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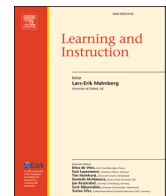
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Stability of social support during school transitions: Associations with truancy and not completing upper secondary education in normative time[☆]

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ABSTRACT

Not completing upper secondary education is often presignaled by truancy from school. Student-perceived social support from family, peers, and teachers can prevent truancy and the risk of not completing education. However, prior studies have not focused on the stability of social support across school transitions. This longitudinal study of 1901 Finnish students examined the extent to which social support was stable or specific to primary, lower secondary, and upper secondary schools. Moreover, we examined whether support was associated with not completing upper secondary education in normative time and whether truancy mediated the relationship between support and not completing education. The analyses showed that most variance in social support was context-specific; family and peer support was related to truancy and not completing education; and truancy acted as the mediator. The findings underscored the importance of stable social support over school transitions in reducing the likelihood of truancy and not completing education.

1. Introduction

Attaining upper secondary education is a prerequisite for both accessing higher education and, in many countries, entering the labor market. In addition, dropping out of school before or during upper secondary education may hamper the transition to work life, well-being, and integration into society (e.g., [Freudenberg & Ruglis, 2007](#)). In 2020, in the European Union, an estimated 9.9% of 18- to 24-year-olds had only completed lower secondary education at the most and had not enrolled in any further education or training. In Finland, the corresponding figure was 8.2% ([EUROSTAT, 2021](#)). School dropout may begin in the early years of schooling ([Guryan et al., 2021](#); [Reschly, 2020](#)), and truancy— skipping classes or school without a valid excuse (see [Gentle-Genitty et al., 2015](#))—may be a warning sign of school disengagement ([Keppens & Spruyt, 2020](#)). Truants have been shown to have a 34.7% higher likelihood of dropping out of secondary education than regular school attendees ([Cabus & De Witte, 2015](#)), and having absent peers increases the probability of a student dropping out ([De Witte & Csillag, 2014](#)). Social support, which is conceptualized as social

capital present in the relations between students and adults ([Guryan et al., 2021](#); [Strand et al., 2015](#)) and between students ([Havik et al., 2015](#)), has been shown to serve as a protective factor shielding students from adverse schooling outcomes, such as school dropout ([Ripamonti, 2018](#)) while lack of social support is a risk factor for school absenteeism and dropout (for a review, see [Gubbels et al., 2019](#)).

Although evidence of the beneficial effects of social support has been documented in prior studies, the extent to which social support is stable across school years (trait-like support, reflecting individual differences in experiences of social support) or varies as a function of the changing school context (state-like support, representing the grade-specific environmental influences) has remained mostly unexplored. Providing students with stable support is critical because, over time, it builds up a feeling of acceptance that lasts, although the school environment changes after school transitions. This, in turn, acts as a buffer against difficulties at the new school and serves as a resilience mechanism. On the contrary, feeling unsupported and unaccepted may cause a student to withdraw and, eventually, drop out of education.

Drawing from the Process-Person-Context-Time model (PPCT;

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Bronfenbrenner & Morris, 2006), our study construed students' experiences of social support from family, peers, and teachers as reflections of proximal support processes. We first examined the extent to which social support is stable over time or varies across grade levels (Grades 6, 9, and 10, representing the contexts of primary, lower secondary, and upper secondary schools in the educational system in Finland). Second, we examined the extent to which support from family, peers, and teachers was associated with truancy in the first year of upper secondary education and completion of upper secondary school in normative time (within 3.5 years). Finally, the current study explored whether truancy in the first year of upper secondary mediated the relationship between student-perceived trait-like social support from teachers, peers, and family and not completing upper secondary education in normative time. Considering the person and context characteristics is strongly recommended when adapting the PPCT conceptual framework (Tudge et al., 2016). Thus, the study design addressed person (students' gender, age differences, level of academic achievement, and family socioeconomic status) and context (primary, lower secondary, and upper secondary schools as environments of support) characteristics. Moreover, as suggested by Bronfenbrenner and Morris (2006), we included two complementary education-related progress indicators: truancy in the first year of upper secondary education and not completing upper secondary education in a normative timeframe, both indicating a risk for dropout. The former was specified as the mediator and the latter as the outcome in the structural equation model (see Fig. 1).

This study separates trait variance from state variance, which is a novel approach to examining the effects of social support on educational outcomes. Second, the study tests whether truancy can be considered a critical warning sign of lack of support and risk of dropping out of upper secondary education. Third, this longitudinal study covered two educational transitions and student characteristics that align well with the PPCT model (Bronfenbrenner & Morris, 2006). Together, this information may help improve the quality of educational environments by making practitioners aware of the potential importance of providing students with long-term stable social support and, thus, prevent truancy and noncompletion of upper secondary education.

1.1. Stability of social support during school transitions and its relationships with truancy and school dropout

School transitions pose educational and psychological challenges to many students. They have been associated with waning student engagement (Skinner et al., 2008) and increase in disengagement

(Eccles & Midgley, 1998) including truancy from school (Virtanen et al., 2022). School transitions have also been related to decline in social support, particularly student-perceived support from teachers (e.g., Symonds & Hargreaves, 2016). For example, in Finland, at the transition from primary to lower secondary school at the end of Grade 6 (at age 12), Finnish students often experience a physical change of school context to a bigger school building, the range of academic subjects increases (e.g., physics, chemistry, and geography as independent subjects and a number of elective subjects), and the workload increases. Moreover, lower secondary school students are taught by subject teachers rather than by one primary school class teacher, and the student composition in lessons varies. The transition to upper secondary education after Grade 9 (at age 16) usually leads to a greater shift in one's classmates than the previous transitions because some students choose the vocational track and others the academic track. These organizational and relational discontinuities are a potential risk factor hampering students' school adjustment in the new school environment (see Virtanen et al., 2020).

