it may play an

important role in shaping achievement outcomes (Akey, 2006). Johnsen et al. (2015) did not find any significant difference in self-perceived school competence between students born in Norway or “western countries” on the one hand and students born in “non-western” countries. Other findings show that Norwegian youth with immigrant backgrounds from “non-western” countries are characterised by having high educational aspirations (Johnsen et al., 2015).

### **Academic Performance**

Generally, it seems that girls, youth with high SES, and youth belonging to non-immigrant groups achieve better grades than other youth. Although the literature is not entirely consensual, several studies indicate that girls perform above boys academically in a large proportion of subjects across several educational levels (Reilly et al., 2019; Voyer & Voyer, 2014). One meta-analysis indicated that youth with a high SES achieve better grades than others with a low SES (Sirin, 2005). According to international studies, immigrant students reach lower levels of academic achievement than their non-immigrant peers on average (Schotte et al. 2022). The findings of a review by Johnsen et al. (2017, p. 382) revealed that several groups that have immigrant backgrounds in the Nordic countries outperform non-immigrant children with similar or higher SES background, and a significant predictor of this difference was hard work.

### **This Study**

The literature implies that there are differences in academic self-efficacy, initiative, and performance across sex, SES, and immigrant background. First, although girls seem to be more engaged and intrinsically motivated and perform above boys academically, they tend to have a weaker sense of academic self-efficacy than boys. Second, youth with a high SES seem to experience more favourable academic outcomes than other youth with a low SES; however, the findings are mixed regarding immigrant youth and academic achievement. Immigrant youth in Norway seem to value education and is likely to show high levels of academic initiative and academic self-efficacy. Although cross-sectional group differences in academic outcomes have been identified, there is less empirical knowledge of longitudinal group differences, particularly in the Norwegian context. Understanding developmental trajectories will provide

more specific information on how to facilitate positive academic development for all youth considering sex, SES, and immigrant background.

Against this backdrop, the main aim of this chapter is to study to what extent sex, SES, and immigrant background are related to the developmental trajectories of academic initiative, academic self-efficacy, and GPA during the Norwegian upper secondary school education.

## Methods

### Procedure

This study uses data from the COMPLETE study, a randomised controlled trial aimed to improve the psychosocial environment in upper secondary schools and decrease dropout rates (Larsen et al., 2018). COMPLETE was approved by the Norwegian Centre for Research Data (NSD), and all participants received oral and written information about the study before participating. All students were above age 16 on baseline in this study and actively consented to be part of the study prior to participation. The first data collection in this study took place in March 2017, followed by two measurement occasions with one-year intervals. In other words, T2 and T3 were in March 2018 and 2019, respectively. Sixteen schools were included in the study, of which 11 schools received one of two intervention conditions. Six schools received a single-tier intervention with a universal program (Dream School Programme), and five schools received a multi-tier intervention consisting of the universal (Dream School Programme) and a targeted program (Mental Health Support Team). Five schools were composed the control group (see Larsen et al., 2018 for details on intervention conditions and study design).

### Participants

This study uses data from 1508 general education students from 116 schools. Concerning demographics, 39.3% ( $n = 592$ ) were boys and 60.7% ( $n = 916$ ) were girls. The mean age at T1 was 17.00 ( $SD = .91$ ). A total of 70.6% ( $n = 1065$ ) of the students were Norwegian born with parents of either Norwegian or foreign descent, 5.5% ( $n = 83$ ) were born outside of Norway with parents of foreign descent, and 23.9% ( $n = 360$ ) did not reply to the question. A median

split of perceived family wealth indicated that 52.9% ( $n = 797$ ) thought their family were in a high SES, 22.5% ( $n = 340$ ) thought their family was in a low SES, and 24.6% ( $n = 371$ ) did not answer the question.

## Measurements

### ***Academic Initiative***

Academic initiative was measured by a brief, Norwegian version of the Youth Experience Survey (YES 2.0) (Hansen & Larson, 2005; Hansen et al., 2003). The adapted scale included five indicators that address important qualities of initiative (Danielsen et al., 2010). The items were modified to refer specifically to the school context. The indicators were “I find out how I can reach my goals in schoolwork”, “I concentrate when I am doing schoolwork”, “I challenge myself when I am doing schoolwork”, “I plan how I shall do homework”, and “I set goals for myself when I am doing schoolwork”. The participants rated the statements on a scale from 1 = “never” to 4 = “almost always”. Previous studies that have employed this brief, adapted Norwegian version of the scale have reported Cronbach’s alpha above .84 in adolescent samples (Danielsen et al., 2011; Danielsen et al., 2010). The scale showed acceptable reliability at all time points (T1:  $\omega = .87$ , T2:  $\omega = .88$ , and T3:  $\omega = .90$ ).

