Routledge
Taylor & Francis Group

Social support experiences by pupils in finnish secondary school

Réa Ahola[a], Tiina Soini [ID][a], Janne Pietarinen [ID][b] and Kirsi Pyhältö [ID][c]

[a]Faculty of Education and Culture, Tampere University, Tampere, Finland; [b]School of Applied Educational Science and Teacher Education, Philosophical Faculty, University of Eastern Finland, Joensuu, Finland; [c]Centre for University Teaching and Learning, Faculty of Educational Sciences, University of Helsinki, Helsinki, Finland

ABSTRACT

The study explores the schoolwork social support experiences of teachers, peers and parents. The data were collected from 1529 Finnish seventh-grade (age 13–14 years) pupils using *The Students' Learning Agency* inventory (SLA). The results indicate that social support is a dynamic system in which adult support is an important resource for pupils' schoolwork, regardless of the pupils' gender and sosio-economic status of the school. In particular, support from teachers increased the likelihood of support sharing between peers. However, there were differences in this teachers' effect on peer support in terms of gender; the connection was weaker for girls than for boys. Hence, teacher support appeared to affect boys' peer relations more than girls'.

Introduction

A significant body of prior research on pupils' school experiences indicates that the social support for school work, creating positive relationships in the school context (House et al., 1988), plays a central role in pupils' study trajectories (Pyhältö, 2018, see also Wang & Eccles, 2012; Goodenow, 1992; Estell & Perdue, 2013). A supportive social environment has for example, been shown to increase pupils' willingness to invest time and effort in their studies (Estell & Perdue, 2013; D. P. Martin & Rimm-Kaufman, 2015; Ulmanen, 2017; Urdan & Schoenfelder, 2006; Wentzel et al., 2017), to support their social and academic adjustment (Demaray & Malecki, Demaray and Malecki, 2002a, 2002b) and to facilitate good learning outcomes and school satisfaction in school (Danielsen et al., 2009; Richman et al., 1998; Wang & Eccles, 2012). Particularly support from teachers in schools and adults at home has been shown to have both direct and indirect positive consequences, such as building positive attitudes towards schoolwork and a constructive classroom climate (Ahmed et al., 2010; Chen, 2005; Rice et al., 2013; Wang & Eccles, 2012; Wentzel, 1999; Woolley & Bowen, 2007; Woolley et al., 2009). Furthermore, peer social support plays a central role in school experience (A. J. Martin & Dowson, 2009; Ulmanen, 2017; You, 2011), promoting pupils to develop their social skills and achieve learning goals (A. J. Martin & Dowson, 2009; Juvonen, 2006; Juvonen et al., 2000). Experiences of social support for schoolwork have been shown to differ in terms of gender (Wentzel et al., 2016) and socio-economic background (Malecki & Demaray, 2006). However, functional support for schoolwork cannot be taken for granted. In fact, a considerable number of pupils appear to struggle with their studies due to the lack of sufficient support (e.g. Marion et al., 2014; Salmela-Aro et al., 2009; Salmela-Aro & Upadaya, 2012; Ulmanen et al., 2016). Moreover, both study engagement and achievement tend to decrease in adolescence (Marks, 2000; Moreira et al., 2018; Wang & Eccles, 2011).

CONTACT Réa Ahola ✉ rea.ahola@tuni.fi

Although the relationship between social support and success in school work has been studied quite extensively, there is a gap in the literature concerning the anatomy and dynamics of the social support from different sources as perceived by pupils. This study explores the experiences of 7th graders of social support for school work from teachers, peers and parents. It is hypothesized that support from teachers and parents enhances pupils' peer support (e.g. Farmer et al., 2011; Newton et al., 2014). In addition, interrelation between the experienced social support and the socio-economic status of the school district and gender are analysed.

Social support for schoolwork

Social support refers to the social resources perceived to be available and used (see the seminal work of Cohen et al., 2000) by pupils. It is related to an individual's experience of being liked, cared for (Goodenow, 1993; Murdock & Miller, 2003) and valued and a feeling of social cohesion (Cobb, 1976). Such experiences are shown to buffer adverse outcomes, such as alienation from school work (Malecki & Demaray, 2002). Social support for school work is composed of the sources and forms of the support, support dynamics and support fit (see Cohen & Syme, 1985; Pyhältö, 2018; Wang & Eccles, 2012). In literature, distinctions between three complementary forms of support, including emotional, informational and instrumental support have been made (e.g House, 1981; Tardy, 1985). Emotional support refers to empathy, trust, listening, esteem, caring, encouragement and belonging to the school community, while informational support is characterized by information such as advice, feedback and suggestions (Cobb, 1976; House, 1981; Thoits, 2011) that enable a student for example, to solve a school-related task. Finally, instrumental support is usually directed to practical tasks or problems and offers both behavioural and material assistance (Chen, 2005; Thoits, 2011). This study focuses on emotional and informational support for school work.