The bioecological PPCT model (Bronfenbrenner & Morris, 2006) sees an individual's development as stemming from the interaction of an individual and their environment through proximal processes. For young people, home and school constitute the key microsystems where they engage in reciprocal interaction with family, peers, and teachers (Bronfenbrenner & Morris, 2006; see also Melvin et al., 2019). School-related support from significant others has been shown to increase school engagement (Virtanen et al., 2020) and motivation in educational goals (Vasalampi et al., 2018). Social support is likely to be particularly beneficial during school transitions. Prior empirical evidence has shown that some stability exists in social support during school transitions (e.g., De Wit et al., 2010), but there is also some environmental discontinuity (Jindal-Snape et al., 2021) that disrupts student-perceived social and personal support (Rainer & Cropley, 2015). De Wit et al. (2010) examined the relative importance of change in students' perceptions of teacher and classmate support as correlates of changes in school attendance following the transition to high school. They documented a similar extent of stability for peer (classmate) support and teacher support in Grades 9 and 10 ($R^2 = 0.29$). Findings by Martínez et al. (2011) on changes in student-perceived social support across primary to lower secondary school transition indicated that support from teachers and parents were the most stable sources of social support ($R^2 = 0.37$ and 0.34), followed by support from classmates ($R^2 = 0.18$). These studies are important in indicating that there is some stability in student-perceived social support. However, they only

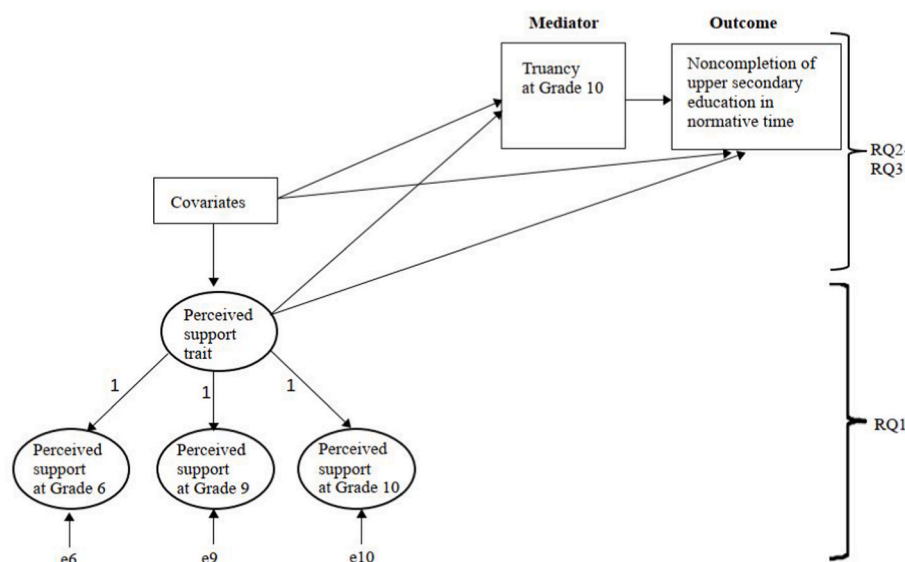


Fig. 1. Decomposing student-perceived social support variance into trait and grade specific state variances (RQ1) and predicting completion of upper secondary education in normative time (RQ2) via truancy (RQ3) Note Three separate single trait-multistate (STMS) models were specified for support from family, peers and teachers respectively Grade 10 = First year in upper secondary education. State residual variances $e6 = e9 = e10$. Covariates include correlated students' academic achievement at Grade 9, differences in students' age gender, family socioeconomic status, and students' educational track. RQ = reserach question. Ovals represent latent factors and rectangles observed variables. Factor indicators are not figured.

capture stability over one educational transition and, thus, do not show the extent that student-perceived support is stable over longer periods.

Some empirical evidence has been accumulated regarding the impact that the level and change in student-perceived support from significant others may have on truancy. Findings by Strand et al. (2015), using Swedish qualitative data, indicated that, without social support from school staff and classmates, students with a high level of truancy were not motivated to attend school. The authors concluded that student-perceived support from engaged adults at school seems particularly important for setting up a positive turning point. Moreover, the study showed a disconnect between the support provided by school staff and support perceived by students, which highlights the importance of subjectively experienced environmental features, which are also underscored in the PPCT framework (Bronfenbrenner & Morris, 2006). Poor relationships with peers, as perceived by students, constitute a risk factor for truancy, particularly among secondary school students (Havik et al., 2015). Some changes in social support across developmental stages occur naturally, and, typically, the importance of peers increases in adolescence (del Valle et al., 2010). Thus, having friends and feeling accepted by peers support students' involvement and engagement in school (e.g., Vasalampi et al., 2018; Wentzel et al., 2017). In contrast, to a lesser extent, high levels of student-perceived social support from teachers (Aldrup et al., 2018) and parents have been found to be related to truancy (Gase et al., 2016; Vaughn et al., 2013). During pretransition, positive identification with the school (perceived support from family, peers, and teachers, along with students' achievement-oriented future educational goals) has been shown to predict less truancy in upper secondary school (Virtanen et al., 2021). Veenstra et al. (2010) showed that social support from teachers and parents is associated with the extent of truancy among students in late elementary and early secondary school. Moreover, prior evidence has shown that declining peer and teacher support positively correlates with declining school attendance after transition to high school (De Wit et al., 2010). The research reviewed above indicates that social support from parents, peers, and teachers is a mechanism that prevents truancy. However, the studies are primarily cross-sectional or fail to capture the stable part of support over longer periods, which is the aim of the current study.

