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Title: The Role of Perceived Social Support as a Contributor to the Successful Transition from Primary to Lower Secondary School

Year: 2020

Version: Submitted version (Preprint)

Please cite the original version:

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Transition from Primary to Lower Secondary School

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ABSTRACT

Following approximately 1,800 Finnish children, this longitudinal study examined the associations between students' perceived social support (teacher-student relationships, family support, and peer support), behavioral engagement, cynicism towards school, and academic achievement during the transition from primary to lower secondary school. After controlling for parental educational level and cynicism before the school transition, the results showed that the more students experienced pre-transition peer support, the less they reported post-transition cynicism. Furthermore, pre-transition peer support contributed to students' increased academic achievement and behavioral engagement after the transition through decreased cynicism. The findings indicated that peer support functions as a protective factor against cynicism as students move through the critical school transition phase and positively contributes to students' behavioral engagement and academic achievement.

Keywords: school transition, perceived social support, student engagement, cynicism towards school

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Transferring from primary to secondary school presents a risk for school disengagement (Eccles & Roeser, 2011). An important sign of disengagement is school-related cynicism manifested as an indifferent or a detached attitude and a loss of interest toward academic work (Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009). On one hand, cynicism has been shown to increase the probability of poor academic achievement, depressive symptoms, and early school dropout (Bask & Salmela-Aro, 2013; Salmela-Aro et al., 2009; Tuominen-Soini & Salmela-Aro, 2014). On the other hand, previous research (e.g., Burchinal, Roberts, Zeisel, & Rowley, 2008; Gniewosz, Eccles, & Noack, 2011; Pitzer, 2015; Waters, Lester, & Cross, 2014) suggests that supportive relationships with teachers, family, and peers predict a successful transition from primary to lower secondary school. However, student-perceived social support and cynicism have not been studied simultaneously across critical educational transitions. Thus, little is known about the unique roles of the different sources of social support (i.e., teacher-student relationship, family and peer support) in preventing the development of school-related cynicism with school transitions. The present study aims to analyze predictive associations between students' perceived social support-and school-related cynicism across the critical transition from primary to lower secondary school (Grade 6 to Grade 7). Also of interest are the associations between the key variables and the students' post-transition academic achievement and behavioral engagement, which is the key component among the construct of student engagement (Skinner, 2016). We also investigated the possible mediating effects of cynicism.

Student Engagement and Social Support

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Although student engagement is typically construed as a multidimensional construct (Fredricks, Blumenfeld, & Paris, 2004) referring to the quality of a student's connection with schooling, no shared view exists among researchers about the number and types of engagement dimensions (Fredricks & McColskey, 2012). However, a wide consensus view student engagement as essential for learning, developmental in nature, and malleable (Finn & Zimmer, 2012), meaning that it is context-dependent and more state-like than trait-like. Thus, it is partially sensitive to manipulations in the educational context. Regarding multidimensionality, the inclusion of affective and behavioral subtypes is common to all major theoretical models of engagement (see Voelkl, 2012). Behavioral engagement, which is the students' involvement in observable behaviors in learning activities (Hospel, Galand, & Janosz, 2016), is the key component of the engagement construct (Skinner, 2016), and includes positive educational outcomes such as academic success (Fredricks et al., 2004) and not dropping out of school (Archambault, Janosz, Fallu, & Pagani, 2009). Some engagement researchers focusing on school dropout prevention operationalize affective engagement as student-perceived social support, whereby social support is blended with the concept of student engagement (see Reschly & Christenson, 2012). Research originating from the academic motivation tradition (e.g., Skinner, Furrer, Marchand, & Kindermann, 2008) typically separates contextual influences, including students' experiences of support, from the concept of engagement – the view followed in the current study.

Prior research has shown that social support provided by teachers (Voelkl, 2012; Wang & Eccles, 2013), parents (Estell & Perdue, 2013), and peers (Estell & Perdue, 2013; Wang & Eccles, 2013) fosters student engagement. Thus, students who experience supportive relationships with teachers, family, and peers are more likely to participate in school activities than those who do not experience support (Li, Lerner, & Lerner, 2010). In the current study, we extend the previous empirical findings by examining whether students' pre-

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transition perceptions of social support from teachers, family, and peers in Grade 6 predict students' post-transition school-related cynicism, behavioral engagement, and academic achievement in Grade 7, after controlling for pre-transition cynicism, behavioral engagement and academic achievement. Moreover, we tested, whether cynicism mediated the effects of the three sources of pre-transition social support on post-transition behavioral engagement and academic achievement.

Student Engagement and Social Support across School Transitions

It has been documented that school transitions pose potential risks, including waning student engagement and decreased motivation, particularly in the transition from primary to lower secondary school (Eccles & Midgley, 1989; Otis, Grouzet, & Pelletier, 2005), lower grades (Blyth, Simmons, & Carlton-Ford, 1983), declining school-related attitudes (Martínez, Aricak, Graves, Peters-Myszak, & Nellis, 2011), and deteriorating relationships with teachers (Symonds & Galton, 2014). Even though the transition to lower secondary school occurs at slightly different ages in different countries, the same pattern of a decrease in student engagement seems to occur universally in the students' first year in their new school (McGee, Ward, Gibbsons, & Harlow, 2003; Symonds & Galton, 2014).