### ***Academic Self-efficacy***

The students’ perceived capability to master and perform schoolwork was measured using the academic self-efficacy scale from Patterns of Adaptive Learning Scales (PALS; Midgley et al., 2000). Since the Norwegian translation of “classwork” is more like the notion of doing work related to school in general, the wording of classwork is replaced with schoolwork (i.e., lessons done in class or work assigned at school or to do at home). The instrument consists of five items that were assessed on a Likert scale ranging from 1 “Not at all confident” to 5 “Very confident”. The indicators were: “I’m certain I can figure out how to do the most difficult schoolwork”, “I can do almost all the schoolwork if I don’t give up”, “even if the schoolwork is hard, I can learn it”, and “I can do even the hardest schoolwork if I try”. Previous research indicates a reliable Cronbach’s alpha above .78 for the academic self-efficacy subscale of PALS (Midgley et al., 2000). The scale achieved acceptable omega reliability values on all measurement occasions (T1:  $\omega = .91$ , T2:  $\omega = .92$ , and T3:  $\omega = .89$ ).

### **Grade Point Average**

The students' GPA measure is calculated as a mean score based on students' final grades for each subject of each year obtained from school-level registry data. All general education program students in upper secondary schools in Norway take mandatory, multidisciplinary subjects such as Norwegian, English, geography, physical education, mathematics, natural science, and social studies. General education students within different fields of study also take subjects related to their specialisations (e.g., "media and communication" or "mathematics and natural sciences"). The grades obtained from the registry data are based on both mandatory and specialisation-specific subjects. In Norway, grades range from 1, which is a failing grade, to the highest grade of 6.

### **Sex**

Information on the participants' sex was obtained from registry data and was coded as 0 (boys) and 1 (girls).

### **Immigrant Background**

The students were asked where they were born and were coded as 0 (non-immigrant, Norwegian-born) and 1 (immigrant, not Norwegian-born, i.e., all participants born outside Norway).

### **SES**

Participants were asked one question regarding their family's wealth, ranging from 1 (not at all well off) to 5 (very well off) (Iversen & Holsen, 2008). We created a dummy variable based on a median split, wherein SES was coded as 0 and high SES was coded as 1.

### **Control Variables**

We created two dummy variables based on the two intervention conditions to reduce the potential for estimation bias. Participants either received an intervention (coded as 1) or not (coded as 0).

### **Statistical Analyses**

Preliminarily, we performed confirmatory factor analysis and longitudinal measurement invariance tests on the latent constructs of academic initiative

and self-efficacy (see Appendix A for details). Next, we examined sex, immigrant background, and SES differences in academic initiative, academic self-efficacy, and GPA. The following criteria indicated an acceptable model fit: CFI > .90, RMSEA < .08, SRMR < .08 (Byrne, 2012; Hu & Bentler, 1999). When comparing nested and comparison model fit, the following criteria were used:  $\Delta$ CFI < .010,  $\Delta$ RMSEA < .015, and  $\Delta$ SRMR < .030 (Chen, 2007). During structural equation modelling (SEM), *Mplus* version 8 (Muthén & Muthén, 1998–2017) and maximum likelihood (ML) estimation were used.

Constraints from the highest level of measurement invariance achieved were kept in place during the latent growth curve analyses. Next, we specified an intercept and a slope for academic self-efficacy, academic initiative, and GPA. The intercept factor loadings were constrained to 1.0, and the slope factor loadings were constrained to 0.0, 1.0, and 2.0, representing the measurement occasion time intervals of one year. The intercepts and slope factors were allowed to covary freely in the parallel growth curve model. Regression coefficients from the control variables (i.e., intervention dummy variables) to the intercepts and slopes of academic self-efficacy, academic initiative, and GPA were added. Last, sex, SES, and immigrant background were included as predictors of the intercepts and slopes of academic initiative, academic self-efficacy, and GPA.