A review by Ripamonti (2018) documented the social and relational determinants of high school dropouts. As a rule, experiences of student-perceived social support from family, peers, and teachers were found to contribute positively to students' completion of upper secondary education. González-Rodríguez et al.'s (2019) review of influences in early school leaving in compulsory education identified social context factors (students' social relationships with their family, friends, teachers, and classmates) that relate to school dropout. Using a Danish sample, Winding and Andersen (2015) showed that poor social relations with teachers and classmates at age 18 explain a substantial part of the socioeconomic differences in dropout from secondary education.

A study by Jia et al. (2016) showed that supportive teacher–student relationships were negatively associated with high school dropout rates. Importantly, they found that supportive student–teacher relationships moderated the relation between high academic expectations and lower dropout rates. Some studies have applied Baumrind's (1971) parenting typology to predict upper secondary education dropout. Blondal and Adalbjarnardottir, 2009, for instance, found that, when controlling for gender, socioeconomic status, temperament, and parental educational involvement, adolescents who, at age 14, characterized their parents as accepting, warm, encouraging, and firm (authoritative) were likelier to complete upper secondary school by age 22 than adolescents who perceived their parents as neglectful, authoritarian, or indulgent.

Individuals have a natural tendency to internalize and accept as their own the values and practices of those to whom they feel, or want to feel, connected, and from contexts in which they experience a sense of belonging (Niemiec & Ryan, 2009). Thus, in general, students who report relatedness and are supported by their significant others, such as

parents, peers, and teachers, are more likely to engage in academic activities and perform well in school, whereas those who feel disconnected or rejected are more likely to disengage from school. Prior empirical studies have shown that there is some stability in social support across one educational transition, and social support acts as a buffer against truancy and dropping out of education. However, the role of long-term stable support across multiple transitions in preventing truancy and dropout risk has not been explored. Consequently, the present study intends to examine this gap in the literature.

2. Current study

The study's aims were threefold (see Fig. 1). First, we utilized longitudinal data to investigate the extent to which student-perceived social support from family, peers, and teachers is manifested as stable (trait-like) across the three educational contexts (Grade 6 in primary, Grade 9 in lower secondary, and Grade 10 in upper secondary education) or as grade-specific (state-like, RQ1). Second, we examined whether trait variance regarding student-perceived support can be used to predict students' extent of truancy and failure to complete upper secondary education in normative time (i.e., not completing studies within 3.5 years, RQ2). Finally, we tested whether truancy in the first year of upper secondary (Grade 10) mediated the associations between the three sources of student-perceived support and not completing upper secondary education in normative time (RQ3).

The following three research questions and hypotheses were set:

RQ1. To what extent is student-perceived support from family, peers, and teachers trait-like (stable) or state-like (varying by grade level) over school transitions from Grade 6 (primary school) via Grade 9 (lower secondary school) to Grade 10 (upper secondary education)?

H1. Our tentative hypotheses were drawn based on the premises of the PPCT model (Bronfenbrenner & Morris, 2006), which strongly implies the interplay of person characteristics, context, and time in shaping development via proximal processes. Because the time of student development covered in this study is intertwined with students' attending three different school contexts (primary, lower secondary, and upper secondary education), we hypothesized that most of the variance in proximal processes of support operating in the various contexts (i.e., student-perceived support from family, peers, and teachers) constitutes a grade-specific state-like variance, although the variability might differ according to the sources of support (i.e., teachers will change but parents typically do not, except, e.g., in cases such as marital breakdown, blended families, etc.). In other words, proximal processes of support were assumed to be influenced by the interplay of developing individuals and the changing school contexts over time (Hypothesis 1).

RQ2. To what extent does the stable trait variance of student-perceived support predict truancy and not completing upper secondary education in normative time?

H2. The PPCT model posits that, to be effective, proximal processes must occur on a fairly regular basis over extended periods of time (Bronfenbrenner & Morris, 2006); in other words, they must be relatively stable. Based on these broad theoretical presuppositions, we considered in our model state-like (grade-specific) support and focused on trait-like experiences of support that reflect students' individual differences in their tendency to perceive support (irrespective of the context in which support is provided). We hypothesized that the more students experience school-related social support from family, peers, and teachers during the period covering the end of primary school and the end of lower secondary to upper secondary school, the less they engage in truancy in upper secondary, and the less likely they are to fail

to complete their upper secondary qualification in normative time (Hypothesis 2).

RQ3. Does truancy in the first year of upper secondary education mediate the relationship between student-perceived trait-like social support from teachers, peers, and family and not completing upper secondary education in normative time?

H3. Based on previous literature indicating that truancy is a risk or warning sign for school dropout (Cabus & De Witte, 2015; Guryan et al., 2021; Keppens & Spruyt, 2018) and that social support from family, peers, and teachers predicts school dropout (González-Rodríguez et al., 2019), we hypothesized that truancy mediates the relationship between social support and not completing upper secondary education in normative time (Hypothesis 3).

