

Review

School Alienation
Among Adolescents
in Switzerland and
Luxembourg: The Role
of Parent and Peer
Supportive Attitudes
Toward School and
Teacher Autonomy
Support

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Julia Morinaj¹, Frederick de Moll², Tina Hascher¹, Andreas Hadjar², Alyssa Grecu³, and Jan Scharf⁴

Abstract

Prior research has shown that socialization agents such as parents, peers, and teachers can play a significant role in adolescents' educational outcomes, both through direct support or indirectly via supportive attitudes that foster students' bonding to school and academic motivation. However, less is known about the effects of parent and peer supportive attitudes and teacher autonomy support on unfavorable educational outcomes such as school alienation. This study investigated the role of socialization agents

Corresponding Author:

Julia Morinaj, Department of Research in School and Instruction, Institute of Educational Science, University of Bern, Fabrikstrasse 8, Bern 3012, Switzerland. Email: iuliia.morinaj@edu.unibe.ch

¹University of Bern, Switzerland

²University of Luxembourg, Luxembourg

³Technical University of Dortmund, Germany

⁴DIPF | Leibniz Institute for Research and Information in Education, Germany

in the development of school alienation among 544 secondary school students in Switzerland and 535 secondary school students in Luxembourg in grades 7 to 9. Results of structural equation modeling showed that the role of socialization agents varies across the school alienation domains and educational contexts, with peers having the most substantial impact on all three domains of alienation in both countries.

Keywords

secondary education, school alienation, parent attitudes, peer attitudes, teacher support, longitudinal design

Introduction

School Alienation (SAL) During Adolescence

For young people, adolescence is associated with intense changes and growing demands (Eccles et al., 2008). Adolescents have to deal with—among other issues—high academic pressure, psychological need thwarting, less personal social interactions with teachers, and processes involved in pubertal development (Gutman & Eccles, 2007; Virtanen et al., 2019). As adolescents progress through school, these challenges are accompanied by socioemotional stress, decreasing interest in education, declining achievement, and increasing alienation from school (e.g., Archambault, Janosz, Fallu et al., 2009; Brown, Higgins, Pierce et al., 2003; Rayce et al., 2009; Tarquin & Cook-Cottone, 2008). SAL represents a major stressor in the lives of many adolescents: It evokes feelings of powerlessness and meaninglessness, impedes learning, and estranges youth from their daily school life and life beyond the classroom (Brown, Higgins, Pierce et al., 2003). What is particularly disquieting about SAL is its possible consequences such as low classroom participation, deviance, early school dropout, and even estrangement from the entire education system (e.g., Archambault, Janosz, Fallu et al., 2009; Brown, Higgins, Pierce et al., 2003; Eccles & Alfeld, 2007; Hadjar et al., 2015; Hyman et al., 2003; Juvonen et al., 2012).

The concept of SAL bears resemblance to academic alienation (Brown, 2004; Mahmoudi et al., 2018), although the latter emphasizes the behavioral dimension of alienation. SAL is also associated to students' sociopsychological and cognitive constructs such as sense of belonging (Brown, Higgins, Pierce et al., 2003; Huang, 2020), school connectedness (Gao et al., 2020), and student well-being (Dekel & Tuval-Mashiach, 2012; Morinaj & Hascher, 2019; Pyhältö et al., 2010; Rayce et al., 2009). Evidence suggests

that signs of alienation such as loneliness, social anxiety, and frustration are a consequence of low socio-emotional support from socialization agents and restricted opportunities for self-determined individual growth (Bi et al., 2021; Cavanaugh & Buehler, 2016).

In general, alienation refers to a person's feeling of psychological and social detachment, that is, their inner separation from people, tasks, or things (Dean, 1961). In the school context, alienation encompasses three interrelated but relatively independent domains of schooling (Hascher & Hagenauer, 2010; Morinaj & Hascher, 2019). First, young people who feel detached from the contents taught in class experience alienation from learning (Radford, 2016; Weiner, 2018). Boredom, little insight into contents' relevance, a lack of interest, and low intrinsic motivation are signs of being separated from successful learning (Altenbaugh et al., 1995; Eccles & Roeser, 2009; Mann, 2001; Ryan & Deci, 2000). Second, a lack of trust and belief in teachers' ability to facilitate learning results in alienation from teachers (Murdock, 1999; Murdock et al., 2000). This dimension of SAL denotes the personal estrangement from key figures responsible for student learning, exacerbating feelings of disintegration from the learning environment (Çağlar, 2013). Third, alienation from classmates is a consequence of feeling isolated from class fellows, with whom adolescents spend most of their time (Oberle et al., 2011). The development of peer relationships is particularly crucial during adolescence and to a large extent happens at school. Feelings of rejection, loneliness, and dissatisfaction with peer relationships can lead to detachment from school as an educational institution (Buhs & Ladd, 2001; Mouratidis & Sideridis, 2009).