## Results

### Group Differences

Group differences in the study variables are presented in Table 1. We found that girls reported higher academic initiative and GPA at all time points compared to boys and the effect sizes were small. Boys experienced higher academic self-efficacy than girls across time, with small effect sizes on T1 and T2 and negligible effect size on T3. Regarding SES, students with high SES had higher mean levels in all the study variables than students with a low SES, except for academic initiative at T2 and T3. In academic self-efficacy and GPA, the effect sizes were small except for a negligible effect size in GPA at T1. Concerning immigrant background, the results indicated that non-immigrant Norwegian students experienced a lower level of academic initiative and a greater GPA at T1 than students with an immigrant background.

**Table 9.1** Latent Means, Standard Deviations, and Cohen's *d* for Sex, Socio-economic Status, and Immigrant Background.

	Sex				Socio-economic status				Immigrant Background			
	Girls M (SD)	Boys M (SD)	<i>p</i>	<i>d</i>	Low SEP M (SD)	High SEP M (SD)	<i>p</i>	<i>d</i>	Norwegian- born M (SD)	Born outside of Norway M (SD)	<i>p</i>	<i>d</i>
Academic initiative T1	2.64 (.69)	2.48 (.67)	<.001	-.226	2.50 (.69)	2.61 (.68)	<.01	-.170	2.56 (.69)	2.79 (.65)	<.01	-.330
Academic initiative T2	2.66 (.71)	2.44 (.66)	<.001	-.326	2.55 (.72)	2.60 (.68)	>.05	-.069	2.57 (.70)	2.73 (.65)	>.05	-.237
Academic initiative T3	2.71 (.75)	2.55 (.69)	<.001	-.221	2.62 (.72)	2.66 (.72)	>.05	-.058	2.65 (.72)	2.78 (.77)	>.05	-.180
Academic self-efficacy T1	3.92 (.80)	4.12 (.75)	<.001	.259	3.80 (.85)	4.08 (.74)	<.001	-.366	4.00 (.78)	4.05 (.71)	>.05	-.058
Academic self-efficacy T2	3.88 (.85)	4.10 (.79)	<.001	.258	3.85 (.88)	4.03 (.80)	<.01	-.218	3.97 (.83)	4.10 (.86)	>.05	-.158
Academic self-efficacy T3	3.65 (.98)	3.79 (1.04)	<.05	.140	3.56 (1.00)	3.77 (1.00)	<.05	-.206	3.71 (1.00)	3.83 (1.01)	>.05	-.120
Grade point average T1	4.33 (.78)	4.13 (.78)	<.001	-.256	4.17 (.78)	4.28 (.78)	<.05	-.142	4.28 (.76)	3.94 (.86)	<.001	.437
Grade point average T2	4.39 (.73)	4.13 (.78)	<.001	-.353	4.16 (.78)	4.35 (.74)	<.001	-.250	4.30 (.75)	4.18 (.82)	>.05	.165
Grade point average T3	4.41 (.80)	4.18 (.85)	<.001	-.284	4.21 (.85)	4.43 (.75)	<.001	-.273	4.38 (.76)	4.16 (1.03)	>.05	.284

Note. *d* = Cohen's *d*. Academic initiative range = 1–4, academic self-efficacy range = 1–5, GPA range = 1–6.



## The Impact of Sex, Socioeconomic Status, and Immigrant Background on the Trajectories of Academic Initiative, Academic Self-efficacy, and GPA

The unconditional latent growth curve estimates of academic initiative, academic self-efficacy, and GPA are presented in Appendix B for space constraints. The intercept and slope variances of academic self-efficacy, academic initiative, and GPA were significant, indicating that students significantly varied in their initial status and growth in these constructs. Academic self-efficacy significantly decreased ( $-0.090, p < .001$ ) while academic initiative and GPA remained stable throughout upper secondary school. The significant and negative covariance between the intercept and slope of academic self-efficacy and academic initiative indicates that students who had higher initial statuses in the constructs experienced, respectively, a more rapid decline or slower increase in the constructs than others.

