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Relationships Between School Enjoyment, Social Integration, and Achievement at the Beginning of Primary School: Does Family Background Matter?

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Abstract: At the beginning of primary school, young children need to adapt academically, socially, and emotionally to their new school environment. Enjoying going to school and becoming socially integrated are important preconditions for successful learning. However, children from disadvantaged families have fewer resources and receive less support, and such deficits can result in lower attainment, negative emotions, and lower well-being. In recent years, interest in emotions and well-being in school has grown in educational research. However, studies analyzing the affective characteristics of disadvantaged students, especially in primary school, are still scarce. In this study, we analyzed reciprocal relationships between school enjoyment, social integration, and achievement using cross-lagged structural equation modeling (Grades 1 and 2), while controlling for family background and sex. We used data from the National Educational Panel Study in Germany (NEPS; N = 4,986). Results showed positive effects of school enjoyment on achievement and social integration on school enjoyment. Additionally, a better home learning environment had positive effects on school enjoyment and social integration in Grade 1. Effects of socioeconomic and migration background on school enjoyment and social integration were not significant. Our results show no evidence that educationally disadvantaged students are additionally disadvantaged in their school enjoyment or social integration at the beginning of primary school.

Keywords: *School enjoyment, social integration, school achievement, family background, primary school.*

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Introduction

Nearly all children will experience the transition to formal schooling at some point in their lives. Although most of them will enjoy a smooth start to primary school (Einarsdottir, 2007; Griebel & Niesel, 2002; Hirst et al., 2011), some will experience difficulties adjusting to school life. Academic, social, and emotional problems in the early school years affect students' future perceptions of school and their school-related emotions. In addition, early issues in school can even have an impact on students' school achievement and adjustment (Kiuru et al., 2015). Therefore, it is important to understand the relationships between students' academic, social, and emotional outcomes at the beginning of primary school.

Children who enjoy going to school and are socially well-integrated perform better in school and have higher levels of well-being (Cadman et al., 2021; Hascher et al., 2011). However, depending on the student's family background (e.g., socioeconomic status), the resources that are available and the support that is received differ among students (Bourdieu, 1986). Results of large-scale assessments in Germany (e.g., Programme for International Student Assessment (PISA) and Progress in International Reading Literacy Study (PIRLS)) have shown that students with low socioeconomic status, low parental education, and a migration background are educationally disadvantaged as they score lower on standardized tests, receive lower school grades, and attend the academic school track (i.e., the German *Gymnasium*) less frequently (Hußmann et al., 2017; Reiss et al., 2016). However, it is less clear whether these students are additionally disadvantaged regarding school-related emotional and social outcomes.

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The aim of this study was to analyze the relationships between school enjoyment, social integration, and achievement at the beginning of primary school. We tested a cross-lagged panel model with data from the National Educational Panel Study (NEPS; Blossfeld & Roßbach, 2019) in Germany. Additionally, we investigated whether family background characteristics affected school enjoyment and social integration in Grade 1.

The Beginning of Primary School

In Germany, most students begin their primary school education after reaching the age of 6. This transition involves institutional, structural, and social changes when leaving kindergarten (i.e., which is equivalent to preschool or pre-k in the US) or the family (L. W. Anderson et al., 2000). Because nearly every aspect of schooling is new—the school building, school rules, academic demands, teachers, and peers—these young students experience a discontinuity in the educational practices and social structures they face (Rice, 2001). These changes make it necessary for students to adapt academically, socially, and emotionally to their new environment. Therefore, the transition to primary school is considered a critical life event (Filipp, 1995) as it can be an opportunity and a risk at the same time. This early phase is important, as students who experience social, behavioral, or academic difficulties at the beginning are more likely to continue to experience problems as their school careers progress (Einarsdottir, 2007). Empirical research has identified different individual (e.g., sex), familial (e.g., parents' educational status), and institutional characteristics (e.g., transition programs) that influence early school adjustment (Faust et al., 2012). Children with high cognitive skills in preschool were found to be particularly likely to be more self-reliant, to show more persistence of effort, to cope better with school demands, and to be socially better integrated into class (Faust et al., 2012). Children who adapt well to school life are more likely to enjoy going to school, to make friends, and to develop a sense of belonging in school.

School Enjoyment and Social Integration

School enjoyment is defined as a positive affective attitude toward the entire school environment (Fend, 1997; Hagenauer et al., 2013), which includes learning and achievement activities (e.g., lessons and taking exams), learning content, and social relationships to teachers and peers. Therefore, school enjoyment is an emotion that has a strong cognitive component (appraisal) with an affective core (enjoyment). In line with the control-value theory of achievement emotions (Pekrun et al., 2017), school enjoyment will develop only when a student perceives themselves as competent enough to cope with school demands and every day school life (control) and at the same time considers this learning and social environment to be important (value). Students who enjoy going to school and learning show more interest in learning content, have higher persistence of effort, engage more in lessons, and have fewer behavioral problems (Cadman et al., 2021; Gutman & Vorhaus, 2012; Lehrl & Richter, 2014; van Ophuysen, 2009).