SAL and Socialization Agents

SAL tends to intensify over students' educational career (Çağlar, 2013; Hascher & Hagenauer, 2010). This development may be explained by perceived negative attitudes toward school and learning from the main socialization agents such as parents and peers, and a lack of support from teachers (Altenbaugh et al., 1995; Simons-Morton & Chen, 2009). Throughout adolescence, educational success increasingly depends on supporting significant others or social capital, that is the quality of interpersonal relationships with socialization agents—parents, peers, and teachers—who function as resources by motivating students and facilitating learning processes (Coleman, 1988; Hadjar et al., 2015). Social capital theory implies that socialization agents serve as a resource during a challenging academic trajectory by encouraging adolescents to achieve a common good and communicating an appreciation of learning and school. As socialization agents play a significant role in

adolescents' identification with school, they may intensify or reduce the risk of adverse outcomes. Indeed, research shows that youths' relationships with socialization agents mediate the influence of negative experiences on SAL (Hascher & Hagenauer, 2010). For example, parents are recognized as a major resource for adolescents' positive academic development (Kocayörük & Simsek, 2016). Parent supportive attitudes toward school, high academic expectations, emotional encouragement, and academic interest instigate positive learning behaviors and mental well-being in students (Cotterell, 1992; Domagała-Zyśk, 2006; Larose & Boivin, 1998; Legault et al., 2006; Perry et al., 2018). In addition to parents, perceiving support from classmates may serve as a lifebuoy during turbulent times of adolescence and play a significant role in identity development and academic adjustment. Adolescents with encouraging peer relationships are more academically inclined and surpass students who experience difficult peer relations (Wentzel, 2003). Contrarily, adolescents' SAL is intensified through peers who express their distance from school and reject school rules and norms (Altenbaugh et al., 1995).

Based on these findings, we define supportive parent and peer attitudes toward school as a system of encouraging feelings and beliefs about schoolrelated aspects (e.g., "getting along with teachers at school is important"). This perspective is compatible with stage-environment fit theory (SEF; Eccles & Midgley, 1989; Eccles & Roeser, 2009), which suggests that how adolescents perceive their socialization agents influences the degree to which they become alienated from school. According to SEF, teachers and classmates that are responsive to adolescents' increasing needs for support and greater autonomy are more likely to foster positive outcomes. On the level of instruction, autonomy support refers to teacher's behavior that facilitates students' intrinsic motivational resources and provides opportunities for students to take the initiative during learning activities, considering their emotions and perspectives (Jang et al., 2010). However, a lack of support or discouraging attitudes may aggravate a mismatch between the school environment and adolescents' social and cognitive needs. Self-determination theory (Deci & Ryan, 2002) proposes that if adolescents' needs for autonomy, competence, and relatedness remain unconsidered in school, students may lose interest in thriving academically and become alienated from school (Morinaj et al., 2020). Mahmoudi et al. (2018) found that adolescents felt less alienated in school when they experienced autonomy in selecting tasks and navigating their own learning process. In addition, teachers who support students' need for autonomy and are perceived as trustworthy promote motivation and student engagement (Bonneville-Roussy et al., 2013; Caleon & Wui, 2019; Ricard & Pelletier, 2016) and reduce the risk of academic failure (Bergin & Bergin, 2009).

Although a considerable body of research has highlighted the importance of socialization agents for positive educational outcomes such as motivation and engagement (e.g., Bempechat & Shernoff, 2012; Juvonen et al., 2012; Pianta et al., 2012), studies investigating the influence of positive relationships with adults and peers on the development of negative outcomes such as SAL are scarce. This question is highly relevant to research at the intersection of youth socialization and education. Alleviating alienation in students growing over the course of their educational career has been a longstanding concern among scholars, educators, and policymakers (Brown, Higgins & Paulsen, 2003). Decades ago, researchers such as Valverde (1987) and Calabrese and Seldin (1987) suggested that parental support, student–student relations, and the amount of independence provided at school may be key components in addressing SAL. Recent studies discuss the negative effects of impeded social interactions with peers and teachers brought by the coronavirus (COVID-19) pandemic on students' educational and social outcomes (e.g., de Figueiredo et al., 2021; Douglas et al., 2020; Fegert et al., 2020). However, despite much recent work on SAL, to the best of our knowledge, no study in alienation research so far has simultaneously examined the role of the three primary socialization agents (parents, peers, and teachers) and considered their relevance for the three domains of SAL (learning, teachers, and classmates).

Our study aims to fill this gap by examining the role of parent and peer supportive attitudes toward school and teacher autonomy support in the development of young adolescents' SAL during secondary education. We examine whether supportive attitudes of socialization agents toward school may significantly contribute to preventing or reducing students' SAL (Çağlar, 2013; Hascher & Hagenauer, 2010). We substantiate our findings by comparing the role of socialization agents in SAL across two different yet similar education systems—Switzerland (the Canton of Bern) and Luxembourg.

The Present Study

The study of the role of socialization agents in students' academic outcomes such as SAL lacks the simultaneous inclusion of the three most crucial socialization agents (parents, peers, teachers) in adolescents' lives. To bridge this gap and contribute to the growing international body of literature on SAL, the present study aims to assess how perceived supportive attitudes of parents, peers, and teachers relate to youths' SAL over the secondary school years. By exploring to what degree parents, peers, and teachers influence adolescents' SAL we also add to an existing line of research on how different socialization

agents affect youths' academic development (Kandel, 1996; Poulin et al., 2012; Ricard & Pelletier, 2016; Wentzel, 1998).