Several theoretical frameworks including person-environment fit (Eccles & Midgley, 1989; Eccles et al., 1993), self-system model of motivational development (Connell & Wellborn, 1991; Skinner, Kindermann, Connell, & Wellborn, 2009), and the social control theory (Hirschi, 1969) highlight the importance of social support. For example, the social control theory suggests that the closer an individual's relationships are with significant others, the more he/she identifies with them and the higher is the likelihood for strong academic performance and behavioral engagement (Hirschi, 1969). Burchinal et al. (2008), for example, found that parental support served as a promotive factor for African American students' academic achievement across the transition from primary to lower secondary

school. There is also evidence that when reforming their academic self-concept in the situation of an altered reference base upon entry into lower secondary school, adolescents rely on their parents for guidance and support (Gniewosz et al., 2011). Students' pre-transition social relationships, such as peer acceptance, have also been shown to predict both academic achievement (Kingery, Erdley, & Marshall, 2011) and behavioral engagement (Kingery & Erdley, 2007; Kingery et al., 2011), following the primary to lower secondary school transition. One mechanism through which the pre-transition social support from family and peers is hypothesized to predict students' post-transition adjustment at school involves the continuity in support between the primary and lower secondary school environments. In early adolescence, children are still strongly embedded in the family of origin (Sameroff, Peck, & Eccles, 2004), and the relationships between adolescents and parents are not necessarily interrupted at transition (Symonds, 2015). Social support typically available from the family across the transition promotes students' self-esteem and resilience (see Jindal-Snape & Miller, 2008).

Also, the need for peer support increases after transition, when students negotiate with new academic challenges and changes in their peer and teacher relationships (Symonds & Galton, 2014). When maintained across transition, positive pre-transition peer relationships are a readily available source of continuity in the new school environment and promote students' post-transition adjustment (Aikins, Bierman, & Parker, 2005). According to Hirsch and DuBois (1992), pre-transition peer support could act as a protective factor in lower secondary school in two ways. First, adolescents with high levels of support from peers in primary school are more likely to maintain satisfactory post-transition peer networks, which protect them from exposure to potential threats in the new school environment. Second, students may draw upon their earlier sense of support from peers, employing it as an emotional bank account when facing transition-related challenges.

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Pitzer (2015) found that student-perceived teacher support and students' ongoing engagement at the beginning of Grade 5 formed resources for coping with academic problems and re-engagement (i.e., persistence) at the end of the year, which, in turn, bolstered the students' engagement and subsequent achievement after transitioning to lower secondary school. A study by Longobardi, Pino, Marengo, and Settanni (2016), in turn, showed that supportive teacher-student relationships acted as an emotional resource for school transitions, favoring students' post-transition behavioral and academic outcomes. However, because teachers change with the transition, unlike parents and to some extent peers, more discontinuity is likely with respect to the effects of pre-transition teacher-student relationships on students' subsequent school-related outcomes. Moreover, there is evidence showing that while students' peer group status begins to stabilize towards the end of primary school, students re-negotiate their relationships with the teacher (Ulmanen, Soini, Pietarinen, & Pyhältö, 2016).

Continuities and discontinuities at the primary to lower secondary school transition in the Finnish school system

The transition to lower secondary school marks a change in the school environment with new frames of reference (Gniewosz et al., 2011) and is thus a major source of discontinuity (Sameroff et al., 2004). In Finland, students in primary school (Grades 1–6) are mainly taught by one teacher in a single classroom, while in lower secondary school (Grades 7–9), students are taught by various subject teachers in their own classrooms, with specific times or periods allocated to each subject. Furthermore, in lower secondary school, students choose new academic subjects and their workload increases, which may lead to perceptions of diminished competency and an elevated risk for school-related cynicism (see Symonds & Galton, 2014), particularly for students with lower academic ability (Galton, Hargreaves, & Pell, 2003b). Finally, while a single classroom teacher monitors each student's learning and

development in primary school, in lower secondary school, a homeroom teacher, who is also one of the student's subject teachers and who has limited knowledge of the student as a learner and a person, assumes this role.

In addition, the student composition within each classroom in secondary school varies, requiring students to reconsider their position among different classmates. Moreover, unlike primary school, in lower secondary school, seventh graders are not "big fish in a small pool" but rather "minnows in an uncharted ocean" (see Jindal-Snape & Miller, 2008, p. 222). These changes in peer status and peer group composition are sources of discontinuity and social comparison, which can potentially contribute to increased school-related burnout, including cynicism toward the meaning of school, and decreased levels of school engagement across the transition from primary school to lower secondary school (Salmela-Aro, Upadyaya, Hakkarainen, Lonka, & Alho, 2017).

In addition to the organizational discontinuities reviewed above, another source of discontinuity is how students learn and are taught (see Galton, Gray, & Ruddock, 2003a; Galton et al., 2003b). While student-centered approaches are emphasized with younger students (particularly in Grades 1–3), traditional teacher-led instruction is more common with older students (see Andrews, Ryve, Hemmi, & Sayers, 2014). Also, in the transition from primary to lower secondary school, students typically move to bigger schools further away from their homes, and they are required to take greater responsibility for their studies than they did in primary school. Furthermore, the academic school year is divided into terms, and students receive their course grades after each one. Hence, students have to cope with frequent assessments of their academic competence and comparisons with their classmates.

Despite the discontinuities described above, the Finnish school system aims to provide students with stable connections between their primary and lower secondary education. The national core curriculum is followed by teachers across Grades 1 through 9, forming an

educationally consistent continuum (Finnish National Board of Education, 2014). It guides teachers and other school staff by defining the targets and academic content for students in Grades 1–9, while giving teachers the freedom to choose their teaching and student assessment methods and materials. In addition, instead of parents selecting their children's schools, students attend schools located in their respective neighborhoods. Therefore, although the peer composition within the various subject classrooms changes, students' primary school classmates usually follow them to the same lower secondary school. Furthermore, the transfer of information from primary school to lower secondary school is a common procedure systematically organized via a school-wide student welfare action plan, which is particularly important for students who are at risk for school failure. This plan documents the principles and procedures for guaranteeing the students' welfare in school and how the procedures are to be evaluated and developed further.