For the development of school enjoyment, social relationships are very important. At the beginning of primary school, students meet new classmates, make new friends, and become part of a new class community. Being well-integrated into the class means having friends who help when one has difficulties, worries, or problems; provide support; and make one feel recognized, accepted, and connected (Hascher & Baillod, 2004). According to self-determination theory (SDT; Deci & Ryan, 1985), social relatedness is one of the basic psychological needs on which motivation, personal growth, and well-being is founded (Ryan & Deci, 2000). Social integration into the school environment is influenced by a student's own behavior. One study found that students who showed externalizing problems in kindergarten (e.g., started fights and did not obey the rules) were rejected by their peers and victimized 1 school year later (van Lier & Koot, 2010). Students with more friends and positive social contacts developed more favorable perceptions of school, showed more engagement in school and had better transition experiences than students with fewer friends and less peer acceptance (Day et al., 2014; Kingery et al., 2011; Ladd, 1990). Thus, we expected to find a reciprocal relationship between school enjoyment and social integration. Positive emotions foster helpful and generous behavior, increase open-mindedness, and reduce defensiveness in social situations (Goodman et al., 2018). Consequently, students who enjoy going to school will adapt better to school life and connect with peers more easily. At the same time, because being well-integrated fulfills a basic psychological need, these students will also experience happiness and well-being (DeHaan & Ryan, 2014). Hence, students who are socially well-integrated will enjoy going to school more than students who feel less connected or less accepted.

At the beginning of primary school, the vast majority of students tend to report high levels of school enjoyment (Hascher et al., 2011; Moser et al., 2005; Schenz, 2004), have no social problems, and are well-integrated into their class communities (Hascher et al., 2011; Moser et al., 2005; Wustmann Seiler et al., 2016). School enjoyment and social integration are both important indicators of students' well-being in school (i.e., high levels of school enjoyment and successful integration into class will positively affect students' well-being; Akar Vural et al., 2020; D. L. Anderson et al., 2022; Hascher & Hagenauer, 2020). Scholastic well-being is of high relevance because it fosters adaptive student behavior (Putwain et al., 2020), school engagement (Gutman & Vorhaus, 2012), and self-esteem (Yang et al., 2018). Therefore, scholastic well-being is a precondition for successful learning in school and serves as a protective resource that helps students cope with challenging situations and problems (Hascher & Hagenauer, 2020).

Relationships Between Achievement, Emotions, and Well-Being

Emotions affect cognitive resources (e.g., learning strategies) and motivation (e.g., amount of effort). In particular, positive emotions foster self-regulated learning, increase motivation (Mega et al., 2014), and influence memory and attention processes (Fiedler & Beier, 2014). The influences of subject-specific learning emotions on school achievement have been studied extensively (e.g., mathematics; Pekrun et al., 2017; Putwain et al., 2018; Villavicencio & Bernardo, 2013), and studies have demonstrated a positive effect of positive emotions on achievement. Besides subject-specific learning emotions, there is evidence that school enjoyment can also affect academic achievement. Cadman et al. (2021) observed that school enjoyment at the ages of 13 to 14 positively predicted school achievement at the age of 16. Students who reported high levels of school enjoyment at the age of 6 scored higher on achievement tests at the age of 16 than students who did not enjoy going to school as young children (Morris et al., 2021).

Considering the relationship between emotions and achievement, it is not surprising that there is also a positive relationship between well-being and academic performance (Bücker et al., 2018; Miller et al., 2013; Putwain et al., 2020). As a component of well-being in school, social integration (i.e., acceptance by peers) plays an important role in achievement. Being well-integrated into class promotes classroom participation and therefore has a mediating effect on achievement (Furrer & Skinner, 2003; Ladd et al., 2008). Kiuru et al. (2015) showed that peer acceptance, along with a good student-teacher relationship, predicted achievement in primary school. Making new friends in the classroom was associated with better school performance, whereas early peer rejection predicted lower performance (Ladd, 1990). However, this relationship is not conclusive, especially from a long-term perspective. In a study on early school adjustment, students' social integration in Grade 1 did not predict their achievement in Grade 4 (Schmerse & Zitzmann, 2021).

The relationships between emotions and achievement and between well-being and achievement are reciprocal (Evans-Whipp et al., 2017; Putwain et al., 2018). That is, not only do positive emotions and well-being at school affect achievement, but high performance also fosters positive emotions (Putwain et al., 2022) and higher well-being in return (Morinaj & Hascher, 2022; Yang et al., 2018). Academic success strengthens control and positive value appraisals, that is, high performance shapes subsequent perceptions of control over performance, resulting in greater enjoyment of school and learning (Hagenauer & Hascher, 2014; Pekrun et al., 2017). This positive reciprocal cycle also applies to achievement and social integration into class. Wullschleger et al. (2020) showed that, in primary school, high-achieving students were socially more accepted than low-performing students. Receiving good grades can have a positive influence on classroom behavior, such as classroom participation (Alexander et al., 1993). Greater participation may lead to more collaboration with peers in class, thus resulting in more relatedness and acceptance. Additionally, high academic performance is valued by teachers, thus leading to positive teacher-student relationships and positive feedback (Kiuru et al., 2015; Wullschleger et al., 2020). These positive reactions from teachers can be a source of information that other students in class receive about their peers, and then this information can influence students' perceptions of their classmates (Kiuru et al., 2015) and result in higher peer acceptance (Hughes et al., 2001).