The support dynamics refers to whether the support is received, given or reciprocal. Roles of the giver and receiver may vary over time, even benefitting both sides (Breines & Chen, 2013; Feeney & Collins, 2015). An individual's ability to give or receive social support and to utilize the support that is available is related to several individual and environmental attributes (see House, 1981). For example, a pupil's willingness to seek help is dependent on their social efficacy and social skills (see A.M. Ryan & Pintrich, 1997; Segrin et al., 2016). Similarly, willingness to give support requires skills and resources to act in a responsible way (Feeney & Collins, 2015). Pupils' aspiration and willingness to support others is highly dependent on their perceptions of the availability of resources provided for them. For example, Capella et al. (2012) showed that the high emotional support in the classroom was related to the increased emotional well-being, secure friendships and experienced enjoyment.

Some sources of social support can be more important than the others, depending on the pupil (e.g. individual differences in need or desire for support) and the support needed in the situation (Cohen & Syme, 1985; House, 1981; Pyhältö, 2018; Tanigawa et al., 2011; Wang & Eccles, 2012). There is also some evidence, that social support from several complementary sources may be more beneficial than from only one or two sources (e.g. Marks, 2000; Woolley & Bowen, 2007). It is also known, that a pupil's sense of social support is constructed through representations of self, important others, the nature of interpersonal relationships and the observable features of relationships in which supportive behaviour occurs (Sarason et al., 1990; see also Feeney & Collins, 2015).

Sources of support for schoolwork

The social support provided by the school consists of official and unofficial relationships within the school community (e.g. House, 1981; Malecki & Demaray, 2002; Tardy, 1985). At school, teachers and peers provide the primary sources of support for the schoolwork (Kiefer et al., 2015; Liu et al., 2016). Although peer support has been found to contribute to pupils' school adjustment, and reduced risk of study burnout, the negative behaviours and emotions have also been found to accumulate in close relationships (e.g. Guay et al., 1999; A. M. Ryan & Patrick, 2001; Salmela-Aro et al., 2008). For

example, close relationships with peers having a cynical attitude towards school work may also have a negative impact on the pupil's friends (Nesdale et al., 2014; Wentzel et al., 2004). Reciprocal support in peer relations, such as mutual help, is an essential part of classroom work and a valuable resource in various social and academic tasks (e.g. Sieber, 1979; Wentzel, 1998), and hence favours engagement in school work. Peer support may consist of both informational and emotional support, such as advice, appraisal feedback and encouragement (Thoits, 2011), which can be powerful motivators for studying (Estell & Perdue, 2013; Jelas et al., 2016; Wentzel & Watkins, 2002), and can facilitate feelings of competence, interest and enjoyment of learning (Ahmed et al., 2010).

Supportive and nurturing relationships with teachers and with adults at home may have both direct (e.g. academic) and indirect (e.g. peer support, classroom atmosphere, social skills development) impact on learning (e.g. Vollet, 2017). Particularly, teacher support has been found to have a significant impact on pupils' school achievement and adjustment (Chen, 2005; T. F. Hughes et al., 2008; Kiefer et al., 2015; King & Ganotice, 2014; Malecki & Demaray, 2003; Wentzel et al., 2016). For example, creating a warm and supportive classroom environment enables students to cultivate both their academic and the interpersonal skills (Farmer et al., 2011; Gest & Rodkin, 2011; Howes, 2000; Hughes & Chen, 2011; J. N. Hughes et al., 2001). Moreover, the teacher support creates a foundation for other supportive behaviour (e.g. sharing support) among the peer group by e.g. modelling caring relationships, establishing dialogues characterized by a search for common understanding, empathy or appreciation and hence providing practice and opportunities for pupils to gain these skills (Noddings, 2005), in addition to directly promoting school adjustment (e.g. Gest et al., 2014; Hamm et al., 2011).

Social support from home is also a significant predictor of school success (Chen et al., 2015; Vasques et al., 2016; C. W. Wang & Neihart, 2015). For example, family support and guidance has been shown to predict maths grades (Azmitia et al., 2009). High levels of guardian support, such as showing interest in academic goals and higher expectations in studying, are associated with higher achievement (Hopson et al., 2014; Kay et al., 2016; Lukin, 2013). It has been shown, that support from adults at home is also positively related to the adolescents' communication, emotional support and relationship satisfaction within their close peer relationships (Tuggle et al., 2014). Hence, a child's prosocial and responsive behaviour, engendering bidirectional interaction patterns with peers, is promoted by the guardian's warm and responsive behaviour towards their child (Hart et al., 2003; Newton et al., 2014), and further enhances the pupil's ability to use peers as a resource of social support in school work (e.g. Wentzel, 1996) and also to provide support for others.

Age, gender and socio-economic status

The experiences of social support for schoolwork have been shown to be influenced by a pupil's age, gender and socio-economic background. Social support, especially from peers, is crucial in adolescence when the need for belonging and for receiving acceptance and valuation increases (Connell, 1990; R. M. Ryan & Deci, 2002; Wentzel, 1998). In adolescence, peers become increasingly important, whereas the teacher's influence declines (Buhrmester & Furman, 1987; Rice et al., 2013). At the same time, teacher-student relationships typically become less close (0'Connor, 2010; Baker, 2006; Ulmanen, 2017; Wigfield et al., 2015), partly due to the transition from primary school, with one primary teacher, to secondary school with separate subject teachers. Hence, the need for social support remains, but responsiveness to support may decrease. A need to form and maintain supportive relationships that facilitate adolescents' sense of connectedness, reinforcing their willingness to make an effort and their commitment to studying, is essential (Juvonen, 2007).