Using longitudinal data from secondary school students in Switzerland and Luxembourg, we aim to contribute to comparative research and the generalizability of the study results. More specifically, our analysis addresses the following research question: What is the relation between different socialization agents (i.e., parents, peers, teachers) and the three domains of SAL (i.e., alienation from learning, teachers, and classmates) between grades 7 and 9 in Switzerland and Luxembourg? In line with previous research on parent, peer, and teacher influences on student outcomes (e.g., Legault et al., 2006; Wentzel et al., 2016), we expect that the relevance of associations between parent, peer, and teacher variables and SAL domains will differ depending on the socialization agent. Based on SEF and its emphasis on the changing role of adolescents' different social environments, we assume that peer influence exerts the most substantial effect on SAL as peers develop a growing influence relative to parents and teachers during secondary education. Expected differences in these relationships are further supported by the premise that SAL domains have different antecedents and outcomes (e.g., Morinaj & Hascher, 2019). By applying a comparative research design, we also examine whether such a pattern of relationships is similar across two cultural contexts (i.e., Switzerland and Luxembourg).

Method

Participants and Procedure

This study was part of a longitudinal research project "School Alienation in Switzerland and Luxembourg" (2015–2019) that focused on the development, causes, and consequences of SAL across primary and secondary school students. The sample included secondary school students from Switzerland and Luxembourg. Students voluntarily completed the same paper-and-pencil questionnaire during regular school hours annually for 3 years. The Ethics Review Panel of the University of Luxembourg has approved this research in 2016 after carefully examining the entire study design and instruments in the student questionnaire. The Swiss National Science Foundation (SNSF) has ethically accepted this research as part of the grant application process and did not require any alterations to our study design or instruments. In Switzerland, 550 secondary school students (45.2% male; $M_{\rm age}$ = 13.0 years [SD=.55]) at t_1 (Wave 1: Grade 7), 538 students at t_2 (Wave 2: Grade 8), and 469 students at t_3 (Wave 3: Grade 9) participated in the study. In Luxembourg, 534 secondary school students (57.8% male; $M_{\rm age}$ = 12.7 years

[SD=0.66]) at t_1 (Wave 1: Grade 7), 549 students at t_2 (Wave 2: Grade 8), and 636 students at t_3 (Wave 3: Grade 9) completed the questionnaire. Forty-five percent of the secondary school students in Switzerland and 68% of the students in Luxembourg had a migration background (at least the child and/or one parent not born in Switzerland/Luxembourg), approximating the distribution in the population in both countries (OECD, 2019). Based on the Swiss students' information on their mothers' and fathers' educational level (university degree/below university degree), 34.1% of mothers and 38.1% of fathers had a university degree. In the Luxembourgish sample, 33.3% of mothers and 33.7% of fathers had a university degree. Concerning parents' occupational status, in the Swiss sample, 74.8% of parents were in the working and lower middle class and 25.2% were in the upper middle class; in the Luxembourgish sample, 73.5% of parents were in the working and lower middle class and 26.5% were in the upper middle class. To be included in the final analysis, participants were required to have completed at least two waves. Consequently, 544 secondary school students in Switzerland (t_1 : 44.5% male; M_{age} = 13.0 years [SD=0.55]) and 535 students in Luxembourg (t_1 : 57.9% male; $M_{age}=12.7$ years [SD=0.66]) in total participated.

Missing Data

In both the Swiss and Luxembourgish samples, the percentage of missing data across the variables was overall negligible, except for a relatively large proportion of missing data at t_3 in the Swiss sample (19.9%–21.1%). We compared study participants who completed the study measures at the final time point with those who did not (i.e., had dropped from the sample) by creating a dichotomous dummy variable (0=non-respondent and 1=respondent) and using a series of t-tests. Students who dropped out were not significantly different in regard to any of the variables examined in this study from those that had complete data (all p > .05). Little's (1988) Missing Completely at Random (MCAR) test revealed that data at each wave were MCAR. Missing data that occurred for individual waves was handled using the Full Information Maximum Likelihood (FIML) estimation (Little & Rubin, 2014). This approach has been shown to produce accurate standard errors and unbiased parameter estimates under missing at random (MAR) and MCAR (Enders, 2010).

Measures

School alienation. To measure the three domains of SAL, we used the School Alienation Scale (SALS; Hascher & Hadjar, 2018; Morinaj et al., 2020),

capturing alienation from learning (eight items; e.g., "I don't find pleasure in learning at school"), alienation from teachers (eight items; e.g., "I do not feel taken seriously by my teachers"), and alienation from classmates (eight items; e.g., "In my class, I feel like someone who doesn't fit in"). The items measure the emotional (students' feelings toward academic and social aspects of schooling) and cognitive (students' attitudes toward academic and social aspects of schooling) elements of the respective SAL domain. A confirmatory factor analysis (CFA) supported the intended three-factor structure of the scale (Morinaj et al., 2017). Additional analyses demonstrated the reliability and validity of the instrument and supported the use of the SALS across gender and different cultural groups. The reliability of the SAL subscales at the three data collection points was McDonald's ω s=0.79 to 0.88 for the Swiss sample and ω s=0.75 to 0.87 for the Luxembourgish sample (see Table 1).