Importance of Family Background

Family background characteristics, such as socioeconomic status (SES), educational degree, or migration history, affect students' educational outcomes (Organisation for Economic Co-operation and Development [OECD], 2018). As early as the beginning of primary school, young children differ in their language skills and school-relevant competencies (e.g., educationally disadvantaged children may lag behind; Kotzerke et al., 2013; Schoon et al., 2021). According to Bourdieu (1986), the family's social, cultural, and economic resources affect the child's development and educational outcomes. Parents with a high SES can invest in educationally beneficial materials or activities (e.g., books, visits to museums, or private tuition). Highly educated parents can help their children do homework or prepare for exams. Parental education and SES are both moderately positively correlated with the quality of the home learning environment (Bornstein & Bradley, 2014). A highly cognitively activating learning environment in early childhood (e.g., reading to the child) promotes the development of school-relevant skills and competencies and has a positive impact on later school performance (McGinnity et al., 2017; Melhuish et al., 2008). In Germany, a migration background is often correlated with low SES and insufficient German language skills (Kristen & Granato, 2007) resulting in lower school performance (Wendt et al., 2020).

Following previous studies, the question that arises is whether family background also influences students' emotions and well-being in school. The first theoretical assumption is that family background has an indirect effect on emotions and well-being through academic achievement. If students with a low SES continuously belong to the low-achieving group of students in their class, such continuity can result in lower self-esteem (Yang et al., 2018) and motivation (Boncquet et al., 2020) and can foster the development of negative emotions and lower levels of well-being in school (Hagenauer et al., 2013). High performance pressure can lead to higher levels of stress and physical problems and subsequently to lower levels of well-being (Poots & Cassidy, 2020). However, not only highly educated parents but also parents who are not well educated may expect their child to perform at a high level (Deb et al., 2015).

The second theoretical assumption refers to the support structure offered by the parents. A lack of parental interest in the child's school life (e.g., asking how school was) or low moral support (e.g., when the child is bullied) can have a negative impact on students' emotions and well-being in school. On the other hand, parents who are aware of the importance of educational investments (e.g., cultural capital; Bourdieu, 1986) will offer the appropriate support to their child and will help when academic or social problems arise.

Empirical studies have reported inconclusive findings on these relationships. As studies that have analyzed the effects of family background on school enjoyment and social integration in particular are scarce, we also report on studies that analyzed the relationships between family background, school-relevant emotions, and well-being in general. Among secondary school students, the sense of belonging to school and subjective well-being were positively correlated with a high SES (Akar Vural et al., 2020). In another study, SES had a small but negative effect on learning enjoyment in mathematics in secondary school (Pekrun et al., 2017). In primary school, school enjoyment at the age of 6 was not associated with parents' SES (Morris et al., 2021). Wustmann Seiler et al. (2015) observed that at the beginning of primary school, students with a high SES had lower levels of positive emotions and attitudes toward school. The authors presumed that high-SES students perceived high pressure from their parents who had high expectations at school entry. Additionally, the results showed a positive relationship between a stimulating home learning environment and students' well-being, that is, positive emotions and attitudes as well as an absence of worries, physical complaints, and social problems (Wustmann Seiler et al., 2015). In addition, high parental interest in school life had a positive effect on students' sense of belonging to and subjective well-being in school (Akar Vural et al., 2020).

Regarding migration background, the results have likewise been inconsistent. Compared with students with a migration background, native German students tended to report higher levels of psychological well-being in primary school (Hofmann et al., 2018). Native Swiss students were socially better integrated than first-generation immigrants, although the differences were small (Tresch, 2005). Wustmann Seiler et al. (2016) observed no differences in well-being in students with and without a migration background at the beginning of primary school. Likewise, school enjoyment in Grade 4 was not related to migration background (van Ophuysen, 2008). On the other hand, students with a migration background reported higher levels of learning enjoyment in Grade 2 (Lehrl & Richter, 2014). These students may have reported higher levels of learning enjoyment due to the more stimulating environment they found in school compared with their homes. In secondary school, students with a migration background reported more positive attitudes toward school and more enjoyment in school than Swiss native students (Hascher & Hagenauer, 2020).

Besides family background, studies have shown gender differences in students' emotions and well-being. In primary school, female students reported more positive attitudes toward school and more school enjoyment than male students. However, girls also reported more worries and social problems than boys (Wustmann Seiler et al., 2016). These differences were further observed in secondary school (Hascher & Hagenauer, 2011). They can be explained by gender-specific socialization and emotional expression (i.e., girls show more emotions; Chaplin & Aldao, 2013), and the lower academic self-esteem of female students (Napp & Breda, 2022). Additionally, it is assumed that schools are able to fulfill the needs of female students better than the needs of male students (Stage-Environment-Fit; Eccles & Midgley, 1989; Eccles & Roeser, 2009).

Research Questions and Hypotheses

As described in the previous chapters, school enjoyment and social integration in class are important indicators of students' well-being and educational attainment. However, studies analyzing the relationships between school enjoyment, social integration, and achievement, especially at the beginning of primary school, are scarce. Additionally, family background can influence this relationship as disadvantaged students lack the necessary skills and support structures. These considerations led to the following research questions and hypotheses:

Question 1: Are there reciprocal relationships between school enjoyment, social integration into class, and achievement at the beginning of primary school?

Hypothesis 1: There will be positive reciprocal relationships between school enjoyment and social integration (1a), school enjoyment and achievement (1b), and social integration and achievement (1c).

Question 2: Do family background characteristics affect school enjoyment and social integration in Grade 1?