The PPCT model distinguishes between three types of personal characteristics: dispositions (or forces), resources, and demand characteristics. Dispositions refer to an individual's temperament, motivation, persistence, and the like. Resources are mental and emotional resources such as past experiences and skills but also social and material resources that a student has access to. Demand characteristics are an observable immediate stimulus to another person, such as age, gender, and physical appearance. We used students' overall grade point averages from school registers as an indicator of dispositions; family socioeconomic status as an indicator of resources; and students' age and gender differences as indicators of demand characteristics. These variables were statistical covariates in the analyses. Contextual effects were not modeled as separate variables; instead, they were primary, lower secondary, and upper secondary school contexts that students attended at a given time point.

3. Method

3.1. Participants

The data used in this study are part of the longitudinal First Steps study (Lerkkanen et al., 2006-2016) and its extension, the School Path study (Vasalampi & Aunola, 2016). An ethical statement was approved by the Ethics Committee of the University of Jyväskylä in 2006 and 2018. The data were collected from four municipalities in different parts of Finland. Three of the municipalities included the whole age cohort, and one municipality targeted half of the age cohort. The students were followed through their transition from primary to lower secondary and eventually to upper secondary education. Before the start of the study, the children's parents or guardians gave their informed consent for data collection in primary and lower secondary schools. At the stage of upper secondary education, the participants themselves provided informed consent for voluntary participation.

Students were eligible for this study if they had data either in Grade 6 (primary), Grade 9 (lower secondary), or both grades. In Grade 6 (spring 2013), the number of participants was 1813 (47.2% females, $M_{\text{age}} = 12.76$ years, $SD = 0.34$ years). In Grade 9 (spring 2016), the number of participants was 1707 (47.7% females, $M_{\text{age}} = 15.74$ years, $SD = 0.33$ years), and in the first year of upper secondary education (Grade 10, spring 2017), the number of participants was 1366 (50.4% females, $M_{\text{age}} = 16.68$ years, $SD = 0.37$ years). The last time point (at the end of 2019) included registration information regarding whether the student had graduated from upper secondary in a normative time of 3.5 years. This information was available for 1617 students (85% of the sample of which 48.4% were female). Of the upper secondary students, 73.9% studied in the academic track (general upper secondary), 21.3% in the vocational track (vocational education and training), and 4.8% in the dual qualification tracks. Students' questionnaire data were collected in their classrooms on normal school days by two trained research assistants.

3.2. Measures

3.2.1. Not completing upper secondary in normative time

The outcome measure of whether a student graduated from upper secondary education in normative time represents a risk of dropping out of upper secondary education. It is specified as a binary variable (1 = A student has not graduated within 3.5 years), and the information was collected from the school registers. Of the general upper secondary students, 83.4% and 76.7% of the vocational education students graduated in normative time. Typically, reasons to not complete within 3,5 years are that students either have decided to quit school or they have not meet certain requirements, e.g., have not passed required courses during their schooling. If students wish to resign from upper secondary education, they notify the education provider in writing of their resignation. For the general upper secondary students, this proportion aligns with the statistics in Finland, whereas for the vocational education students, the percentage of students completing their education in normative time was higher than that in Finland in general (63%; Official Statistics of Finland (OSF), 2021).

Attrition analysis showed a small effect (Cramer's $V = 0.067$, $p = .010$), indicating that students who only participated at Grade 6 reported more noncompletion of education than students who also participated in the study at later time points.

3.2.2. Truancy in the first year of upper secondary education

Truancy was defined as skipping classes or school without a valid excuse (Gentle-Genitty et al., 2015). It was measured using self-reports at Grade 10 with the item *How many days have you been absent from school or work this school year due to truancy?* on a scale of 1: Not a single day, 2: 1–2 days, 3: 3–5 days, and 4: More than 5 days. Data were available for 1333 students (70%). Truancy was the mediator in analyses conducted for associations between the three sources of social support and the risk for not completing upper secondary education. For the statistical analysis, the original variable (skewness = 2.29, kurtosis = 4.68) was converted using a root square transformation (skewness = 1.96, kurtosis = 2.92).

3.2.3. Perceived social support

Social support was conceptualized as a proximal process through which an individual feels supported, valued, and cared for by school-relevant others at school and home. Social support was measured at Grades 6, 9, and 10 using the Student Engagement Instrument (SEI; Appleton et al., 2006; for adaptation of the SEI in the Finnish school context, see Virtanen et al., 2016). SEI items were rated on a 4-point scale (1 = totally disagree; 4 = totally agree). Student-perceived support from family was measured via the following three items: *My family/guardian(s) are there for me when I need them; When I have problems at school, my family/guardian(s) are willing to help me; and My family/guardian(s) want me to keep trying when things are tough at school.* Cronbach's alphas for Grades 6, 9, and 10 were 0.79, 0.83, and 0.79, respectively.

Student-perceived support from peers was measured via three items: *Other students here like me the way I am; Students at my school are there for me when I need them; and Other students at school care about me.* Cronbach's alphas for Grades 6, 9, and 10 were 0.83, 0.86, and 0.85, respectively.

Student-perceived support from teachers was measured via three items: *Adults at my school listen to the students; Overall, adults at my school treat students fairly; and At my school, teachers care about students.* Cronbach's alphas for Grades 6, 9, and 10 were 0.87, 0.88, and 0.87, respectively.