Furthermore, post-transition induction weeks have been established to enable students and teachers to become acquainted with each other. In addition, Grade 6 students are often asked to name a few of their close friends, and these relationships are encouraged through efforts to place the pre-transition close friends in the same classes in lower secondary school. Overall, the challenge is to strike a balance between continuity and discontinuity. A degree of discontinuity informs students about their newly acquired status of moving up in their educational career (Galton et al. 2003a, 2003b; Symonds & Hargreaves, 2016). It enables students to practice their independence from adults (Symonds & Galton, 2014), provides them with opportunities to establish new peer relationships with more diverse personal characteristics (Li & Lerner, 2011; Symonds, 2015; Symonds & Hargreaves, 2016), and presents fresh challenges regarding academic content (Galton et al., 2003b; Symonds & Hargreaves, 2016), all of which are essential for developmental changes to occur in adolescence (Sameroff et al., 2004).

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The Current Study

To our knowledge, the dynamics between student-perceived pre-transition social support and post-transition cynicism have not been previously analyzed in the primary to lower secondary school transition. Prior literature indicates that the level of school-related cynicism remains stable from lower to upper secondary school (Salmela-Aro et al., 2008); thus, examining factors that protect the student from developing cynicism in the later grades would be relevant for preventing the negative cycle of increasing cynicism and decreasing school achievement and effort. Studies focusing on student engagement in the transition from primary to lower secondary school have primarily been conducted in the United States and United Kingdom (Symonds & Galton, 2014); thus, extending studies to other educational contexts is needed. Finally, a limitation of prior transition studies is that a knowledge base on the unique effects of sources of pre-transition social support on students' adjustment to the new school environment is lacking.

The Aims

This study will address the following research questions:

(1) Does perceived pre-transition social support in teacher-student relationships, family support for learning, and peer support at school have unique influences on changes in student cynicism from Grade 6 to Grade 7? In line with perspectives addressing continuities and discontinuities in school transition (Galton et al., 2003a, 2003b; Sameroff et al., 2004) and prior empirical findings, support from family (Burchinal et al., 2008; Gniewosz et al., 2011) and to some extent support from peers (Kingery & Erdley, 2007; Kingery et al., 2011; Waters et al., 2014) can be regarded as relatively stable across the transition. Hence, we hypothesized that perceived support from family (Hypothesis 1a) and peers (Hypothesis 1b) would protect students from increased cynicism after the transition. Moreover, although the importance of teacher-student relationships in school transition is acknowledged (Longobardi et al., 2016;

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Pitzer, 2015), we hypothesized that because of discontinuity in instructional format (i.e., different teachers and groupings by subject in the lower secondary school), student-perceived pre-transition social support from teachers has no predictive power with respect to post-transition cynicism (Hypothesis 1c).

(2) Does student perceived pre-transition social support from teachers, family, and peers in Grade 6 have direct effects on changes in academic achievement and behavioral engagement from Grade 6 to Grade 7? Again, based on continuities and discontinuities in school transition (Galton et al., 2003a, 2003b; Sameroff et al., 2004) and prior empirical findings, we expected to find a direct positive relationship between Grade 6 social support from family (Burchinal et al., 2008; Hypothesis 2a) and peers (Kingery et al., 2011; Hypothesis 2b) and students' post-transition academic achievement and behavioral engagement. We assume no association between pre-transition social support from teachers and post-transition academic achievement and behavioral engagement (Hypothesis 2c).

(3) Does Grade 7 cynicism mediate the effects of Grade 6 sources of social support on students' academic achievement and behavioral engagement in Grade 7? Based on perspectives on continuities and discontinuities (Galton et al., 2003a, 2003b; Sameroff et al., 2004), links suggested in the literature between social support and cynical attitudes towards school (Connell & Wellborn, 1991; Deci & Ryan, 2000; Eccles & Midgley, 1989; Hirschi, 1969; Skinner, Kindermann, Connell, & Wellborn, 2009), and negative associations between cynicism and students' academic achievement and behavior (Tuominen-Soini & Salmela-Aro, 2014), we expected that the associations between Grade 6 students' perceived social support from family (Hypothesis 3a) and peers (Hypothesis 3b), but not from teachers (Hypothesis 3c), and academic achievement and behavioral engagement would be mediated by students' post-transition cynicism.

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Because parents' educational level is a correlate of students' multiple educational outcomes (Davis-Kean, 2005; Schoon & Polek, 2011), it was controlled for in the analyses.

Method

Sample and Procedure

This study is part of an extensive longitudinal study (AUTHORS, 2006) following 1,899 Finnish children from four municipalities (two in Central, one in Western, and one in Eastern Finland) from kindergarten to Grade 9. The sample comprised the whole age cohort of children in three municipalities and approximately half of the age cohort in the fourth one. Parents provided written consent for their child's participation in the study. The participation rate of the children in the study was 76%. The language of instruction in all classrooms was Finnish, although in Finland, the two official languages are Finnish, spoken by 87.9% of the population, and Swedish, spoken by 5.2% of the population (Official Statistics of Finland, 2018). The present analyses were based on follow-up data from Grade 6 (n =1,838 students; 47.6% female) and Grade 7 (n = 1,816 students; 47.7% female). The students' mean age in Grade 6 was 12.76 years (*SD* = 0.34 years) and in Grade 7, 13.75 years (*SD* = 0.33 years). There were 153 Grade 6 primary school classrooms from 77 schools, and the number of students in each school ranged from 25 to 550 (mean 222 students). The number of Grade 7 lower secondary school classrooms was 149 from 34 schools. The number of students in the lower secondary schools ranged from 15 to 606 (mean 280 students).

Students filled in a questionnaire concerning their school engagement and cynicism in Grades 6 (April 2013) and 7 (April 2014) during school lessons. The data was collected during normal lessons from all students in attendance that day. The teachers administered the data collection according to the instructions given by the researchers. The teachers were also advised to reassure the students that their responses would be treated with confidentiality. The students had an opportunity not to fill in the surveys.

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Measures

Perceived Social Support (Grade 6)

Pre-transition student-perceived social support in Grade 6 was assessed using the

Student Engagement Instrument (Appleton, Christenson, Kim, & Reschly, 2006; for

adaptation into the Finnish context, see AUTHORS, 2016). Teacher-student relationships

(three items: e.g., *At my school, teachers care about students*), family support for learning

(three items: e.g., *When I have problems at school, my family/guardian(s) are willing to help

me*), and peer support at school (three items: e.g., *Students at my school are there for me

when I need them*) were measured using self-ratings on a 4-point scale (1 = *strongly disagree*;

4 = *strongly agree*). The sum scores of the scales were calculated as the means of the items.