Parent supportive attitudes toward school. We used the seven-item scale developed by Grünewald-Huber et al. (2011) to assess students' perceived parent supportive attitudes toward school (e.g., "My parents think it's good to study for school"). The reliability for the Swiss sample was McDonald's ω s = 0.66–0.71 and 0.71–0.79 for the Luxembourgish sample (see Table 1).

Peer supportive attitudes toward school. The seven-item scale developed by Grünewald-Huber et al. (2011) measures students' perceived peer supportive attitudes toward school (e.g., "My friends think it's good to study for school"). The reliability was McDonald's $\omega s = 0.70-0.73$ for the Swiss and $\omega s = 0.70-0.77$ for the Luxembourgish sample (see Table 1).

Teacher autonomy support. Teacher autonomy support was measured using the 5-item scale developed by Müller and Thomas (2011), referring to students' perceptions of how well their teachers understand their perspectives and encourage them to express their thoughts (e.g., "My teachers are responsive to our suggestions and ideas"). The reliability at the three points of data collection was McDonald's ω s=0.78–0.84 for the Swiss and ω s=0.82–0.85 for the Luxembourgish sample (see Table 1). Students responded to items in all scales on a 4-point scale from 1=disagree to 4=agree.

Data Analysis

All analyses were performed in the statistical package Mplus (version 8; 1.6 (1)) (Muthén & Muthén, 1998–2018) using the maximum likelihood estimation with robust standard errors to account for non-normally distributed data

Table 1. Descriptive Statistics for SAL, Parent Supportive Attitudes Toward School, Peer Supportive Attitudes Toward School, and Teacher Autonomy Support.

	Mean	SD	ω	Skewness	Kurtosis	Factor loadings
Switzerland						
ALt_1	1.83	0.55	0.87	1.12	1.68	0.62-0.79
ALt_2	1.91	0.54	0.86	0.83	0.68	0.65-0.78
ALt_3	1.98	0.58	0.88	0.85	0.63	0.66-0.77
ATt_1	1.57	0.47	0.79	1.00	1.16	0.60-0.73
ATt_2	1.66	0.54	0.85	1.13	1.47	0.65-0.77
ATt_3	1.76	0.58	0.88	1.03	1.19	0.67-0.78
ACt_1	1.51	0.43	0.79	1.45	3.03	0.64-0.74
ACt_2	1.53	0.48	18.0	1.37	2.11	0.64-0.75
ACt_3	1.61	0.51	0.85	1.41	2.84	0.68-0.78
$PARt_1$	3.74	0.29	0.66	-1.58	3.34	0.61-0.68
$PARt_2$	3.71	0.22	0.70	-1.44	2.45	0.63-0.83
$PARt_3$	3.69	0.35	0.71	-1.38	2.85	0.67-0.81
$PEERt_1$	2.93	0.48	0.73	-0.3 I	0.05	0.60-0.84
$PEERt_2$	2.94	0.51	0.73	-0.29	0.12	0.60-0.88
PEERt ₃	2.95	0.48	0.70	-0.41	0.68	0.65-0.88
$TCHt_1$	3.22	0.50	0.78	-0.35	-0.03	0.65-0.77
$TCHt_2$	3.10	0.56	0.83	-0.5 I	0.96	0.73-0.80
$TCHt_3$	3.09	0.56	0.84	-0.24	-0.16	0.71-0.83
Luxembourg						
ALt_1	1.86	0.58	0.86	0.67	0.29	0.64-0.81
ALt_2	2.09	0.61	0.85	0.55	0.09	0.66-0.75
ALt_3	2.23	0.61	0.87	0.27	-0.34	0.66-0.75
ATt_1	1.76	0.56	0.82	0.77	0.47	0.64-0.68
ATt_2	1.92	0.66	0.87	0.87	0.54	0.66-0.76
ATt_3	2.03	0.63	0.86	0.59	0.09	0.63-0.75
ACt_1	1.58	0.48	0.80	1.15	1.23	0.61-0.77
ACt_2	1.62	0.44	0.75	0.96	1.11	0.62-0.69
ACt_3	1.72	0.46	0.76	0.74	0.82	0.60-0.70
$PARt_1$	3.70	0.37	0.71	-1.87	4.63	0.50-0.83
$PARt_2$	3.69	0.41	0.75	-2.28	7.57	0.65-0.85
PARt ₃	3.65	0.43	0.79	-1.39	1.80	0.66-0.88
$PEERt_{I}$	2.94	0.53	0.77	-0.44	0.38	0.60-0.88
PEERt ₂	2.81	0.53	0.72	-0.41	0.54	0.61-0.85
$PEERt_3$	2.81	0.49	0.70	-0.23	0.47	0.66-0.84
$TCHt_1$	3.02	0.62	0.83	-0.47	0.54	0.68-0.83
$TCHt_2$	2.89	0.60	0.82	-0.35	0.51	0.69-0.82
$TCHt_3$	2.82	0.61	0.85	-0.24	0.34	0.74-0.83

Note. AL = alienation from learning: AT = alienation from teachers; AC = alienation from classmates; PAR = parent supportive attitudes toward school; PEER = peer supportive attitudes toward school; TCH = teacher autonomy support; t_1 = wave 1; t_2 = wave 2; t_3 = wave 3; ω = McDonald's omega.

(Brown, 2015). We evaluated model fit with the ratio of the chi-square statistic to the degrees of freedom (χ^2/df), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). A good fit is indicated by a χ^2/df value less than 2, a CFI value above 0.90, and RMSEA and SRMR values below 0.08 (Little, 2013).