3.3. Covariates

Students' academic achievement (students' overall grade point averages from school registers) at Grade 9 ($n = 1,026$, 54%) and

differences in students' ages ($n = 1899$ out of 1901) were applied as continuous covariates. Three types of dummy-coded covariates were used. Gender ($n = 1900$ out of 1901) was measured using two dummy-coded variables (girl as the reference group). Parent-reported family socioeconomic status ($n = 1,357$, 71%) was measured with four dummy-coded variables: entrepreneurs; higher white-collar employees (e.g., senior officials and employees in upper management, research, and education); lower white-collar employees (e.g., clerical and sales workers and other lower-level employees); and workers. Lower white collar was the reference group. Students' educational track ($n = 941$, 50%) was measured with three dummy-coded variables: vocational upper secondary track; general and vocational upper secondary (dual qualification) track; and general upper secondary track. General upper secondary track was the reference group.

3.4. Analytical strategy

The analyses were conducted in the following order. First, to answer RQ1, three separate single-trait-multistate (STMS) models were specified (Geiser, 2020) using maximum likelihood estimation with robust standard errors (MLR). As seen in Fig. 1, each common trait factor (support from teachers, peers, and family) was a single second-order factor measured by three uncorrelated first-order latent state factors (support measured at Grades 6, 9, and 10), with factor loadings fixed at 1. The common latent trait factor represents the common trait component of the first-order state factors, while a common state variable captures the variance shared by all observed variables measured at the same time point (Geiser et al., 2013). In other words, the trait factor captures the interindividual student-specific differences in students' perceptions of support over time, while grade-specific variance captured by the three first-order factors reflects environmental variability in the school context's ability to support students. The STMS model implies that latent state variables are unidimensional, with equal means and covariances in the population. Thus, trait stability is assumed, but intraindividual variation due to situational influences and/or person-situation interactions is possible, which is well in line with the PPCT model (Bronfenbrenner & Morris, 2006). Factor loadings, intercepts, and residuals were specified as time-invariant, which implies strict factorial invariance over time (Meredith & Teresi, 2006).

Second, to answer RQ2 and RQ3, three separate mediation models (STMS) with nonparametric bootstrap confidence intervals for the indirect effects were specified (500 draws). Due to a categorical dependent variable and a continuous mediating variable with missing data, Monte Carlo integration was applied. Truancy in the first year of upper secondary was the mediator between the exogenous sources of support (parents, peers, and teachers) and the outcome (not completing upper secondary education in normative time). All covariates influenced exogenous variables, the mediator, and the outcome (see Fig. 1), with the exception that differences in students' age influenced only exogenous variables. For well-fitting models, the following criteria were used: chi-square (χ^2) test = *ns* ($p > .05$); root mean square error of approximation (RMSEA) < 0.05; comparative fit index (CFI) > 0.95; and Tucker-Lewis index (TLI) > 0.95 (Byrne, 2012).

Little's (1988) missingness completely at random (MCAR) test indicated that missingness was not completely random: $\chi^2 = 4297.53$ (3702), $p < .001$. Therefore, a weaker condition than MCAR—missingness at random (MAR)—was assumed. The MAR situation refers to the condition that missingness does not depend on unmeasured variables but can depend on the values of the observed variables included in the analyses (Little, 1988). The models were estimated using Mplus (version 8.6), (Muthén & Muthén, 1998) with full-information maximum likelihood to manage missing data under MAR.

4. Results

4.1. Descriptive statistics

Table 1 reports the correlations of the latent variables (state and trait factors). State factor correlations were moderate in magnitude (ranging from 0.29 to 0.35), while trait factors correlated strongly with each other (ranging from 0.75 to 0.81). Correlations between state and trait factors varied between 0.42 and 0.68. In sum, students who tended to report high or low support from one source in a time point tended to report high or low support in the same direction as other sources both cross-sectionally and longitudinally. Also, students who tended to report stable high or low support over time also tended to report high or low support from other sources. The time-invariant means for student-perceived support from family, peers, and teachers were 3.47, 3.18, and 3.01 (out of 4 maximum), respectively, indicating that, in general, sample students experienced relatively strong support for studying.

4.2. To what extent is student-perceived support from family, peers, and teachers trait-like or state-like from Grade 6 (primary school) to the first year in upper secondary education?

STMS models (see Fig. 1, lower part) for support from family ($\chi^2 = 166.80$ (44), $p < .001$, RMSEA = 0.04, CFI = 0.97, and TLI = 0.97) and peers ($\chi^2 = 255.41$ (44), $p < .001$, RMSEA = 0.05, CFI = 0.95, and TLI = 0.96) showed good fit to the data. The STMS model for support from teachers showed an acceptable fit to the data ($\chi^2 = 470.87$ (44), $p < .001$, RMSEA = 0.07, CFI = 0.92, and TLI = 0.93). Acceptable fit for support from teachers was driven by mean differences over time: Grade 6 ($M = 2.99$) versus Grade 9 ($M = 2.86$; $t = 6.44$ (1614); $p < .001$); Grade 6 ($M = 2.99$) versus upper secondary ($M = 3.20$; $t = -10.36$ (1299); $p < .001$); and Grade 9 ($M = 2.86$) versus upper secondary ($M = 3.20$; $t = -17.79$ (1298); $p < .001$). We also ran a model with all substantive social support factors simultaneously in one measurement model. The model fit indices were acceptable: $\chi^2 = 2086.43$ (372), $p < .001$, RMSEA = 0.05, CFI = 0.90, and TLI = 0.90.

STMS models showed that 46%, 38%, and 31% of the variances in student-perceived support from family, peers, and teachers, respectively, were trait-like. Therefore, 54%, 62%, and 69% of the variances were state-like, respectively. Thus, the results indicate that, in particular, family support was relatively stable from Grade 6 to the first year of upper secondary. Student-perceived support from teachers varied most as a function of changing school level and context.