The Cronbach's alpha (α) for each of the three-item scales was .87, .79, and .83, respectively.

Cynicism (Grades 6 and 7)

School-related cynicism was assessed in Grades 6 and 7 using the School Burnout

Inventory (Salmela-Aro et al., 2009). It is a standardized self-report questionnaire measuring

students' school-related cynicism, exhaustion, and inadequacy. The present analyses utilized

the three items assessing school-related cynicism (*I feel that I am losing interest in my

schoolwork; I'm continually wondering whether my schoolwork has any meaning;* and *I'm

not interested in schoolwork*) on a five-point scale (1 = *completely disagree*; 5 = *completely

agree*). The sum scores of the scales were calculated as the means of the items. Cronbach's α

for the three-item scale was .84 in Grade 6 and .86 in Grade 7.

Behavioral Engagement (Grades 6 and 7)

Students' behavioral engagement in Grades 6 and 7 was assessed using four items

from the Research Assessment Package for Schools (RAPS) measurement tool (Wellborn &

Connell, 1987). Two items measured the extent to which students exerted effort on

schoolwork (*I work very hard on my schoolwork* and *I don't try very hard in school*), one

item measured paying attention in class (*I pay attention in class*), and one item measured preparedness for class (*I often come to class unprepared*). Self-ratings were given on a 4-point scale (1 = *strongly disagree*; 4 = *strongly agree*). Negatively worded items were reverse coded so that, for all items, higher values indicated higher engagement. The sum scores of the scales were calculated as the means of the items. The Cronbach's α for the Grade 6 scale was .67 and for Grade 7 it was .70.

Academic achievement (Grades 6 and 7)

Students' academic achievements were determined based on their grade point averages (GPA) in all school subjects drawn from the school registers in Grades 6 and 7. The scale ranged from 4 = *fail* to 10 = *excellent*.

Parents' educational level (Grade 6)

Parents' educational level was a parent-report measure provided when the students were in Grade 6. This information was completed by 1,383 (72.8%) families (mother and/or father) using a 7-point scale (1 = No vocational education; 7 = Licentiate or doctoral degree). The highest educational level was chosen to represent parents' educational level.

Data Analysis Strategy and Handling Missing Values

Structural equation modeling (SEM) with the Mplus statistical package (version 7.11; Muthén & Muthén, 1998–2012) was used to conduct the analyses. First, in addition to correlations and descriptive statistics, the nested structure of the data (students nested in classrooms and schools) was examined by calculating intraclass correlations for cynicism and the three variables measuring student-perceived social support (i.e., teacher-student relationship, family support, and peer support). Second, in order to verify that the factors represented distinct dimensions of social support which can be separated from school-related cynicism in Grades 6 and 7, confirmatory factor analysis (CFA) was carried out. Third, the factorial measurement invariance of cynicism was tested to examine whether the same

constructs were measured across genders and the two measurement points (Bollen, 1989). To test this, the Satorra-Bentler scaled chi-square difference tests were carried out to compare goodness-of-fit between constrained (equal factor loadings across genders and two measurement points) and unconstrained (factor loadings freely estimated) models.

Fourth, SEM was applied to analyze the extent to which Grade 6 social support dimensions have a unique influence on changes in Grade 7 academic achievement and behavioral engagement directly or indirectly mediated through Grade 7 cynicism after parental educational level and prior levels of students' cynicism were held constant. Also, the paths from Grade 6 behavioral engagement to Grade 7 cynicism and academic achievement along with the paths from Grade 6 academic achievement to Grade 7 behavioral engagement and cynicism were estimated. The mediation analysis concurred with multiple researchers (e.g., MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Shrout & Bolger, 2002) who suggest significance testing for the direct effects from independent variable X to mediating variable M, from M to dependent variable Y, and the products of XM and MY, instead of the direct effects from X to Y, particularly when there are theoretical reasons for the existence of mediation to occur. We chose this approach because in the current study: a) dependent variables were changes rather than levels in students' post-transition academic achievement and behavioral engagement; and b) the time lag included a major transition into a differently organized school environment with the possibility of competing variables in the mediating process. Because the reasons stated above have the potential to diminish the direct effects from X to Y, the causal step mediation analysis (Baron & Kenny, 1986) might present the risk of a Type II error for the entire model-level mediation system (Hayes, Montoya, & Rockwood, 2017; Shrout & Bolger, 2002) and thus hinder theory development (Rucker, Preacher, Tormala, & Petty, 2011).

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Maximum likelihood estimation with robust standard errors (MLR) was used to account for the non-normality of study variables (Muthén & Muthén, 1998–2012). The analyses were carried out with statistical controls for parental educational level and prior levels of students' cynicism, academic achievement, and behavioral engagement. In longitudinal analyses, residual autocorrelations for the indicators Grade 6 and Grade 7 cynicism toward the meaning of school were freely estimated.

Missing data for Grade 6 ranged from 1.6% (*My family/guardian(s) are there for me when I need them*, an indicator of Family Support for Learning) to 6.6% (students' grade point average). Grade 7 missing data ranged between 4.8% (*I often come to class unprepared*) to 7.1% (*Other students at school care about me*). Little's MCAR test showed that missing values were non-randomly distributed for both grades (χ^2_{Grade6} (3269) = 3460.875, p = .010; χ^2_{Grade7} (3147) = 3444.421, $p < .001$). Missing data were handled using the full information maximum likelihood method (FIML: Muthén & Muthén, 1998–2012) with the standard missing at random approach. FIML operates by directly analyzing the incomplete data set to yield unbiased parameter estimates and accurate standard errors (Newman, 2014).