Hypothesis 2: In independent analyses of the effects of SES, the home learning environment, and migration background, there will be positive effects of a higher SES and a stimulating home learning environment on school enjoyment and social integration (2a), whereas a migration background will have a negative effect (2b).

Methodology

Sample

We used data from the starting cohort 2 (kindergarten; SC2) from the National Educational Panel Study in Germany (NEPS Network, 2020). Students from this cohort entered the panel as 4-year-old kindergarteners and began their

primary school education in the school year 2012/13 usually after reaching the age of 6 ($N = 4,986$; 51% girls). Our analyses were based on the parent surveys (91% mothers) conducted as computer-assisted telephone interviews (CATI), predominantly at the end of each school year (May through August) in Grades 1 and 2. Students' mathematical competencies were assessed with paper-based tests in Grades 1 and 2.

Measures

School Enjoyment: School enjoyment was measured with three items from a parent questionnaire (e.g., "The child enjoys going to school") rated on a 4-point Likert scale (1 = *does not apply* to 4 = *does apply*) in Grades 1 and 2, respectively ($M = 3.65/3.57$, $SD = 0.48/0.52$, Omega total $\omega_{(t)} = .84/.85$). Parents further rated their child's *social integration* into class via three items (e.g., "The child has become well-integrated into class") on a 4-point Likert scale (1 = *does not apply* to 4 = *does apply*) in Grades 1 and 2 each ($M = 3.62/3.60$, $SD = 0.46/0.46$, Omega total $\omega_{(t)} = .68/.66$).

Academic Achievement: We used results from competence tests in mathematics as an indicator of academic achievement. Mathematical competence was based on mathematical literacy (OECD, 2003), which refers to the competent handling of mathematical problems in age-specific contexts (e.g., quantity, space, and shape), and was assessed with paper-based tests with 22 and 24 items in Grades 1 and 2, respectively. All items were read aloud by interviewers in class and had a picture-based answer format. Weighted likelihood estimates (WLE scores) were provided in the scientific use file (SUF) and set on the same scale for Grades 1 and 2 via a linking procedure (Schnittjer & Gerken, 2018).

Socioeconomic Background: Parents' socioeconomic background was assessed with the International Socio-Economic Index of Occupational Status in Grade 1 (ISEI-08; Ganzeboom et al., 1992). The values ranged from 12 to 89 with higher values indicating higher socioeconomic status (SES). If applicable, the respondent's ISEI was compared with the partner's ISEI, and the highest value was considered in the analyses (HISEI; $M = 59$, $SD = 19$).

Home Learning Environment: This measure provides information about educational parent-child interactions, which are important for the development of the child's school-relevant skills and competencies. Parents were asked how often they do activities, such as read aloud to the child, tell stories, or make music with the child at home (e.g., "How often do you (or someone else) paint, draw, or do crafts with the child at home?"). Home learning environment was measured in Grade 1 with seven items that were rated on an 8-point scale (1 = several times a day to 8 = never). The scale was reverse-coded so that high values indicated a high home learning environment ($M = 5.88$, $SD = 0.85$; Omega total $\omega_{(t)} = .75$).

Migration Background: The students' generation status was obtained from information on the students' and their parents' birth country. First-generation students were born abroad (i.e., not in Germany, 1%). Second-generation students were born in Germany but at least one parent was born abroad (18%). Third-generation students and both parents were born in Germany. Third-generation students were considered equal to students without a migration background (81%). The variable was dummy-coded so that students without a migration background (and third-generation students) served as the reference group. In the immigrant group, the largest ethnic minority groups hailed from the Former Soviet Union Countries (approximately 25%) and Turkey (approximately 12%).

Sex: The biological sex of the child was dummy-coded (0 = *male*, 1 = *female*). Additional descriptive statistics, intercorrelations, and percentages of missing data can be found in the Appendix (Table A1).

Analysis of Measurement Invariance

To test the psychometric equivalence (factor loadings, intercepts, and residual variances) of school enjoyment and social integration across two measurement points, we tested for measurement invariance. We compared the goodness-of-fit of increasingly constrained structural equation models (Table 1). Invariance was assumed when the model comparisons met the following conditions: $\Delta RMSEA \leq .015$ and $\Delta CFI \leq .010$ (Chen, 2007). Although this recommendation was not fully met for school enjoyment ($\Delta CFI = .011$), we considered strict invariance to be given because the difference was only .001 points over the recommended value ($\Delta CFI \leq .010$), and there was no change in the RMSEA between the metric and scalar invariance levels. Therefore, we considered both constructs to be invariant over time.