4.3. To what extent does the stable trait variance of student-perceived support from family, peers, and teachers predict truancy and not completing upper secondary education in normative time?

As seen in Tables 2–4, first, controlling for several covariates (students' academic achievement, differences in students' age, gender, family socioeconomic status, and educational track at the first year of upper secondary), perceived support from teachers significantly and negatively predicted truancy at the beginning of upper secondary but not noncompletion of upper secondary school. Second, support from peers significantly negatively predicted both truancy and not completing upper secondary school. Third, support from family significantly and negatively predicted truancy and not completing upper secondary education. In total, the higher a student perceived (stable) support from family, peers, and teachers from Grade 6 to the first year of upper secondary, the less they reported truancy in the first year of upper secondary. Moreover, the higher the support from peers and family from primary school to upper secondary, the lower the likelihood of not completing upper secondary education.

Girls were likelier than boys to play truant in the first year of upper secondary and not complete upper secondary education in normative time. A good grade point average correlated negatively with truancy and

Table 1
Means, Variances, and Bivariate Correlations Between the Study Key Variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Completing education ^a											
2. Truancy, Grade 10 ^b	.18***										
3. Family support, Grade 6	-.08**	-.09**									
4. Family support, Grade 9	-.10***	-.21***	.42***								
5. Family support, Grade 10	-.14***	-.23***	.36***	.63***							
6. Peer support, Grade 6	-.06*	-.05 ^{ns}	.44***	.24***	.26***						
7. Peer support, Grade 9	-.12***	-.12***	.17***	.47***	.33***	.39***					
8. Peer support, Grade 10	-.15***	-.23***	.25***	.40***	.58***	.32***	.55***				
9. Teacher support, Grade 6	-.03 ^{ns}	-.08**	.41***	.18***	.20***	.39***	.15***	.19***			
10. Teacher support, Grade 9	-.09**	-.21***	.14***	.38***	.31***	.16***	.41***	.29***	.35***		
11. Teacher support, Grade 10	-.14***	-.23***	.17***	.31***	.52***	.21***	.24***	.57***	.27***	.44***	
<i>M</i>	-	1.14	3.51	3.46	3.48	3.02	3.05	3.21	2.99	2.86	3.20
σ^2	-	0.07	0.26	0.29	0.25	0.35	0.38	0.33	0.45	0.44	0.31

Note. ^aBinary variable collected from school registers: 0 = Upper secondary education completed in normative time, 1 = Upper secondary education not completed in normative time. Grade 6 = Primary school, Grade 9 = Lower secondary school, and Grade 10 = Upper secondary school. ^bRoot square transformed. ****p* < .001, ***p* < .01, **p* < .05, ^{ns}*p* > .05. *M* = Mean, σ^2 = Variance. Variables 1–2 are observed and variables 3–11 latent variables.

Table 2
Associations between support from family from Grade 6 to the first year in upper secondary, truancy in the first year in upper secondary, and not completing upper secondary education in normative time.

	Truancy	Not completing education	Support from family
Support from family	-.19***	-.08†	-
Gender ^c	-.09**	-.13**	.02 ^{ns}
Entrepreneurs ^d	.02 ^{ns}	-.03 ^{ns}	.06 ^{ns}
Higher white collar ^d	-.03 ^{ns}	.06 ^{ns}	.10*
Workers ^d	.00 ^{ns}	.00 ^{ns}	.00 ^{ns}
Vocational upper secondary ^e	.00 ^{ns}	-.11 ^{ns}	.04 ^{ns}
General and vocational upper secondary ^e	.05 ^{ns}	.04 ^{ns}	.00 ^{ns}
Grade point average ^f	-.28***	-.42***	.27***
Differences in students' ages	-	-	-.02 ^{ns}
Truancy ^g	-	.09*	-
Indirect effect: Support from family → Truancy → Not completing education	-.017* [-.033, -.002]		

Note. Standardized (β) estimates. ^cReference category is girls. ^dReference category is lower white collar. ^eReference category is general upper secondary. ^fAt Grade 9. ^gSquare-root transformed. ^{ns}*p* > .05, †*p* = .073, **p* < .05, ***p* < .01, ****p* < .001.

Table 3
Associations between support from peers from Grade 6 to the first year in upper secondary, truancy in the first year in upper secondary, and not completing upper secondary education in a normative time.

	Truancy	Not completing education	Support from peers
Support from peers	-.14**	-.13**	-
Gender ^c	-.08**	-.13**	.08*
Entrepreneurs ^d	.02 ^{ns}	-.03 ^{ns}	.07 ^{ns}
Higher white collar ^d	-.05 ^{ns}	.05 ^{ns}	.01 ^{ns}
Workers ^d	-.01 ^{ns}	-.01 ^{ns}	-.04 ^{ns}
Vocational upper secondary ^e	-.01 ^{ns}	-.12 ^{ns}	-.03 ^{ns}
General and vocational upper secondary ^e	.04 ^{ns}	.04 ^{ns}	-.04 ^{ns}
Grade point average ^f	-.30***	-.42***	.25***
Differences in students' ages	-	-	.02 ^{ns}
Truancy ^g	-	.09*	-
Indirect effect: Support from peers → Truancy → Not completing education	-.012* [-.024, .000]		

Note. Standardized (β) estimates. ^cReference category is girls. ^dReference category is lower white collar. ^eReference category is general upper secondary. ^fAt Grade 9. ^gSquare-root transformed. ^{ns}*p* > .05, **p* < .05, ***p* < .01, ****p* < .001.