Student gender and the two scale scores of the Student Engagement Instrument which were not included in the analyses, future aspirations and goals *(student perceptions of value, utility, and relevance of education)*, and control and relevance of school work *(students' views of self-regulation, strategy use))* were included as auxiliary variables in the FIML estimation. The auxiliary option was used to identify a set of variables that were not included in the analyses, yet may correlate with the missing data. This strengthens the validity of the missing at random assumption of maximum likelihood estimation (Muthén & Muthén, 1998–2012). For estimating the statistical significance of the estimated coefficients, a two-tailed significance test was used.

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Results

Descriptive statistics

Table 1 shows the descriptive statistics and correlations of the key variables. The results revealed that all the three dimensions of perceived social support correlated positively with each other, and with behavioral engagement and academic achievement. As expected, cynicism correlated negatively with all the dimensions of social support and behavioral engagement, and academic achievement. Grade 6 and Grade 7 behavioral engagement and academic achievement were positively correlated with each other.

[TABLE 1 NEAR HERE]

Inter-individual differences in cynicism were relatively stable from Grade 6 to Grade 7 ($r = .66$). Students' perceptions of Grade 6 social support were relatively high with the mean level of perceived social support from family the highest (3.52 out of 4). Mean levels of cynicism were rather low (2.29 out of 5). No mean-level changes nor changes in variances across the transition were observed in cynicism and behavioral engagement ($p > .05$). In turn, students' academic achievement decreased ($t(1613) = 13.86$, $p < .001$, $d = 0.18$) and variance increased from Grade 6 (GPA = 8.23, SD = 0.70) to Grade 7 (GPA = 8.10, SD = 0.81).

Finally, some of the classroom-level and school-level intraclass correlations were statistically significant, indicating the nestedness of the data. We, however, did not model the data using multilevel analysis because we were not aiming to study between-level predictors of Grade 7 variables. Moreover, design effects were far below the threshold of 2 (Muthen & Satorra, 1995) indicating no need to take nestedness into account. Design effects varied between 1.05 (support from family) and 1.60 (grade point average at Grade 6). Thus, further analyses were conducted using the COMPLEX option, which accounts for the nested

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structure by adjusting the standard errors of the estimated coefficients (Muthén & Muthén, 1998–2012).

Measurement models of cynicism

Next, we used CFA to test the fit of the measurement model with three Grade 6 dimensions of social support and Grade 6 and Grade 7 cynicism. The model fit the data well ($\chi^2(77) = 156.265$, $p < .001$, RMSEA = .024, CFI = .992, TLI = .989, SRMR = .019). Next, the factorial measurement invariance of cynicism was tested to examine whether the same constructs were measured across genders and the two measurement points (Bollen, 1989). The results showed that factor loadings were equal for girls and boys: $\Delta\chi^2(10) = 17.650$, $p = .061$. Similarly, factor loadings for cynicism were equal across the two time points: $\Delta\chi2(2) = 0.579$, $p = .748$. In subsequent SEM analyses, the factor loadings of cynicism were estimated as equal across time. Overall, the equality of the factor loadings enabled us to draw reliable conclusions at the whole sample level about the rank-order stability of cynicism and the associations of cynicism with the other variables.

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Structural Equation Models

Our first research question was to examine whether pre-transition social support dimensions in Grade 6 had unique effects on changes in cynicism among students from Grade 6 to Grade 7. The structural equation model fit the data well: $\chi^2(151) = 353.075$, $p < .001$, RMSEA = .027, CFI = .986, TLI = .980, SRMR = .023. The results (Figure 1) showed that student-perceived pre-transition peer support in Grade 6 predicted post-transition cynicism, after controlling for the initial levels of cynicism and parental educational level ($\beta = -.07$, $p < .05$): the more students reported support from their peers before the transition, the less they experienced an increase in cynicism after the transition. In turn, teacher-student relationships ($\beta = -.01$, $p > .05$) and family support ($\beta = -.05$, $p > .05$) in Grade 6 had no unique effects on students' cynicism in Grade 7, after controlling for cynicism in Grade 6. In other words, peer support at school was the only dimension that had unique effects on changes in post-transition cynicism. As shown in Figure 1, no evidence emerged for direct effects from Grade 6 sources of social support to Grade 7 academic achievement and behavioral engagement, after controlling for cynicism, parental education level, and previous levels of academic achievement and behavioral engagement (research question 2). Instead, changes in Grade 7 cynicism was negatively predicted by Grade 6 academic achievement and changes in Grade 7 academic achievement was positively predicted by parental educational level. Moreover, changes in Grade 7 behavioral engagement was positively predicted by Grade 6 academic achievement.

Our final research question was to investigate the extent to which the effects of social support dimensions on changes in academic achievement and behavioral engagement from Grade 6 to Grade 7 are mediated through Grade 7 cynicism. The results with statistically significant paths are shown in Figure 1, and all estimates are reported in Table 2 in the Appendix. In addition to the effect of pre-transition peer support on decreased Grade 7

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cynicism, it was also found that Grade 7 cynicism significantly associated with decreases in academic achievement and behavioral engagement, fulfilling the conditions for the possible occurrence of mediating effects of cynicism on the relationship between peer support and post-transition academic achievement and behavioral engagement (MacKinnon et al., 2002; Shrout & Bolger, 2002).

[FIGURE 1 NEAR HERE]

The results showed a statistically significant cynicism-mediated indirect effect from Grade 6 peer support at school to Grade 7 changes in academic achievement ($\beta = .014$, $p = .005$) and behavioral engagement ($\beta = .046$, $p = .004$). Perceived pre-transition peer support at school in Grade 6 predicted later increased academic achievement and behavioral engagement via cynicism: the more students experienced support from peers in Grade 6, the less they reported increased cynicism in Grade 7, which, in turn, was related to greater improvement in academic achievement and behavioral engagement.