The adjusted parallel process latent growth curve model with sex, SES, and immigrant background as predictor variables on the intercepts and slopes of academic initiative, academic self-efficacy, and GPA produced acceptable model fit:  $\chi^2 = 1804.272, df = 631, p < .001, RMSEA = .040, 90\% CI [.038, .042], CFI = .942, SRMR = .048$ . See Table 2 for details. This model included strict and partial strict longitudinal measurement invariance constraints in the academic initiative and academic self-efficacy scales, respectively.

The results show that the regression coefficients from sex to the intercepts of academic initiative, academic self-efficacy, GPA, and the slope of GPA were statistically significant. Specifically, girls had significantly higher academic initiative and GPA and lower academic self-efficacy at the beginning of upper secondary school. Girls experienced a significantly greater improvement in their GPA than boys throughout upper secondary school.

The effects of SES on the intercepts of academic initiative, academic self-efficacy, and GPA and the slope of GPA were statistically significant. Students with a high SES had greater academic initiative, academic self-efficacy, and GPA than students with a low SES in the first grade of upper secondary school. Moreover, youth with a high SES had a significantly greater improvement in their GPA during upper secondary school compared to students with a low SES.

Lastly, the immigrant background regression coefficients to the intercepts of academic initiative and GPA and the slope of GPA were statistically significant. Students with an immigrant background began upper secondary school

with a higher academic initiative than Norway-born students. Moreover, although youth with an immigrant background entered upper secondary school with a lower GPA than non-immigrant adolescents, they experienced a greater improvement in their GPA throughout upper secondary school compared to Norwegian-born students. Finally, and of note, results show intervention condition included in the model as a control variable and this did not have significant effects on any of the estimates.

## Discussion

The main aim of this study was to examine how sex, SES, and immigrant background relate to the developmental trajectories of academic initiative, academic self-efficacy, and GPA throughout upper secondary education in Norway. The results from latent growth curve modelling indicated group differences related to changes over time in GPA, but not in academic initiative or self-efficacy. Girls, students with higher SES, and immigrant students reported greater improvement in GPA than boys, students with a lower SES and non-immigrant students, respectively. The authors are not aware of any other latent growth curve studies that reveal amplified differences in grades during upper secondary school associated with sex and SES in Norway, nor findings of reduced differences in grades over time in favour of the immigrant group. The authors discuss these main results considering other studies, aims of equity, and school, in particular, as a socially equalising actor.

To understand and discuss the findings from the unconditional trajectory analyses, we present a brief overview of the general developmental trajectories found across all participants. However, we refer to Kristensen et al. (2023) for a more comprehensive and detailed discussion of the trajectories.

**Table 9.2** *The Effects of Sex, Socio-economic Status, and Immigrant Background on the Intercepts and Slopes of Academic Initiative, Academic Self-efficacy, and Grade Point Average.*

Outcome variable	Predictor variable						Control variable			
	Sex		Socio-economic status		Immigrant background		Intervention condition 1		Intervention condition 2	
	B (S.E)	$\beta$ (S.E)	B (S.E)	$\beta$ (S.E)	B (S.E)	$\beta$ (S.E)	B (S.E)	$\beta$ (S.E)	B (S.E)	$\beta$ (S.E)
Academic initiative intercept	.141 (.04) ***	.126 (.04) ***	.122 (.04) **	.104 (.04) **	.213 (.04) **	.102 (.04) **	.103 (.05)	.094 (.05)	.084 (.05)	.075 (.05)
Academic initiative slope	.027 (.03)	.077 (.07)	-.020 (.03)	-.051 (.07)	-.060 (.05)	-.089 (.08)	-.003 (.03)	-.009 (.09)	-.015 (.03)	-.041 (.09)
Academic self-efficacy intercept	-.199 (.05) ***	-.144 (.03) ***	.260 (.05) ***	.178 (.03) ***	.042 (.09)	.016 (.03)	-.004 (.06)	-.003 (.05)	.022 (.06)	.016 (.05)
Academic self-efficacy slope	-.002 (.03)	-.003 (.06)	-.057 (.035)	-.103 (.07)	.024 (.67)	.025 (.07)	.045 (.04)	.087 (.09)	-.057 (.04)	-.108 (.09)
Grade point average intercept	.208 (.05) ***	.146 (.03) ***	.131 (.05) **	.087 (.03) **	-.330 (.09) ***	-.124 (.03) ***	-.068 (.06)	-.048 (.04)	-.031 (.06)	-.021 (.04)
Grade point average slope	.054 (.02) **	.144 (.06) *	.062 (.02) **	.155 (.06) **	.092 (.04) *	.131 (.06) *	-.001 (.03)	-.002 (.07)	-.026 (.03)	-.069 (.07)

Note. B = unstandardised regression coefficient,  $\beta$  = standardised regression coefficient, S.E = standard error. Sex coded as 0 = boys, 1 = girls. SES coded as 0 = low, 1 = high. Immigrant background coded as 0 = non-immigrant, 1 = immigrant. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ . Estimates are adjusted for intervention condition.