Table 4
Associations between support from teachers from Grade 6 to the first year in upper secondary, truancy in the first year in upper secondary, and not completing upper secondary education in normative time.

	Truancy	Not completing education	Support from teachers
Support from teachers	-.21***	-.03 ^{ns}	-
Gender ^c	-.08**	-.14**	.06 ^{ns}
Entrepreneurs ^d	.00 ^{ns}	-.04 ^{ns}	-.02 ^{ns}
Higher white collar ^d	-.06 ^{ns}	.05 ^{ns}	-.05 ^{ns}
Workers ^d	.00 ^{ns}	-.01 ^{ns}	.00 ^{ns}
Vocational upper secondary ^e	.02 ^{ns}	-.11 ^{ns}	.12 ^{ns}
General and vocational upper secondary ^e	.03 ^{ns}	.03 ^{ns}	-.09 ^{ns}
Grade point average ^f	-.23***	-.43***	.47***
Differences in students' ages	-	-	.02 ^{ns}
Truancy ^g	-	.09*	-
Indirect effect: Support from teachers → Truancy → Not completing education	-		

Note. Standardized (β) estimates. ^cReference category is girls. ^dReference category is lower white collar. ^eReference category is general upper secondary. ^fAt Grade 9. ^gSquare-root transformed. ^{ns}*p* > .05, **p* < .05, ***p* < .01, ****p* < .001.

not completing upper secondary education in normative time. The higher the support from all three sources, the better the students' grade point average. Students from higher white-collar families experienced more family support than students from lower white-collar families, and boys experienced more peer support than girls.

4.4. To what extent does truancy in the first year of upper secondary education mediate the relationship between the stable trait variance of student-perceived support from family, peers, and teachers and not completing upper secondary education in normative time?

As shown in Tables 3 and 4, the direct effects between truancy and not completing upper secondary education in normative time were statistically significant. The mediation analysis showed that truancy in the first year of upper secondary mediated the relationship between student-perceived support from peers and family and not completing upper secondary education. An indirect effect between support from teachers via truancy and not completing upper secondary education was not examined, as there was no direct effect between teacher support and completion of upper secondary education (see results for RQ2 and Table 2).

The results of the mediation analyses showed that the more trait-like support from peers and family, the less likely students were to be truant

in the first year of upper secondary and the likelier they were to complete upper secondary education in normative time.

5. Discussion

This longitudinal study first examined the extent to which student-perceived support across two major school transitions—from primary to lower secondary and from lower secondary to upper secondary—is stable rather than varies as a function of changing school contexts. Second, the study explored whether stable support predicted truancy and not completing upper secondary school in normative time. Third, the study tested whether truancy at the beginning of upper secondary mediated stable student-perceived support from family, peers, and teachers and not completing upper secondary school in normative time. The results indicated that upper secondary students' perceptions of social support were already partly stable (trait-like variation) from primary school. This is an important finding, as support from family and peers decreased upper secondary students' likelihood of truancy and of not completing upper secondary education. Students' perceptions varied partly depending on the current school context (state-like variation), and this was especially true regarding perceived teacher support. Moreover, teacher support had short-term rather than long-term consequences for upper secondary students' educational paths; it predicted a lower likelihood of truancy but not completion of upper secondary education in normative time.

Aligning with Hypothesis 1 (Bronfenbrenner & Morris, 2006), we found mostly grade-specific state variance, with the most stable source of support being from the family, followed by support from peers and teachers. Student-perceived support from teachers varied most as a function of school transitions from primary to lower secondary and from lower secondary to upper secondary school. In general, school context appears to matter; students do not study in a social vacuum with predetermined, fixed experiences of social support. Rather, social capital (Guryan et al., 2021) is a malleable construct, amenable to change. As such, facilitating students' relationships with their teachers, peers, and family is a useful target for the prevention and intervention of problems at school (Christenson et al., 2012). Family is a context in which proximal processes can occur on a regular basis over extended periods (Bronfenbrenner & Morris, 2006). It is a source of constant support for a student that can compensate for environmental discontinuity (Jindal-Snape et al., 2021) caused by changing school contexts.

Although school contexts change, support from peers appears to remain relatively stable. In the new school context, students can be included in new peer groups (Symonds, 2015; Virtanen et al., 2019), but the Finnish neighborhood school principle, where students typically attend schools in their respective neighborhoods, often enables students' primary school classmates to study in the same lower secondary school (see Virtanen et al., 2020). This forms continuity across school contexts and enables readily available support from primary school peers in the new school. However, this may have negative consequences. For instance, a study (Wang & Eccles, 2012) showed a negative association between peer social support and school compliance for the group with negative peers.

Despite the fact that most of the variance of social support was grade-specific, the trait component was also large (ranging from 31% to 46%). Relatively high interrelations may be due to trait-like skills or personal characteristics that facilitate adaptation, such as sociability, strong social competence, and good self-regulation skills, which will help students form strong social relationships even in new contexts. Positively perceived social interactions and behavioral tendencies, in turn, contribute to a student's evocative impact on teacher–student relationships in ways that generally elicit more positive reactions from teachers (e.g., Nurmi & Kiuru, 2015). It is plausible that the trait component may, thus, also reflect individual differences in skills that foster adaptation, such social competence or likeability.