Table 1. Measurement Invariance

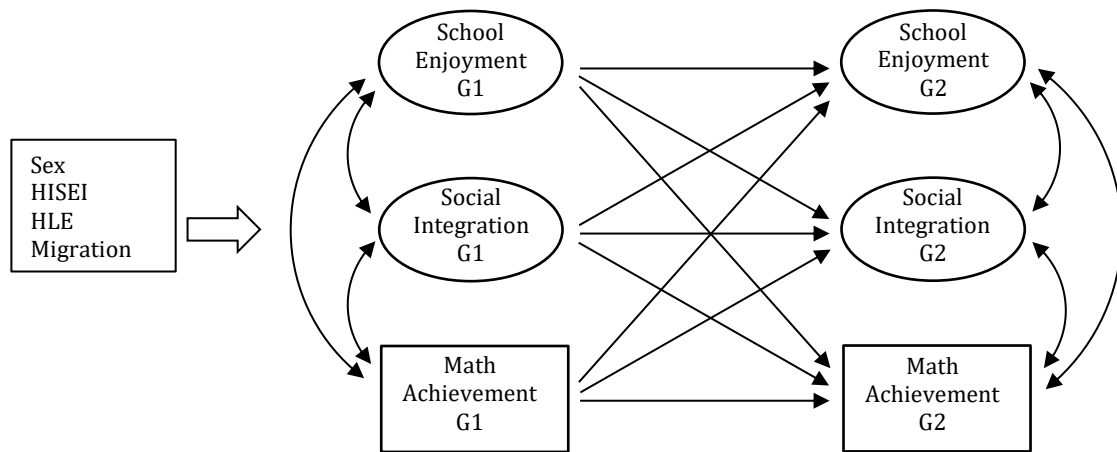
School Enjoyment	Model fit						Difference
	χ^2	df	p	CFI	RMSEA	ΔCFI	$\Delta RMSEA$
Configural	632.292	8	.00	.965	.117	-	-
Metric	638.024	10	.00	.965	.105	.000	.012
Scalar	824.467	13	.00	.954	.105	.011	.000
Strict	850.114	16	.00	.953	.096	.001	.009

Table 1. Continued

School Enjoyment	Model fit					Difference	
	χ^2	df	<i>p</i>	CFI	RMSEA	Δ CFI	Δ RMSEA
Configural	817.316	8	.00	.896	.134	-	-
Metric	818.899	10	.00	.896	.120	.000	.014
Scalar	827.894	13	.00	.896	.105	.000	.015
Strict	848.962	16	.00	.893	.096	.003	.009

Cross-Lagged Panel Model

We conducted a cross-lagged panel model (CLPM) in the structural equation modeling (SEM) framework to examine the stability, bidirectional effects, and correlations between school enjoyment, social integration, and math achievement between Grades 1 and 2. School enjoyment and social integration were entered into the model as latent variables, and math achievement was used as a manifest variable. The autoregressive effects represent the stability over time, whereas the cross-lagged effects describe the relationship between two measurement points (e.g., school enjoyment in Grade 1 and social integration in Grade 2) while controlling for previous levels of the outcome (e.g., social integration in Grade 1; Kline, 2016). We analyzed these relationships while controlling for sex, HISEI, home learning environment, and migration background in Grade 1. Residual correlations were allowed only between identical indicators across two measurement points. For simplicity, the indicators are not included in the figures. We report standardized coefficients.



Notes. HISEI = highest ISEI. HLE = Home Learning Environment

Figure 1. Path Diagram for CLPM.

Missing Data and Model Fit

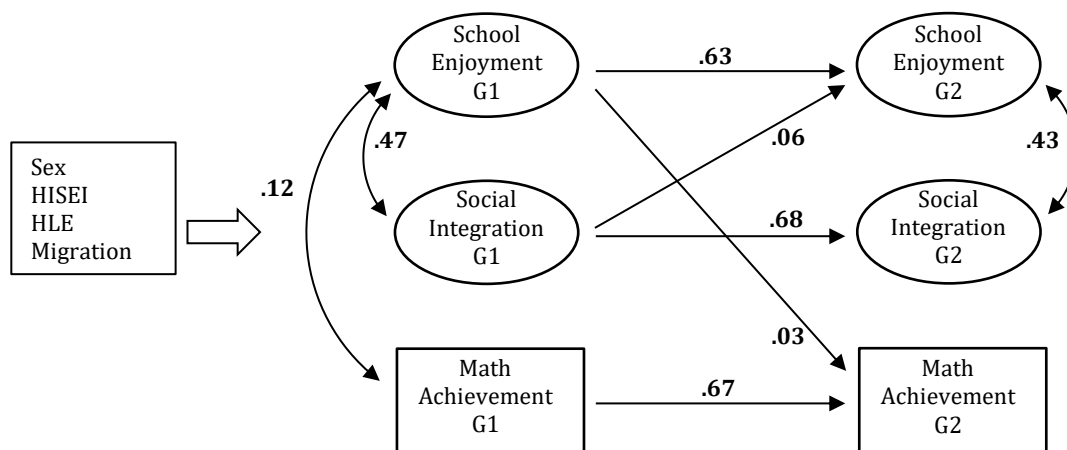
On average, 9.26% of the data was missing due to nonresponse. Missing data were handled with Full Information Maximum Likelihood estimation (FIML; Enders & Bandalos, 2001). Analyses were carried out with the lavaan package (Rosseel, 2012) in R (version 4.0.3). According to the two-index strategy, model fit was acceptable when at least one of the two following combinations of fit indices was given: RMSEA \leq .06 and SRMR \leq .09 (Hu & Bentler, 1999) or CFI \geq .92 and RMSEA $<$.07 (Hair et al., 2014).

Results

The latent CLPM is shown in Figure 2. The model had a good fit (CFI = .968, RMSEA = .039, SRMR = .031). According to the students’ parents, school enjoyment ($\beta = .63$, SE = .02, $p < .05$) and social integration in class ($\beta = .68$, SE = .03, $p < .05$) were quite stable between Grade 1 and Grade 2. A similar level of stability was observed for math achievement ($\beta = .67$, SE = .01, $p < .01$).