Additional analyses

In line with the causal step mediation analysis (Baron & Kenny, 1986), we tested the direct effects from the three dimensions of Grade 6 social support on changes in Grade 7 behavioral engagement and academic achievement when parental educational level was controlled for but cynicism was not in the model. When social support dimensions controlled for each other, the only statistically significant predictor was family support for learning, which directly predicted students' post-transition behavioral engagement ($\beta = .102$, $p < .01$): the higher the level of students' pre-transition family support, the greater the improvements in their post-transition behavioral engagement. This direct effect disappeared in the model (Figure 1) where cynicism was introduced as a mediator.

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Discussion

The current study makes a novel contribution to the literature by investigating longitudinal associations between student-perceived social support (perceived teacher-student relationships, family support for learning, and peer support at school), and changes in school-related cynicism, academic achievement, and behavioral engagement at the transition from primary to lower secondary school. We found that higher student-perceived pre-transition peer support in Grade 6 predicted decreased post-transition cynicism in Grade 7, which, in turn, was associated with improvements in academic achievement and behavioral engagement after the transition. Perceived pre-transition support from parents predicted positive changes in students' post-transition behavioral engagement, but this effect disappeared in the final structural equation model, which included post-transition cynicism.

Counter to our Hypothesis 1a, family support for students' learning did not have a unique effect on changes in students' subsequent school-related cynicism. During adolescence, students strive for independence and self-determination increases (Fuligni, Eccles, Barber, & Clements, 2001) while their perceptions of positive interactions with their parents decrease (Gutman & Eccles, 2007). Although family social support is not necessarily interrupted in the transition, the waning perceived relevance of affective family ties around puberty could help explain the lack of predictive power of Grade 6 family support on Grade 7 cynicism when student-reported pre-transition cynicism and parental educational level were controlled for. Moreover, because of the waning relevance of support from family other sources of support may become increasingly important.

In line with our Hypothesis 1b, we found that student-perceived support from peers at the end of primary school decreased the likelihood of growth in students' post-transition cynicism a year later. This result is in agreement with prior empirical findings (Kingery & Erdley, 2007; Kingery et al., 2011; Waters et al., 2014) and several theoretical perspectives,

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suggesting that students' experiences of being supported and accepted at school prevent

disengagement (Connell & Wellborn, 1991; Deci & Ryan, 2000; Eccles & Midgley, 1989;

Hirschi, 1969; Skinner et al., 2009). There are several possible explanations for this result.

First, maintaining positive pre-transition peer relationships across the transition to lower

secondary school provides students with continuity in the new school environment (Aikins et

al., 2005). Students with readily available friendships do not have to renegotiate all their peer

relationships, which saves resources for post-transition adjustment. Second, a sense of

positive pre-transition peer relationships acts as an emotional bank account, protecting

students in challenging situations in the new school environment (Hirsch & DuBois, 1992).

Third, high levels of perceived social support are likely to correlate positively with students'

social skills, which in turn predict high quality post-transition friendships (Aikins et al.,

2005). Fourth, at this age, peers have an increased importance for young adolescents

(LaFontana & Cillessen, 2010; Steinberg, 2008). Experiencing peer support at school and

having good friends fulfills the need for relatedness with others (Deci & Ryan, 2000), which,

is likely to support a sense of school belonging (Estell & Perdue, 2013; Juvonen, Espinoza, &

Knifsend, 2012). Students with a strong sense of school belonging are likely to identify with

school values and perceive school outcomes as worthwhile for their future (Finn, 1989). This

prevents the development of cynicism, and perpetuates behavioral engagement and

productive academic performance. In contrast, adolescents who do not experience a

satisfying social peer network in late elementary school are not as likely to have the

necessary secure base to rely upon and seek comfort from when navigating the critical

transition phase (Kingery et al., 2011) between leaving primary school and entering the larger

network of lower secondary school. Having even just one friend can help to alleviate the

stress related with transitioning to a new school (Juvonen et al., 2012).

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As hypothesized (Hypothesis 1c), student-perceived support within the teacher-student relationship in Grade 6 did not account for any unique variance in predicting students' subsequent changes in school-related cynicism. Unlike peers, once students enter lower secondary school, all of their teachers change. Hence, support from the primary school teacher is discontinued, and similar teacher support is not available to students after the transition, because they are taught by various subject teachers instead of one classroom teacher. During this transitional phase, simultaneously with the change of school environment, lower secondary school students go through personal changes, including puberty and the development of the self (Steinberg & Morris, 2001). In relation to these changes, adolescents may re-negotiate their relationship with the primary school teacher while their status in peer group relationships begins to stabilize (Ulmanen et al., 2016). This could explain the nonsignificant influence of the pre-transition teacher-student relationship on student-perceived post-transition school-related cynicism.

To assess the second research question, we tested the direct effects of pre-transition social support (support from teachers, parents, and peers) on students' post-transition academic achievement (Burchinal et al., 2008) and behavioral engagement (Wang & Degol, 2014) over and above the effects of parental educational level and Grade 6 academic achievement and behavioral engagement. In line with our Hypothesis 2a, social support from family had a significant direct effect on increases in students' behavioral engagement from Grade 6 to Grade 7. However, this direct effect disappeared when cynicism was included in the model. Further, in contrast to Hypothesis 2b and in line with Hypothesis 2c, the results showed that support from peers and teachers did not have a unique effect on changes in students' academic achievement and behavioral engagement. The results are in line with the perspective that highlights the importance of continuity across school transitions. At the primary to lower secondary school phase, adolescents are still strongly embedded in the

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family of origin (Sameroff et al., 2004), which makes social support available to students (Symonds, 2015). By promoting students' self-esteem and resilience (Jindal-Snape & Miller, 2008), family support can increase students' post-transition behavioral engagement. Peer support before transition, in turn, appears to operate at an affective level, buffering students from losing interest in schoolwork in general, rather than promoting classroom behavior or success in academic subjects. There is discontinuity (Galton et al., 2003a, 2003b; Sameroff et al., 2004) between the primary school teacher and his/her students in the lower secondary school relationship. Students have to re-negotiate their relationships with new teachers in the new school environment, and the former teacher-student relationships do not predict students' post-transition outcomes.