## **General Developments and Group Differences in Academic Initiative, Academic Self-efficacy, and GPA**

As reported and discussed in more detail by Kristensen et al. (2023), the general trajectories found across all students indicate that academic self-efficacy decreased over time, whereas academic initiative and GPA remained stable. It is possible that fewer mastery experiences, anxiety, and perhaps less social support in upper secondary school relate to decreased academic self-efficacy over time. Pressure to perform, more competition, and extrinsic motivation are likely to increase during secondary school, because good grades become more decisive for students' future opportunities. On the other hand, students in upper secondary school have to some degree chosen their own study program, a choice that is indicative of students' autonomy and academic initiative. The stable academic initiative may reflect that the students experience self-determined and autonomous self-regulated learning, indicating intrinsically motivated, identified or personally important motivation (Deci & Ryan, 2000; Reeve et al, 2008). Academic self-efficacy and academic initiative are two different concepts. For example, academic self-efficacy taps into self-beliefs, which academic initiative does not. Academic initiative can be regarded a simpler and more narrow measure of autonomous, goal directed learning behaviour in the classroom.

### ***Sex Differences in Academic Outcomes***

Overall, the findings indicated sex differences in all three dependent variables at all time points. While girls consistently reported higher academic initiative and higher GPA, boys experienced higher academic self-efficacy. Our findings regarding sex differences in academic initiative are consistent with the findings of Danielsen et.al. (2011), who found sex differences in academic initiative for Norwegian 15-year-olds (although not for 13-year-olds). The sex differences in GPA are consistent with much previous work. On average, girls perform better than boys (Reilly et al., 2019; Voyer & Voyer, 2014). This is the case in most participating countries of the PISA surveys, for example, in reading results (Frønes, Rasmussen, et al., 2020). Regarding academic self-efficacy, a number of previous studies show sex differences in favour of boys (D'Lima et al., 2014; Huang, 2013).

### ***Socioeconomic Differences in Academic Outcomes***

Students with a high SES had consistently higher mean levels in academic initiative, academic self-efficacy, and GPA than students with a low SES. The findings support other work that education reproduces socioeconomic inequalities in academic performance as reported above. First, youth with a high SES tend to report higher intrinsic motivation (Miyamoto et al., 2020), which is a central component of initiative. High SES also positively relates to high academic self-efficacy (Demagnet & Van Houtte, 2019), and youth with a high SES achieve better grades than their peers with a low SES (Sirin, 2005).

### ***Immigrant Background Differences in Academic Outcomes***

Students with an immigrant background reported higher levels of academic initiative and academic self-efficacy than non-immigrant students; however, they reported lower GPA at all time points compared to non-immigrant students. Their higher levels of academic initiative and academic self-efficacy were not unexpected because, as elaborated in the introduction section of the chapter, an immigrant background in Norway and other European countries is sometimes associated with self-perceived school competence, academic aspirations, and academic self-concept, as well as the “harder drive” (Lauglo, 1999; Johnsen et al., 2015; Johnsen et al., 2017; Salikutluk, 2016; Schotte et al., 2022). Also, the lower GPA in the immigrant group of our study, on average, is in line with international studies (Schotte et al. 2022; Salikutluk, 2016).

### ***Sex and SES in Relation to Improvement in GPA***

Our main findings showed that differences in GPA based on sex and SES were amplified during upper secondary school. Thus, the findings indicate that sex and socioeconomic inequalities in academic achievements are not only reproduced in the Norwegian educational system but are more strongly expressed over time, i.e., during upper secondary school. From an equity perspective, the results are very disturbing and raise several questions, for example, regarding the learning climate in upper secondary school. How are vulnerable boys and students with low SES followed up in this school system? Urke et al. (2023) found a negative relationship over time between students' SES and their perceptions of a caring school climate, suggesting that it requires extra effort from teachers and school staff to ensure low-income students' positive social and academic development. Our findings clearly

indicate that the aims of equity, results equality, and inclusion have not yet been met (Carlsen, 2009; Frønes, Pettersen, et al., 2020; Hernes, 1974; Ministry of Education, 2006; UNESCO, 1994). Inclusion and adapted education are statutory in Norway. Thus, there is a gap between intentions of social equalisation through education at the policy level and our empirical findings.