The cross-lagged paths showed that social integration predicted subsequent school enjoyment ($\beta = .06$, SE = .03, $p < .05$) but not vice versa ($\beta = .02$, SE = .01, *ns*). School enjoyment in Grade 1 had a positive significant effect on math achievement in Grade 2 ($\beta = .03$, SE = .04, $p < .05$). However, math achievement in Grade 1 did not predict school enjoyment ($\beta = .01$, SE = .01, *ns*) or social integration ($\beta = .01$, SE = .01, *ns*) in Grade 2. Cross-lagged paths between social integration and math achievement were not significant ($\beta = -.03$, SE = .07, *ns*; $\beta = .01$, SE = .00, *ns*).

There were significant correlations between school enjoyment and social integration ($r = .47$, $p < .05$) and school enjoyment and math achievement ($r = .12$, $p < .05$) in Grade 1. In Grade 2, only the correlation between school enjoyment and social integration was significant ($r = .43$, $p < .05$).



Notes. Nonsignificant paths have been omitted for simplicity. HISEI = highest ISEI. HLE = Home Learning Environment

Figure 2. Latent CLPM.

The effects of family background characteristics and sex can be seen in Table 2. The home learning environment had a positive significant effect on school enjoyment ($\beta = .10$, $SE = .01$, $p < .05$) and social integration ($\beta = .13$, $SE = .01$, $p < .05$) in Grade 1. According to the parents, female students had higher school enjoyment ($\beta = .16$, $SE = .01$, $p < .05$) and were socially better integrated into class ($\beta = .13$, $SE = .01$, $p < .05$) than male students. The HISEI and the migration background of the family did not have a significant effect on school enjoyment or social integration. Sex ($\beta = -.12$, $SE = .03$, $p < .05$) and migration background ($\beta = -.08$, $SE = .18$, $p < .05$; $\beta = -.04$, $SE = .05$, $p < .05$) had negative effects on math achievement, whereas the HISEI had a significant positive effect ($\beta = .25$, $SE = .02$, $p < .05$).

Table 2. Path Coefficients for Sex and Family Background

N = 4,986	School Enjoyment		Social Integration		Math Achievement	
	β	SE	β	SE	β	SE
Sex ^a	.16*	.01	.13*	.01	-.12*	.03
HISEI	.01	.01	-.03	.01	.25*	.02
HLE	.10*	.01	.13*	.01	-.02	.02
1. Generation ^b	.03	.08	.00	.06	-.08*	.18
2. Generation ^b	.02	.02	.01	.02	-.04*	.05

Notes. * $p < .05$. Coefficients are standardized. Reference groups: a = male, b = no migration background. HISEI = highest ISEI. HLE = Home Learning Environment.

Discussion

The aim of this study was twofold: First, we tested for reciprocal relationships between school enjoyment, social integration, and achievement at the beginning of primary school. Second, we examined whether family background had effects on school enjoyment and social integration in Grade 1. Our results did not confirm *Hypotheses 1 a-c* because we did not observe consistent reciprocal relationships. However, we found significant one-way effects.

School enjoyment and social integration (Hypothesis 1a): We observed a significant one-way effect of social integration in Grade 1 on school enjoyment in Grade 2. This finding is in line with previous findings, which showed positive effects of having friends and being integrated on positive perceptions of school (Day et al., 2014; Kingery et al., 2011; Ladd, 1990). This means that the fulfillment of a basic psychological need (i.e., social relatedness; Deci & Ryan, 1985) contributes to positive emotions, which are relevant for students' well-being in school (Hascher et al., 2011). The significant correlations between school enjoyment and social integration in Grade 1 (.47) and Grade 2 (.43) support the idea that the two variables are not independent of each other, even though the cross-lagged path from school enjoyment (Grade 1) to social integration (Grade 2) was nonsignificant.

School enjoyment and achievement (Hypothesis 1b): School enjoyment in Grade 1 had a positive effect on school achievement in Grade 2. This finding is in line with studies that reported positive effects of school enjoyment on later achievement (Cadman et al., 2021; Morris et al., 2021). However, the effect we found was very small. The reason may be that other factors on the individual level, such as motivation, academic self-concept, or subject-specific learning emotions are stronger predictors of achievement than school enjoyment in general (Köller et al., 2019; Marsh & Martin, 2011;

Pekrun et al., 2017). Despite the small effect, our result supports the idea that the emotions students feel in the school context are relevant for successful learning. The nonsignificant effect of achievement in Grade 1 on school enjoyment in Grade 2 indicates that even low-achieving students like to go to school. The reason these children like school might be that, in Germany, most primary schools begin giving grades only at the end of Grade 2 or at the beginning of Grade 3 (Helbig & Nikolai, 2015). Therefore, until then, it is more difficult for students to perceive which achievement group (i.e., high, middle, or low) they belong to in their class. The same concept applies for the parents who evaluated their child's school enjoyment, and this lack of grading might explain why math competence (as an objective achievement measure) did not affect school enjoyment.