The results were partially in line with Hypotheses 3a–3c in that cynicism mediated the effects from peer support to Grade 7 outcomes but support from teachers did not. Pre-transition support from peers appeared to promote students' post-transition academic achievement and behavioral engagement by preventing or reducing school-related cynicism regarding the meaning of school. This is a significant, novel finding, as it suggests that perceived peer support forms the most influential buffering factor against adverse effects, and promotes students' post-transition success at school. Students' academic achievement (Kingery et al., 2011) and behavioral engagement (Kingery & Erdley, 2007; Kingery et al., 2011; Wang & Degol, 2014) at the beginning of lower secondary school may be reinforced by fostering students' peer relationships and interaction skills early on in primary school. There is evidence to show that supporting students' social and emotional learning, including their competency to establish and maintain positive relationships with peers, positively impacts multiple valued outcomes. A meta-analysis (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011) showed that universal programs for Grades K-12 that are led by school personnel and focus on students' social and emotional learning (SEL), improve students'

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behavioral adjustment and standardized academic achievement test scores (regarding the positive impacts of SEL instruction on academic achievement in high-risk school settings, see Schonfeld et al., 2015). The meta-analysis indicated an 11% difference in students' academic achievement between those who participated in the universal programs and the control group.

The present study has some limitations that need to be taken into account when evaluating the findings. First, the current study was mainly based on a single informant, namely using student self-ratings. Using a single informant may be problematic due to the common method variance, because it may inflate the relationships between the study variables (Cole & Maxwell, 2003). However, we also found meaningful associations between student-perceived cynicism and the more objective measurement of the students' grade point averages drawn from school registers. Future studies on this topic should combine reports by students, teachers, and parents to avoid the problems associated with common method variance and self-reports. Second, the analyses were based on two measurement points. Future studies should apply at least three measurement points in order to examine mediation in the fully longitudinal design, and conduct cross-lagged analysis to examine the possible bi-directional associations between the variables. Third, even though differences between schools are small in Finland, future research should account for relevant school-level variables in primary to lower secondary school transition studies. Fourth, the overall effects found in the current study were relatively small in magnitude. However, given that peer and family support were predicting changes in the outcome variables, rather than levels, the practical significance of the results is noteworthy. The results provide a practical means to reduce student-perceived cynicism and improve their academic outcomes and behavioral engagement, thus contributing to adolescents' overall quality of life. Further studies could be extended to model unobserved heterogeneity in the data (see e.g., Marsh, Lüdtke, Trautwein, & Morin, 2009) and examine the influences of social support among different sub-groups of

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youth. Finally, this study was conducted in a specific educational and cultural context, which may limit the generalizability of the results to other school contexts. However, the educational contexts share multiple similarities with other developed countries, increasing the external validity of the study. The similarities include the changes in the school environment in the transition from primary to lower secondary school, with increased academic demands and changes in peer groups and teachers at an age when peers are increasingly important for students (LaFontana & Cillessen, 2010; Steinberg, 2008).

The study involves multiple strengths. First, it focused on the longitudinal effects of student-perceived social support across an important developmental phase, namely students' transition from primary to lower secondary school, using data collected outside the US and UK where the majority of prior studies have been conducted. Second, prior levels of outcome variables along with parental educational levels were controlled for in the design. This allowed us to draw stronger conclusions on the predictive effects of student-perceived social support dimensions on changes in outcome variables (i.e., Grade 7 cynicism, academic achievement, and behavioral engagement), than studies without controls for the previous levels of outcome variables. Third, invariance of the measurement model was tested for and equal factor loadings were supported both across gender and the two time points. Finally, the attrition rate from Grade 6 to 7 was very low, increasing the confidence on the accuracy of the estimates.

Conclusion

The results of this study provide novel contributions to the existing literature by showing that peer support is an important protective mechanism against school disengagement, and particularly cynicism, during the primary to lower secondary school transition. Students' experiences of peer support had a positive effect on their subsequent academic achievement and behavioral engagement indirectly via decreased cynicism. Perceived support from pre-

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transition peer networks provides students with continuity between primary school and the new school environment in lower secondary school. Thus, it acts as an emotional resource, buffering adverse effects towards school, such as cynicism (see Kingery et al., 2011), and helping students to remain engaged at school (Juvonen et al., 2012). The results also showed mean stability of cynicism across the transition supporting the measures taken in Finland to balance between the continuities and discontinuities at the school transition (stable basic education curriculum, neighborhood school principle, transfer of information, post-transition induction weeks, placing prior-transition friends in the same post-transition classroom). In order to promote a successful transition to lower secondary school, primary schools need to pay attention to constructing good relationships between students. Lower secondary schools can continue this work by guaranteeing continuity in students' relationships with their peers. Finally, parents should be made aware that they are an important link during their child's critical transition from primary school to lower secondary school, acting as a resource to promote a student's post-transition behavioral engagement.

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Table 1

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Bivariate Correlations between Variables, Means, Standard Deviations, and Intraclass Correlations

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Grade 6: Cynicism										
2. Grade 6: Teacher-student relationships	-.49***									
3. Grade 6: Family support for learning	-.38***	.41***								
4. Grade 6: Peer support at school	-.29***	.38***	.44***							
5. Grade 6: Academic achievement	-.37***	.18***	.22***	.21***						
6. Grade 6: Behavioral engagement	-.65***	.39***	.37***	.28***	.44***					
7. Grade 7: Cynicism	.66***	-.35***	-.32***	-.28***	-.35***	-.46***				
8. Grade 7: Academic achievement	-.39***	.17***	.22***	.19***	.87***	.42***	-.43***			
9. Grade 7: Behavioral engagement	-.55***	.29***	.31***	.23***	.42***	.57***	-.65***	.51***		
10. Parental educational level	-.13***	.00^{ns}	.11***	.07^{ns}	.36***	.09***	-.13***	.36***	.13***	
M	2.29	3.00	3.52	3.03	8.23	3.16	2.29	8.10	3.14	3.47
SD	0.97	0.66	0.50	0.59	0.70	0.46	0.97	0.81	0.49	1.47
ICC_{school}	.05**	.00^{ns}	.01^{ns}	.02*	.11**	.02^{ns}	.02^{ns}	.10**	.02^{ns}	.09***
$ICC_{classroom}$	.06***	.10***	.01^{ns}	.03**	.14***	.04*	.03^{ns}	.12***	.01^{ns}	.10***

Note. ICC = Intraclass correlation. *** $p < .001$, ** $p < .01$, * $p < .05$, ns = nonsignificant, two-tailed.