Partially supporting Hypothesis 2, this study found that the more

students experienced school-related social support from family, peers, and teachers during the period covering the end of primary school to upper secondary through the end of lower secondary, the less they played truant during the first year of upper secondary school. Moreover, support from family and peers was associated with completing upper secondary education in normative time; higher support was related to a lower likelihood of noncompletion. Proximal processes (viewed as social support) occurring on a regular basis over extended periods of time effectively buffer students against dysfunction (Bronfenbrenner & Morris, 2006), operationalized as truancy in this study. Students who feel supported, valued, and cared for by school-relevant others are likelier to attend school than those who do not feel supported. In brief, social support serves as an effective mechanism to prevent misbehavior, as stated by social control theory (Hirschi, 1969). It is critical that school-related important others (parents, peers, and teachers) provide adolescents with positive social support continuously, starting at the early stages of students' educational journeys. Stable support is effective in fostering students' feelings of acceptance and resilience, which, in turn, also prevents failure at the new school after the school transition. School is also a social environment for a developing young person; thus, looking at performance alone is not enough and simply emphasizing academic performance does not necessarily lead to the optimal education of the child and young person. The basic psychological need of being accepted and supported must, therefore, be considered for everyone. In the long run, students are likely to internalize the values and practices of those who support them (Niemiec & Ryan, 2009), which helps students stay engaged at school.

However, student-perceived support from teachers was not associated with completion of upper secondary education in normative time. This result contradicts some prior empirical studies showing that supportive teacher–student relationships protect students from school dropout (González-Rodríguez et al., 2019; Jia et al., 2016). This is likely a result of school transitions that lead to changing school contexts and teachers, which creates instability in students' perceptions of teacher support over time. Consequently, as teacher support varied more than family and peer support, it is possible that its trait part does not predict noncompletion of education. It is also possible that for some students, the level of engagement in school has decreased to the extent that teachers no longer have an impact. From this perspective, no amount of teacher social support can prevent school dropout if a student is minimally engaged. This implies that promoting school engagement at the early stages is important in preventing truancy and avoiding school dropout.

Prior studies have also typically examined dropping out of upper secondary education rather than its risk, which was the focus of this study. It is worth stressing that support from teachers is not meaningless, but rather that, with respect to dropping out of upper secondary education, the long-term stability of support is less critical than support from family and peers. Good teachers can engage students with school and, therefore, prevent them from dropping out of education (e.g., Jia et al., 2016).

The results supported Hypothesis 3, which assumed that truancy mediates the relationship between social support and not completing upper secondary education in normative time. The mediation analyses showed that the more trait-like support from family and peers that students experienced, the less likely they were to engage in truancy during the first year of upper secondary and the likelier they were to complete their upper secondary education in normative time. Truancy appears to be a process that increases the likelihood of not completing education (Cabus & De Witte, 2015; Guryan et al., 2021; Keppens & Spruyt, 2018). This is important, as it implies that not feeling supported and accepted at school may manifest in observed dysfunctional behavior in terms of truancy from school, which, in turn, may lead to non-completion of upper secondary education.

5.1. Limitations

The study has some limitations. First, truancy was conceptualized broadly as skipping classes or school without a valid excuse. Although found in the literature, the broad definition of truancy may have a conceptual overlap with school withdrawal, as some parents may excuse a student's unexcused absence (Heyne et al., 2019). Also, prior truancy values were not included in the model, and, thus, the role of social support on changes in truancy could not be examined. Second, truancy was a self-report measure. However, it may have been the best option for this study because, currently in Finland, there is no nationwide systematic data gathering system for truancy at either the individual school or education provider level. Future studies could capture truancy using a more refined definition and data collection method. For instance, truancy information collected from school registers may be more objective than self-reports (see Cabus & De Witte, 2015; Keppens et al., 2019).

Third, the study's outcome measure was not completing upper secondary education in normative time, which is a risk factor for actual school dropout but does not deterministically predict it. Future studies could replicate the findings of this study by using actual upper secondary dropout as the outcome measure.

Fourth, students' perceptions on social support from family, peers, and teachers were strongly interrelated, implying that perceptions on support may share a common core (e.g., adaptive skills and characteristics such as social competence, prosocial skills, or likeability). Future studies could test various sources of support simultaneously to examine whether each source of support plays a unique role in predicting truancy and noncompletion of upper secondary education in normative time (see e.g., Vollet et al., 2017).

Finally, the present study was conducted in Finland using a sample that was overpopulated by upper secondary academic track students. Finland's educational system may have unique features that may have affected the study results. For example, the neighborhood school principle may not be particularly common outside the Nordic countries. Therefore, future studies could replicate the study results in other educational contexts, with the sample fully representing the population.

5.2. Conclusions

The results of this study indicate that the long-term stability of social support over educational transitions is key to supporting students and buffering them against adverse educational outcomes. The results also show that truancy can be considered a warning sign that indicates a lack of social support and increased risk of not completing upper secondary education in normative time and possibly dropping out of education altogether. Promoting the completion of upper secondary education and preventing truancy is facilitated by systematically providing students with social support, finding out the underlying reasons for truancy, and tackling truancy via effective interventions (for truancy interventions, see Keppens & Spruyt, 2020; Sutphen et al., 2010). Not all of the factors that influence students' school attendance are under the influence of school staff. However, much can be done, and the focus should be on the factors that schools have control over—such as providing positive social support at all stages of students' educational journeys—to decrease the likelihood of school absenteeism and dropout.

Author contributions

Tuomo Virtanen: Conceptualization, Methodology, Data analysis, Writing- Original draft preparation. **Kati Vasalampi:** Writing- Reviewing and Editing. **Marja-Kristiina Lerkkanen:** Reviewing and Editing. **Jenni Pelkonen:** Reviewing and Editing. **Anna-Maija Poikkeus:** Reviewing and Editing.

Declaration of competing interest

None.

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