Social integration and achievement (Hypothesis 1c): Contrary to our hypothesis, social integration into class did not predict achievement or vice versa. This result is partially in line with previous studies. Although preschool math skills predicted social integration in Grade 1, social integration in Grade 1 did not predict achievement in Grade 4 (Schmerse & Zitzmann, 2021). These results indicate that even if being well-integrated promoted classroom participation (Ladd et al., 2008), it did not enhance performance at the beginning of primary school. Further, the explanation for the nonsignificant effect of achievement on social integration may be similar to the explanation for the missing effect between achievement and school enjoyment. Low-performing students might have more problems with peer rejection (Ladd, 1990), but because grades are not given at this stage, low performance is not easy for students or parents to see. Further, the relationship between social relationships and achievement is probably stronger for older students (Kiuru et al., 2015) when academic demands are higher and feedback on performance is given in the form of grades.

Family background (Hypothesis 2): Regarding the effects of family background on school achievement and social integration, the results supported Hypothesis 2a only partially. Parents' SES did not have a significant effect on school enjoyment or social integration, whereas the home learning environment had a positive effect in Grade 1. These results are contrary to studies that have reported positive or negative effects of SES on emotions and well-being (Akar Vural et al., 2020; Pekrun et al., 2017; Wustmann Seiler et al., 2015). One possible explanation is that students from low-SES families find better learning opportunities in school than they do at home (Lehrl & Richter, 2014). This improvement in low-SES students' situation results in higher levels of enjoyment at the beginning of primary school compared with students from high-SES families. Therefore, the effects might have evened out, resulting in zero effects. The positive effects of the home learning environment on school enjoyment and social integration (Hypothesis 2a) support this assumption. Wustmann Seiler et al. (2015) also reported that a high-quality home learning environment was associated with positive emotions and the absence of social problems in primary school. These results emphasize the importance of considering not only structural characteristics, such as SES, but also process-related features when analyzing effects of family background. *Hypothesis 2b* was not supported because a migration background did not affect school enjoyment or social integration in Grade 1. These findings indicate that first- and second-generation immigrant students' enjoyment of school and integration into their classes are similar to those of students without a migration background. Although low SES and a migration background were associated with lower achievement, these associations did not interfere with students' school enjoyment or social integration.

Conclusion

Overall, we view the nonsignificant effects of SES and migration background as positive because students from low-SES families and those with a migration background often belong to the group of educationally disadvantaged students (OECD, 2018). However, our results showed no evidence that they were additionally disadvantaged regarding their school enjoyment or social integration at the beginning of primary school. On the other hand, the effects of the home learning environment indicate that students whose home learning environments are of low quality develop lower levels of school enjoyment and are socially less integrated, which we view as a disadvantage.

Recommendations

Considering the findings of our study, we suggest that our study offers the following pedagogical implications: By intensively working with parents, teachers could more easily detect at-risk families (e.g., those that provide a low-quality home learning environment) and support them in order to minimize the discontinuity for the child during the transition to primary school (Hirst et al., 2011). Specific transition programs that enable information to be shared between children, parents, and teachers can facilitate well-being and a feeling of belonging in school (Bulkeley & Fabian, 2006). On the classroom level, primary school teachers should carefully observe which students do not enjoy school and which are not well-integrated. Specific student-oriented teaching methods are favorable for enhancing positive learning emotions (Gläser-Zikuda et al., 2005) and for promoting emotional regulation (Schlesier et al., 2019) and social integration into class (Dyson, 2012). Emotional and learning-related support by teachers helps to establish a socially supportive learning environment that helps students become more engaged in their studies, especially in primary schools (Rautanen et al., 2021). All these pedagogical and instructional approaches can be implemented (or extended) in order to compensate for educational inequalities with respect to emotions, well-being, and attainment at the beginning of primary education.

Limitations

Before addressing the limitations, we would like to point out the strengths of our study: A major strength of our study is that we were able to analyze high-quality nationwide longitudinal data with a large sample size. Furthermore, important structural (i.e., SES and migration) and process-related (i.e., home learning environment) family background characteristics were available. Because of the challenges that tend to occur while conducting studies with young children (e.g., involving reading skills, accuracy of self-evaluation), the number of studies analyzing the relationships between emotions, well-being, and achievement in secondary school (and above) is larger. Our study contributes to clarify these relationships at the beginning of primary school. Additionally, the study can be located in the context of educational inequalities because we analyzed whether disadvantaged students were additionally disadvantaged emotionally and socially.

Our study also has limitations that have to be addressed. Given the data, we could only analyze reciprocal relationships between Grade 1 and Grade 2. Although using longitudinal data is a strength, using only two measurement points limits the confidence that researchers can have in causal conclusions (Yang et al., 2018). Further, school enjoyment and social integration were assessed with short scales (i.e., three items each) and must be differentiated from more elaborated scales using more items and subscales (Holland & Grünh, 2019; van Ophuysen, 2009). The just acceptable but rather low internal consistency of the social integration scale ($\omega_{(t)} = .68/.66$) may have been a result of operationalizing it as a one-dimensional short scale (Cortina, 1993). While interpreting the results, we must keep in mind that panel participants in the NEPS tend to be a positively selected group because parents with a low SES and a migration background (e.g., whose child is a first-generation immigrant) were underrepresented in the data. Finally, it is important to note that parents (mostly mothers) evaluated their child's school enjoyment and social integration. Teachers or the children themselves might evaluate these aspects differently. Although teachers' view was assessed in the NEPS, it was not part of this study and will be included in our future work. On the basis of these limitations, researchers planning to conduct their own surveys should consider using scales that are more detailed. Measurement instruments with more items and subscales are able to cover more aspects (e.g., enjoying learning and enjoying school-related duties and responsibilities; van Ophuysen, 2009) and better assess the construct of interest. Researchers should also consider using different achievement measures because school grades and the results of competence tests are not always congruent (Lekholm & Cliffordson, 2008). Further, interaction effects should be considered in the future because it is important to understand which combination of family background characteristics result in a disadvantage for the students (e.g., low SES and high home learning environment or moderate SES and a migration background). Regarding migration background, we must also keep in mind that ethnic immigrant groups differ in their cultural characteristics (Pearce, 2006). These differences may result in differences in educational aspiration and achievement orientation (Becker & Gresch, 2016; Kim, 2015), which can affect students' emotions and social integration into school. Therefore, in future analyses, a migration background should be more differentiated. Additionally, we recommend that researchers collect data more than once within each school year in order to analyze short-term fluctuations better and strengthen confidence in casual conclusions (Yang et al., 2018). With three or more measurement points, researchers can consider newer data analytic techniques such as the random intercept CLPM (RI CLPM; Mulder & Hamaker, 2021).