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Appendix

[TABLE 2 NEAR HERE]

Table 2

Standardized Regression Coefficients of the SEM model

	Cynicism, Grade 7	Behavioral engagement, Grade 7	Academic achievement, Grade 7
Teacher-student relationships	-0.01 (0.031)	-0.02 (0.026)	-0.02 (0.018)
Family support	-0.05 (0.031)	0.04 (0.028)	0.01 (0.018)
Peer support	-0.07* (0.030)	-0.03 (0.025)	-0.03 (0.015)
Behavioral engagement, Grd 6	-0.02 (0.035)	0.30*** (0.028)	0.00 (0.017)
Cynicism, Grd 6	0.54*** (0.039)	-	-
Academic achievement, Grd	-0.11*** (0.026)	0.12*** (0.023)	0.80*** (0.015)
Parental educational level	-0.01 (0.027)	-0.01 (0.021)	0.06*** (0.016)
Cynicism, Grd 7	-	-0.48*** (0.029)	-0.15*** (0.019)

Note. Standard errors in parenthesis. *$p < .05$; ***$p < .001$.

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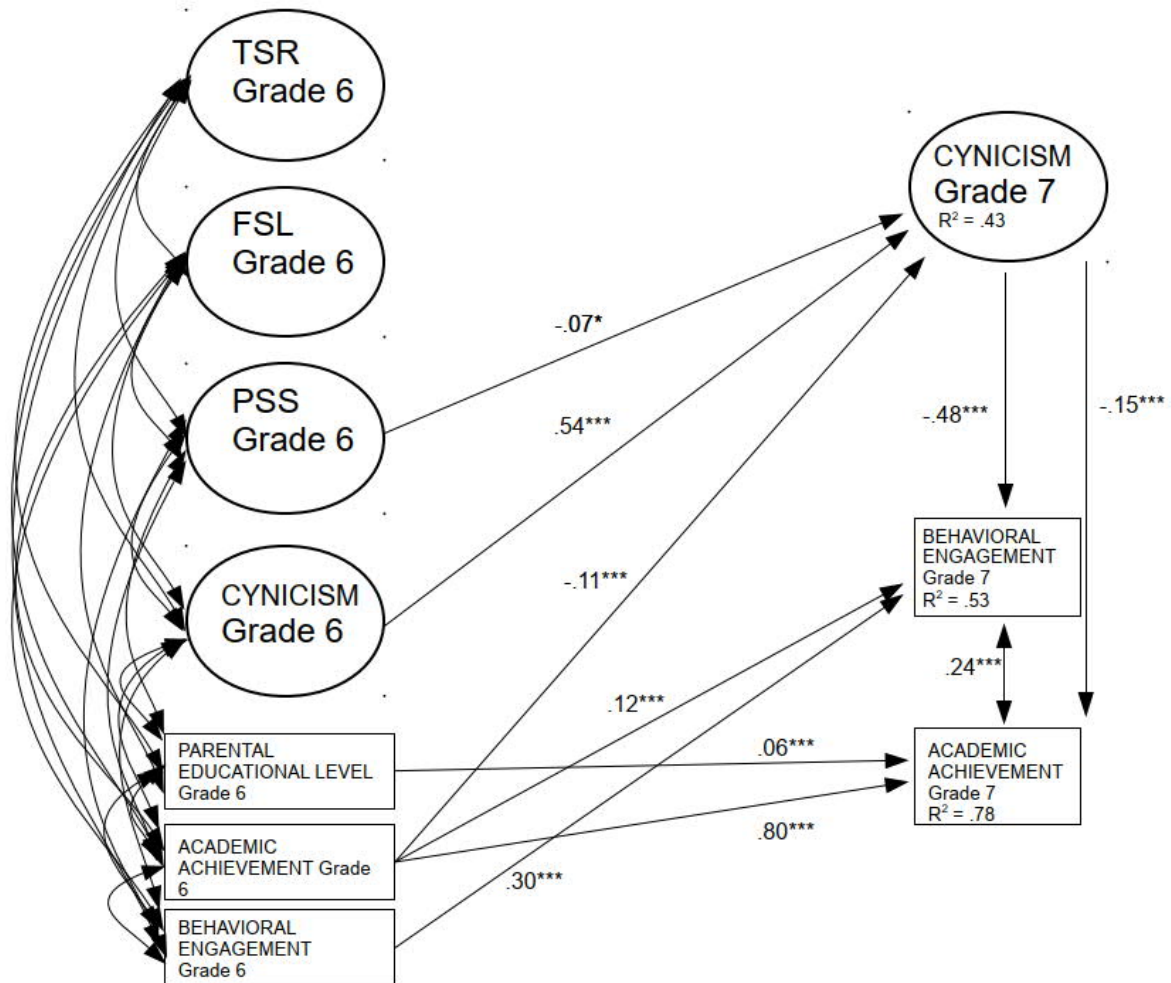
Figure 1. Statistically significant standardized path coefficients from structural equation modeling analysis. Circles indicate latent variables, and rectangles indicate observed variables. *Note.* TSR = Teacher-Student Relationships, FSL = Family Support for Learning, PSS = Peer Support at School. ***$p < .001$, *$p < .05$, two-tailed. For correlation coefficients between independent variables, see Table 1.

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