A possible explanation for the findings on socioeconomic inequality in GPA can be that the welfare state does not work as a protective factor regarding poor majority children in Norway (Johnsen, 2021). There are reasons to be concerned about poor majority children as a marginalised group in the welfare state. According to Eklund Karlsson et al. (2022), one of the explanations for the ineffectiveness of the Nordic welfare states in reducing child social inequalities and poverty is insufficient efforts in implementing proportional universalism, i.e., balancing universal measures with targeted efforts to level out inequalities, particularly at local levels. It could be the case that this impacts low-income students' navigation through the educational system. If the school system (including locally) – which is part of the welfare state system – is not sufficiently concerned with achieving what Hernes (1974) described as results equality, the socioeconomic differences in educational outcomes could still increase, as seen from our study results.

Further, upper secondary school does not have the same historical traditions regarding education for all, inclusion, and equity, as the mandatory grades 1–10 of primary and lower secondary school. Considering increasing social inequalities, also in Norway, and most adolescents enrolling in upper secondary school, coupled with our findings of academic inequalities based on SES, it is pertinent that the upper secondary school system, as a key actor of the welfare state, focuses attention on this challenge.

### ***Immigrant Background in Relation to Improvement in GPA***

Our results showed that having an immigrant background was related to a greater GPA improvement during upper secondary school than being born in Norway. Few studies have examined trajectories in GPA based on immigrant background, but several studies have looked at differences in mean grade levels, finding mixed/contradicting results (Schotte et al., 2022; Salikutluk, 2016).

The significant improvement in GPA among immigrant students compared to non-immigrant students in our study must be interpreted in light of the results related to the other studied academic constructs. Immigrant

students had significantly higher initial levels of academic initiative compared to non-immigrant peers. This and the persistent levels of academic initiative could contribute to “taking out” the potential to improve grades across upper secondary school. Further, as mentioned earlier, research shows that some immigrant groups tend to place higher value on academic achievements, the so-called “aspirational cultures” (Strand, 2014), i.e., high aspirations among some immigrant groups (Salikutluk, 2016), which could contribute to immigrant students’ persistence in their schoolwork and in turn comparatively better academic improvements as found in this study. In addition, the active and supportive welfare state in Norway may modify social variation in living conditions and influence immigrant children’s school achievement (Johnsen et al., 2015, p. 286). Inclusive education and language education for immigrant students constitute important dimensions of the Norwegian welfare state.

In line with evidence from other countries, immigrants in Norway constitute a diverse group of people. The largest groups are immigrants coming from Poland, Lithuania, Sweden, Syria, and Somalia (Steinkellner & Gulbrandsen, 2021). Newly arrived immigrant students often need Norwegian language education. They are either integrated into mainstream classes during their first two years of schooling, or they attend introductory classes for one or two years inside or outside their nearby school before they join mainstream classes with other students of the same age (Rambøll Management Consulting, 2016; Fandrem et al., 2021; Arora et al., 2022). As their language skills improve, the students’ ability to understand and perform in school is also likely to improve. The goal is that students reach a level of Norwegian that enables them to use or develop their competence in education, work, and social life in general (Norwegian Government, 2014).

The topic we are addressing in this chapter entails much complexity and could be approached in many ways. For example, previous research has indicated the role of intersectionality in academic achievements, i.e., that belonging to several vulnerable groups is particularly negative for academic achievements (Hsieh et al., 2021). Whereas low SES is quite consistently found to be a risk factor for most school-related aspects, immigrant background and sex are perhaps less straightforward. While oftentimes certain immigrant backgrounds are considered to be a risk factor, research also shows that immigrants in low-income groups do better in school compared to non-immigrants in the same low-income or even higher-income group (Johnsen et al., 2017; Strand,

2014). If the educational system is striving for results equality, attention also needs to be focused on specificities in and between the studied groups.