To investigate the structural associations between parent and peer supportive attitudes toward school, teacher autonomy support, and the SAL domains over time, we tested separate structural equation models across Swiss and Luxembourgish secondary school samples for each SAL domain while controlling for student gender and migration background. We also considered the hierarchical structure of the data (i.e., students within classrooms) by using the type=complex option in Mplus to ensure the dependency of the data. The models included cross-sectional intercorrelations between the constructs, auto-lagged paths between the same variables over time, and paths between the t_1 and t_2 parent attitudes, peer attitudes, and teacher support and t_2 and t_3 SAL domains. Finally, we performed a followup multiple-group analysis to test for differences in the path coefficients between the Swiss and Luxembourgish samples by comparing the fit of the unconstrained model, in which the path coefficients were allowed to vary across the two groups, to the constrained model, in which the values of the structural paths were constrained to be equal.

Results

Bivariate Correlations

The intercorrelations between the three SAL domains and (a) parent supportive attitudes toward school $(-0.09 \le r \le -0.18, p < .01)$, the Swiss sample; $-0.09 \le r \le -0.26, p < .01$, the Luxembourgish sample), (b) peer supportive attitudes toward school $(-0.17 \le r \le -0.43, p < .01)$, the Swiss sample; $-0.16 \le r \le -0.51, p < .01$, the Luxembourgish sample), and (c) teacher autonomy support $(-0.17 \le r \le -0.52, p < .01)$, the Swiss sample; $-0.10 \le r \le -0.53, p < .01$, the Luxembourgish sample) were negative and low to moderate for both the Swiss and Luxembourgish samples. In both samples, the intercorrelations between (a) parent and peer supportive attitudes toward school (0.13 $\le r \le .31, p < 0.01$), (b) parent supportive attitudes toward school and teacher autonomy support $(0.10 \le r \le 0.22, p < .01)$, and (c) peer supportive attitudes toward school and teacher autonomy support $(0.18 \le r \le 0.39, p < .01)$ were positive and low to moderate. The intercorrelations between the SAL scales were low to high for both samples

 $(0.17 \le r \le 0.66, p < .01;$ bivariate correlations can be obtained from the authors upon request).

Longitudinal and Multigroup Measurement Invariance

A sequential testing procedure, starting with a configural invariance model, was applied to estimate whether the constructs were maintaining their measurement integrity across time (Grades 7–9) and groups (Swiss and Luxembourgish secondary school students) (see Little, 2013). All constructs exhibited metric and at least partial scalar invariance across time and the two groups. As partial invariance is generally considered unproblematic (Little, 2013), and since most indicators were invariant across groups, we tested the structural equation model (results of longitudinal and multigroup measurement invariance can be obtained from the authors upon request).

The Role of Different Socialization Agents: Structural Equation Modeling

Parent supportive attitudes, peer supportive attitudes, teacher autonomy support, and alienation from learning. The final models for the Swiss and Luxembourgish samples examining the relationships between parent supportive attitudes, peer supportive attitudes, teacher autonomy support, and alienation from learning are displayed in Figure 1. For both samples, the final models showed a good fit to the data: χ^2 (40)=65.43, p < .001, ($\chi^2/df = 1.64$), CFI=0.984, RMSEA=0.036, SRMR=0.052 and χ^2 (40)=60.13, p < .001, $(\chi^2/df = 1.50)$, CFI=0.985, RMSEA=0.033, SRMR=0.041, respectively. In the Swiss sample, the results showed a small negative longitudinal effect from the t_1 peer supportive attitudes toward school to t_2 alienation from learning ($\beta = -.09$, p < .05); that is, the more supportive peer attitudes toward school in Grade 7, the less students were alienated from learning in Grade 8. In the Luxembourgish sample, a small negative effect was found from the t_1 peer attitudes toward school to t_2 alienation from learning ($\beta = -.10$, p < .05), and a moderate effect was found from t_2 peer attitudes toward school to t_3 alienation from learning ($\beta = -.14$, p < .01). The paths relating earlier parent supportive attitudes toward school and teacher autonomy support to later alienation from learning were statistically nonsignificant in both samples.

The results of a multiple-group analysis to test for differences in the path coefficients between the Swiss and Luxembourgish samples suggested that the constrained model, in which the parameters were fixed across groups,

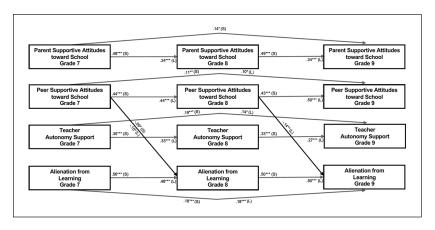


Figure 1. Structural equation model to show relations (standardized path coefficients) between t_1 (Grade 7), t_2 (Grade 8), and t_3 (Grade 9) parent supportive attitudes toward school, peer supportive attitudes toward school, teacher autonomy support, and alienation from learning in Switzerland (S) and Luxembourg (L). Grey arrows reflect within construct regression paths, to estimate the relative stability of the construct (i.e., inter-individual stability). Black arrows represent the effects of prior parent attitudes, peer attitudes, and teacher support on later alienation from learning. Only significant regression paths are presented. *p<.05. **p<.01. ***p<.001.

was not significantly different from the unconstrained model in which the parameters were free to vary across groups ($\Delta \chi^2$ (20)=25.98, p < .01, $\Delta \text{CFI} = -0.003$, $\Delta \text{RMSEA} = -0.003$). Consequently, the model illustrated in Figure 1 fitted equally well for both the Swiss and Luxembourgish samples.