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Authorship Contribution Statement

Ömeroğulları: Conceptualization, design, analyses, writing. Gläser-Zikuda: Supervision, editing and reviewing, funding

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Appendix

Table A1. Intercorrelations and Descriptive Statistics

Nr.	Variable/Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	School Enjoyment G1 Item1	–																
2	School Enjoyment G1 Item2	.71	–															
3	School Enjoyment G1 Item3	.52	.56	–														
4	School Enjoyment G2 Item1	.47	.48	.42	–													
5	School Enjoyment G2 Item2	.45	.48	.44	.77	–												
6	School Enjoyment G2 Item3	.38	.41	.51	.55	.58	–											
7	Mean School Enjoyment G1	.85	.88	.83	.53	.53	.51	–										
8	Mean School Enjoyment G2	.50	.52	.53	.88	.89	.83	.61	–									
9	Social Integration G1 Item1	.31	.34	.30	.24	.25	.22	.37	.27	–								
10	Social Integration G1 Item2	.21	.28	.22	.17	.20	.15	.28	.20	.48	–							
11	Social Integration G1 Item3	.16	.19	.16	.13	.13	.12	.20	.14	.28	.33	–						
12	Social Integration G2 Item1	.22	.25	.23	.31	.33	.28	.27	.35	.39	.33	.19	–					
13	Social Integration G2 Item2	.17	.21	.19	.23	.26	.26	.22	.29	.35	.52	.22	.45	–				
14	Social Integration G2 Item3	.13	.14	.14	.17	.18	.18	.16	.20	.16	.21	.37	.25	.32	–			
15	Mean Social Integration G1	.28	.34	.28	.22	.24	.20	.35	.25	.69	.80	.77	.38	.47	.34	–		
16	Mean Social Integration G2	.22	.25	.23	.30	.32	.31	.28	.36	.37	.46	.36	.65	.79	.78	.53	–	
17	Math Competency G1	.05	.07	.18	.06	.06	.20	.12	.13	.02	-.06	-.02	.02	-.05	.02	-.03	.00	–
18	Math Competency G2	.05	.07	.16	.07	.07	.20	.11	.13	.01	-.07	-.03	.01	-.05	.02	-.04	-.01	.66
19	Sex	.09	.11	.16	.11	.11	.13	.14	.14	.06	.10	.05	.07	.10	.08	.09	.11	-.10
20	HISEI	.01	-.01	.04	.02	.02	.05	.02	.03	.00	-.05	.01	.02	-.07	.03	-.02	-.01	.26
21	Mean HLE G1	.05	.11	.12	.07	.09	.10	.11	.10	.05	.12	.11	.05	.10	.08	.13	.10	-.01
22	First Generation	.01	.02	.00	.00	.00	.01	.02	.00	.00	.03	.01	.02	.06	.01	.02	.04	-.11
23	Second Generation	.03	.01	.01	.04	.02	.02	.02	.03	.02	.00	.05	.02	.02	.02	.04	.02	-.07
	<i>M</i>	3.71	3.70	3.53	3.64	3.62	3.41	3.65	3.67	3.80	3.48	3.57	3.81	3.47	3.54	3.68	3.68	1.82
	<i>SD</i>	0.52	0.54	0.60	0.58	0.59	0.64	0.48	0.52	0.46	0.65	0.69	0.43	0.64	0.71	0.46	0.45	1.09
	Missing in %	0.08	0.06	0.22	0.00	0.12	0.28	0.02	0.02	0.08	0.20	0.24	0.02	0.12	0.54	0.00	0.00	21.0

Table A1 (continued). Intercorrelations and Descriptive Statistics

Nr.	Variable/Item	18	19	20	21	22	23
18	Math Competency G2	-					
19	Sex	-.15	-				
20	HISEI	.26	-.01	-			
21	Mean HLE G1	-.02	.07	.08	-		
22	First Generation	-.07	-.02	-.09	.00	-	
23	Second Generation	-.06	.03	-.12	-.01	-.05	-
	<i>M</i>	2.37	0.51	58.9	5.88	0.01	0.18
	<i>SD</i>	1.15	0.50	19.4	0.85	0.10	0.38
	Missing in %	22.7	0.00	1.16	0.00	28.5	28.5

Note. Significant correlations are shown in **bold** ($p < .05$). HISEI = highest ISEI.

HLE = Home Learning Environment.