### **Limitations**

The measure of immigrant background is a broad/rough measure that does not differentiate between countries or more specified geographic or culturally similar regions. Hence, aspects of culture or language that could be meaningfully related to the outcomes of interest are likely not captured. Further, it does not take into account the length of stay in Norway, which likely could be of importance for the academic outcomes under study. The use of a rather simple measure of immigrant background is a common feature of much of the existing research examining aspects of immigrants' well-being and development (Abebe et al., 2014). Future research should aim for more nuance in measures of immigrant background to more readily be able to tease out explanatory aspects of differences in academic outcomes. Further, the measure of SES is based on a single question, which could pose limitations on validity. However, the question is widely used to capture relative wealth among adolescents (Elgar et al., 2016), and has been found to correlate with other subjective measures of wealth (Quon & McGrath, 2014). Due to the skewed distribution of the data on this variable in our study, it was decided to transform the original question into a median split variable. Although we recognize that this is not an optimal way of measuring relative wealth, we considered it the best solution given the data.

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## Appendix A

### Longitudinal Measurement Invariance of Academic Self-efficacy and Academic Initiative

	$\chi^2$	df	RMSEA [90%CI]	CFI	SRMR	$\Delta$ RMSEA	$\Delta$ CFI	$\Delta$ SRMR
<b>Academic self-efficacy</b>								
Configural	782.718	72	.083 [.078, .088]	.934	.039			
Metric <sup>a</sup>	810.909	80	.080 [.075, .085]	.932	.062	.003	.007	.023
Scalar <sup>ab</sup>	866.409	88	.079 [.074, .084]	.927	.071	.001	.005	.009
Strict <sup>abc</sup>	938.882	94	.079 [.075, .084]	.921	.082	.000	.006	.011
<b>Academic initiative</b>								
Configural	253.779	72	.042 [.037, .048]	.979	.036			
Metric	271.344	82	.040 [.035, .046]	.978	.047	.002	.001	.011
Scalar	342.576	92	.044 [.039, .049]	.971	.051	.004	.007	.004
Strict	384.656	102	.044 [.039, .049]	.968	.050	.000	.003	.001

Note. a = factor loading constraints on item 3 and item 5 on T3 removed for model fit. b = intercept constraints on item 3 and item 5 on T3 removed for model fit. c = residual error constraints on items 2, 3, 4, and 5 on T3 removed for model fit.

## Appendix B

*Estimates from the Unconditional Latent Growth Curves of Academic Self-efficacy, Academic Initiative, and Grade Point Average*

	Unstandardised		Standardised	
	Estimate	SE	Estimate	SE
<b>Academic self-efficacy</b>				
<i>Latent means (<math>\mu</math>)</i>				
Intercept	3.994***	0.023	5.545***	0.242
Slope	-0.090***	0.016	-0.286***	0.060
<i>Variance (<math>\sigma^2</math>)</i>				
Intercept	0.519***	0.045	1.000	0.000
Slope	0.099***	0.023	1.000	0.000
<i>Covariance (<math>\sigma</math>)</i>				
Intercept – Slope	-0.128***	0.028	-0.566***	0.061
<b>Academic initiative</b>				
<i>Latent means (<math>\mu</math>)</i>				
Intercept	2.564***	0.019	4.675***	0.237
Slope	0.023	0.012	0.122	0.068
<i>Variance (<math>\sigma^2</math>)</i>				
Intercept	0.301***	0.030	1.000	0.000
Slope	0.035*	0.015	1.000	0.000
<i>Covariance (<math>\sigma</math>)</i>				
Intercept – Slope	-0.041**	0.018	-0.399***	0.097
<b>Grade point average</b>				
<i>Latent means (<math>\mu</math>)</i>				
Intercept	4.223***	0.021	5.921***	0.170
Slope	0.010	0.010	0.048	0.048
<i>Variance (<math>\sigma^2</math>)</i>				
Intercept	0.509***	0.029	1.000	0.000
Slope	0.041***	0.012	1.000	0.000
<i>Covariance (<math>\sigma</math>)</i>				
Intercept – Slope	-0.003	0.014	-0.023	0.096

Note. \*\*\*  $p < .001$ , \*\*  $p < .01$ . All models achieved CFI  $> .90$ , RMSEA  $< .08$ , and SRMR  $< .06$ .