Parent supportive attitudes, peer supportive attitudes, teacher autonomy support, and alienation from teachers. The results of the final models for the Swiss and Luxembourgish samples examining the relationships between parent supportive attitudes toward school and alienation from teachers are displayed in Figure 2. The final models exhibited a good fit to the data: χ^2 (40)=70.97, p < .001, ($\chi^2/df = 1.77$), CFI=0.980, RMSEA=0.040, SRMR=0.056 and χ^2 (40)=65.58, p < .001, ($\chi^2/df = 1.64$), CFI=0.979, RMSEA=0.037, SRMR=0.046, respectively. In the Swiss sample, t_1 parent supportive attitudes toward school positively predicted t_2 alienation from teachers (β =.10, p < .05); that is, more supportive parent attitudes toward school in Grade 7 evoked students' alienation from their teachers in Grade 8. On the contrary, the results also revealed moderate negative effects of earlier peer supportive attitudes toward school on students' later alienation from teachers; that is, the

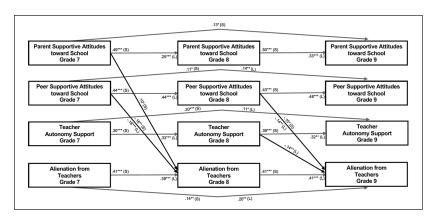


Figure 2. Structural equation model to show relations (standardized path coefficients) between t_1 (Grade 7), t_2 (Grade 8), and t_3 (Grade 9) parent supportive attitudes toward school, peer supportive attitudes toward school, teacher autonomy support, and alienation from teachers in Switzerland (S) and Luxembourg (L). Grey arrows reflect within construct regression paths, to estimate the relative stability of the construct (i.e., inter-individual stability). Black arrows represent the effects of prior parent attitudes, peer attitudes, and teacher support on later alienation from learning. Only significant regression paths are presented. *p < .05. **p < .01. **p < .001.

more supportive peer attitudes toward school were in Grades 7 and 8, the less students were alienated from teachers 1 year later (β =-.16, p<.01, from Grade 7 to Grade 8 and β =-.10, p<.05, from Grade 8 to Grade 9). Earlier teacher autonomy support was not associated with later alienation from teachers. In the Luxembourgish sample, peer supportive attitudes in earlier grades negatively predicted students' later alienation from teachers (β =-.18, p<.001, from Grade 7 to Grade 8 and β =-.14, p<.01, from Grade 8 to Grade 9). In addition, the results showed a moderate negative effect from t_2 teacher support to t_3 alienation from teachers (β =-.14, p<.05): the more students felt supported by their teachers in Grade 8, the less students were alienated from them in Grade 9. The paths relating earlier parent attitudes toward school to later alienation from teachers were statistically nonsignificant.

The results of a multiple-group analysis to test for differences in the path coefficients between the Swiss and Luxembourgish samples by comparing the model in which the parameters were constrained to be equal across groups to the model in which the parameters were freely estimated revealed a nonsignificant result $(\Delta \chi^2 (20) = 26.67, p < .01, \Delta CFI = -0.003,$

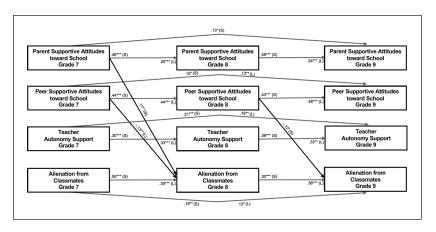


Figure 3. Structural equation model to show relations (standardized path coefficients) between t_1 (Grade 7), t_2 (Grade 8), and t_3 (Grade 9) parent supportive attitudes toward school, peer supportive attitudes toward school, teacher autonomy support, and alienation from classmates in Switzerland (S) and Luxembourg (L). Grey arrows reflect within construct regression paths to estimate the construct's relative stability (i.e., inter-individual stability). Black arrows represent the effects of prior parent attitudes, peer attitudes, and teacher support on later alienation from learning. Only significant regression paths are presented. *p < .05. **p < .01. **p < .001.

 Δ RMSEA=-0.004), indicating that the model illustrated in Figure 2 fitted equally well for both the Swiss and Luxembourgish samples.

Parent supportive attitudes, peer supportive attitudes, teacher autonomy support, and alienation from classmates. The final models for the Swiss and Luxembourgish samples displaying the relationships between parent supportive attitudes toward school and alienation from classmates are illustrated in Figure 3 and suggest a good fit to the data: χ^2 (40)=66.74, p<.001, (χ^2 /df=1.67), CFI=0.979, RMSEA=0.037, SRMR=0.053 and χ^2 (40)=67.56, p<.001, (χ^2 /df=1.69), CFI=0.970, RMSEA=0.039, SRMR=0.049, respectively. In the Swiss sample, t_1 parent supportive attitudes toward school positively predicted t_2 alienation from classmates (β =.11, p<.01). A moderate negative effect was found from t_2 peer supportive attitudes toward school to t_3 alienation from classmates (β =-0.13, p<.05). Earlier teacher support was not associated with later alienation from classmates. In the Luxembourgish sample, t_1 peer supportive attitudes toward school negatively predicted t_2 alienation from classmates (β =-.13, p<.01). Earlier parent supportive

attitudes toward school and teacher autonomy support did not predict later alienation from classmates.

Finally, we explored whether the model was invariant across the Swiss and Luxembourgish samples. The results of a multiple-group analysis suggested that the constrained model, which fixes the parameters across groups, did not fit as well as the unconstrained model, in which the parameters were free to vary across groups ($\Delta\chi^2$ (20)=53.64, p<.01, Δ CFI=.011, Δ RMSEA=-.011). Additional analyses freely estimated one set of structural paths at a time and revealed that two structural paths—significant for both groups—significantly varied across the two cultural samples: (a) the path from alienation from classmates in Grade 7 to alienation from classmates in Grade 8, $\Delta\chi^2$ (1)=8.88, p<.01 and (b) the path from parent supportive attitudes toward school in Grade 7 to parent supportive attitudes toward school in Grade 8, $\Delta\chi^2$ (1)=8.01, p<.01.

Discussion

The results of this study suggest that the role of socialization agents may vary across different domains of SAL—learning, teachers, and classmates—with peers having a consistent impact on youths' feelings and attitudes toward all three aspects of SAL. In line with previous research (Bester, 2007; del Valle et al., 2010; Rubin et al., 1998), peer effects become especially prominent during adolescence when students develop their identities and adjust to the changes associated with the transition to secondary school (Eccles et al., 1991, 1993). By examining the relationship between different socialization agents—parents, peers, and teachers—and different SAL domains over the course of 3 years within adolescent populations from two countries, our study contributes to the development of research on SAL and provides empirical evidence for educators and school authorities. In the context of the COVID-19 pandemic with school closure and remote learning, this study also contributes to debates about the positive influence of socialization agents on young people's academic outcomes. For example, a recent article by Sparks et al. (2020) suggested that students' long separation from peers and teachers may increase the risk of dropping out of school.

Structural equation models of the relationships between parent and peer supportive attitudes toward school, teacher autonomy support, and the three SAL domains were designed and tested—separately for the Swiss and Luxembourgish samples and each SAL domain. The relationship patterns varied depending on the SAL domain and the cultural group after controlling for autoregressive effects and the effects of student gender and migration

background. In the Swiss sample, parent supportive attitudes toward school in Grade 7 were positively associated with alienation from teachers and classmates in Grade 8. We propose at least three explanations for this surprising finding. First, it might be that some students' parents have high expectations toward their children's education and therefore may hold more critical attitudes toward teachers as important agents of students' educational attainment. Thus, some students may become more disapproving of their teachers' actions. Second, this finding may also be explained by discrepancies between family values regarding schooling and teachers' values and beliefs, resulting in students' distancing from their teachers. Third, students from families with high aspirations may perceive their classmates as less ambitious and interested in schooling and learning as they are.

More supportive peer attitudes toward school among Swiss secondary school students in Grade 7 were associated with lower alienation from learning and teachers in Grade 8. The results also revealed that supportive peer attitudes toward school in Grade 8 were associated with lower alienation from teachers and classmates in Grade 9. Given the important influence of peers during adolescence, supportive peer attitudes toward school and beliefs in academic outcomes can contribute to students' school valuing, academic motivation, and their sense of belonging to school (Wentzel, 2005). Teachers did not have a significant impact on alienation from different aspects of schooling. In line with prior findings (Ricard & Pelletier, 2016), this could be explained by the stronger influence of parents and peers on student outcomes during the period of adolescence. Another explanation of nonsignificant findings regarding the teacher role might be that, for students in the Swiss sample, teachers were not the sources of their alienation from school, because they manage to provide an autonomy-supportive environment for their students. This is also supported by the generally high levels of perceived autonomy support provided by students' teachers over the period of 3 years.

In the Luxembourgish sample, more supportive peer attitudes toward school in earlier grades were consistently associated with lower alienation from both academic and social aspects of schooling in the subsequent grades. This finding again underscores the crucial value of peer relationships in the classroom during adolescence and signals the importance of giving students time and space for building mutual trustful and respectful relationships. Teacher support in Grade 8 was associated with a decrease in students' alienation from their teachers in the subsequent grade. That is, the more teachers were rated by students as providing autonomy support, the lower students' alienation from teachers. In keeping with the SEF theory (Eccles et al., 1993), in an environment in which classroom experiences are aligned with students' developmental needs, the alienation process is less likely to occur

(Archambault, Janosz, Morizot et al., 2009). Supportive and responsive teachers paired with instructional quality are likely to fuel positive teacherstudent interactions, increasing students' sense of secure attachment to teachers. Parents did not influence students' alienation from learning, teachers, or classmates. One explanation for this finding may be that the role of parents in the development of alienation from school is only marginal in Luxembourg. Perhaps, in the highly stratified Luxembourgish school system (Lenz et al., 2013), involving many parallel tracks, peers, and teachers become a particularly important source of support, especially in dealing with the process of alienation from school.

Strengths, Limitations, and Future Research

This study used a longitudinal design involving students from two cultural settings, the Swiss and Luxembourgish secondary school samples, across grades 7 to 9, which allowed to contribute to comparative research and account for previous levels of the included variables. The longitudinal and multigroup measurement invariance of a recently developed SAL scale and the scales used to measure students' perceived parent and peer attitudes toward school as well as teacher autonomy support demonstrated that all scales functioned equally well across time and cultural groups, thus contributing to the reliability and validity of the findings. Furthermore, this is the first study in alienation research to simultaneously examine the role of all three major socialization agents in the development of such adverse educational outcomes as SAL. Although the findings of this study are framed by two stratified education systems of Switzerland (Canton of Bern) and Luxembourg, they can be applied to other differentiated school systems (e.g., Austria, Germany, Hungary, and the Netherlands). Future research could examine the validity of the results in other countries.

There are several limitations and directions for future research. First, students' perceptions of their parents' and peers' attitudes toward school might differ from the actual attitudes held by the parents and peers themselves. However, invoking the Thomas theorem (Thomas, 1927, cited in Merton, 1995), students' perception of what their parents and peers think about school may have a more significant impact on students' attitudes than what their parents and peers think about school. Future studies may wish to consider complementary qualitative approaches to studying the attitudes of socialization agents or collect data from other sources in the school system to capture their views directly. Such approaches would allow the complexity of the interrelation between different socialization agents and their role in the development of SAL to unfold in a greater depth. Second, the link between

socialization agents and SAL may be influenced by a variety of mediator and moderator variables, such as student and teacher emotions, student aspirations and motivation, disruptive behaviors, parental support and involvement, educational beliefs and expectations, and socio-economic status. In view of this, the study recommends future research to examine additional factors to explain the relationships between the variables used in this study. Another limitation of this study refers to autoregressive cross-lagged panel modeling (CLPM). Notably, CLPM does not separate within-person from between-person variance. It is therefore unclear whether the paths resulting from this model illustrate within- or between-person effects or an unspecified mixture of both (Berry & Willoughby, 2017; Hamaker et al., 2015). To address this limitation, future research could apply an alternative model, the random intercept cross-lagged panel model that extends the traditional cross-lagged panel model by partialing out between- and within-person variance in repeatedly observed manifest indicators (Mulder & Hamaker, 2021).

Conclusions and Implications

This study's results further emphasize the value of socialization agents during the time of adolescence, with peers playing a vital role in the development of such unfavorable educational outcomes as SAL. This finding is especially noteworthy because it shows that adolescents, during probably one of the most challenging periods in their lives, are influenced more strongly by their peers. Students with peers who perceive learning in school and academic outcomes as important report lower levels of SAL in regard to different aspects of schooling. In addition, close and caring relationships with peers, in which students get along with, motivate and support each other, contribute to the need for relatedness, which becomes especially salient at times of identity development, adjustment, and significant emotional and cognitive change (Furman & Collins, 2009). Therefore, the quality of peer relationships in terms of motivation and support for school activities can be regarded as one of the key variables in alienation prevention. The disclosure of the core variables diminishing students' SAL contributes to further research and praxis. Interventions designed to increase cohesion in the classroom might help students feel more positive in the school context and could therefore be effective against the development of SAL. Giving students opportunities for building long-lasting, trustful, and respectful relationships would be beneficial for student outcomes. Taken together, the results of this study remind schools and teachers that it is crucial to create an environment in which students have opportunities for developing meaningful and healthy social relationships (e.g., promoting positive peer culture from a young age,

role-modeling quality relationships with other teachers) and which supports adolescents' increasing need for autonomy (e.g., providing choice, displaying empathy, and noticing students' perspectives), with the aim to achieve better academic outcomes, nurture the well-being of students, and decrease student alienation and the probability of dropping out.

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ORCID iD

Julia Morinaj https://orcid.org/0000-0003-3374-8974

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Author Biographies

Julia Morinaj is a postdoctoral researcher at the Department of Research in School and Instruction, Institute of Educational Science, University of Bern, Switzerland. At the core of her research interests are well-being in school, school alienation, emotion and motivation, and teacher–student interactions.

Frederick de Moll is a postdoctoral researcher at the Department of Social Sciences, Institute of Education and Society, University of Luxembourg, Luxembourg. His research interests include educational inequality, parenting, and family processes.

Tina Hascher is a full professor of education at the Department of Research in School and Instruction, Institute of Educational Science, University of Bern, Switzerland. Her research interests include motivation, emotion, and learning in school, well-being in school, health promotion, and teacher education.

Andreas Hadjar is a full professor of sociology of education at the Department of Social Sciences, Institute of Education and Society, University of Luxembourg, Luxembourg. His research interests include education and social systems, inequalities, social stratification, gender, migration, and subjective well-being.

Alyssa Grecu is a postdoctoral researcher at the Center for Research on Education and School Development, TU Dortmund University, Germany. Her research interests include educational inequalities, educational systems, school alienation, gender, and migration.

Jan Scharf is a postdoctoral researcher at the DIPF | Leibniz Institute for Research and Information in Education, Department of Educational Governance, Germany. His research interests include educational inequality, primary and secondary effects, school contexts, values of education, and school alienation.