Gender differences in experienced social support for studying have been detected (Marks, 2000; Rueger et al., 2010; Wentzel et al., 2016). In general, girls' adjustment to the school environment is found of be better than that of boys (e.g. Liu et al., 2016; Virtanen et al., 2014; Wang & Eccles, 2012), and they are more capable of utilizing peer support in studying (Rueger et al., 2010). Girls also tend to be better sources of mutual support and use more emotional support strategies than boys (Camara et al., 2017; Wentzel et al., 2017). They also rely on their best friend more heavily than boys (Furman &

Buhrmester, 1985), and they exhibit a lot of strengths in their friendships, for example, in terms of shared intimacy and emotional support (MacEvoy & Asher, 2012). Girls have been shown to share their worries, to expect and receive support and to offer it to each other more actively than boys (Blyth & Foster-Clark, 1987; Weigel et al., 1998). Girls also report more support from various sources than boys (Demaray & Malecki, Demaray and Malecki, 2002a; Rueger et al., 2010). However, the sense of belonging to the school community is strengthened when moving to the older classes, especially among boys (Halme et al., 2018).

A pupil's socioeconomic status (SES) is related to social support for schoolwork (Malecki & Demaray, 2006; Plunkett et al., 2009; Wang et al., 2012). It has been shown that pupils from low-income families and those with low readiness skills may be especially responsive to social support for studying (e.g. Baker, 2006; Hamre & Pianta, 2005). SES is also a significant predictor of academic achievement and other pupil outcomes, including e.g. effort and persevering in learning (J.-S. Lee, 2014). The social support of teachers and parents contributes to the academic achievement, especially among pupils with disadvantaged backgrounds (Malecki & Demaray, 2006). The impact of socio-economic background of the school district or the pupils' socio-economic background on achievement e.g. in literacy has been less influential in the Finnish context (Sulkunen et al., 2010). However, the influence of home background on a pupil's school outcomes has increased in Finland, whereas it has remained unchanged in other OECD countries (Vettenranta et al., 2016). Family SES directly predicts adult education level in Finland (Lindfors et al., 2018). There has also been increasing evidence for socio-economic segregation across and within schools in bigger cities in Finland, for example, diversification in learning outcomes (Berisha & Seppänen, 2017; Tikkanen, 2019) and urban segregation around schools (Bernelius & Vaattovaara, 2016; Vilkama et al., 2013).

Aim of the study

The study aims to gain better understanding of the social support from teachers, peers and guardians for studying among Finnish 7th graders. The interrelations between the perceived support from these sources and gender and school SES were also explored.

The following hypotheses were addressed:

Hypothesis 1: Social support from teachers and guardians is positively related to perceived peer support (Estell & Perdue, 2013; Kiefer et al., 2015).

Hypothesis 2: Effects of experienced social support from teachers and guardians on the social support between peers differ in strength (Wang & Eccles, 2012)

Hypothesis 3: Effects of experienced social support from teachers and guardians on the social support between peers are different in terms of gender (Demaray & Malecki, Demaray and Malecki, 2002a; Liu et al., 2016).

Hypothesis 4: Effects of experienced social support from teachers and guardians on social support between peers are different in schools in high and low SES neighbourhoods (e.g. Marks, 2000).

Methods

Lower secondary school

In Finland, children begin school at the age of seven. Compulsory comprehensive education lasts for nine years. It is divided into primary school (grades 1–6) and secondary school (grades 7–9). This basic education has the two main goals of promoting simultaneously high quality learning outcomes

and children's personal growth and well-being (Pyhältö et al., 2010). There is no private school system. Since 1998, parents have had the right to choose a school for their children. However, most parents want that their children go to the neighbourhood school. Most of them are highly satisfied with the teaching, cooperation and assessment in school (Y. Lee, 2010).

The Finnish teachers have an MA degree and they can operate quite independently in their work. During primary school, the pupils have their own class teacher, who usually teaches them several subjects. In upper class teachers' role is more like that of a supervisor. Other teachers are mainly subject teachers, who teach their own specific subjects. Despite the overall rather small differences between schools in the pupils' academic performance and well-being (Halme et al., 2018; Vettenranta et al., 2016), regional differences have been found to have increased in recent years (Bernelius & Vaattovaara, 2016; Vettenranta et al., 2016). Transition to the secondary school is risky for pupils in many ways. In this context, teachers have a strong influence on creating the conditions for a supportive atmosphere in the classroom work.

Participants and data collection

The data for this study was drawn from the School matters -research project. Before conducting the study, parents gave informed consent for their children to participate in the study. The pupils were informed that participating in the research was voluntary. The data was collected from the pupils in whole class settings and research group members organized and guided the whole study situation. The pupils' teachers did not see their pupils' answers. A trained research assistant coded the responses into SPSS -files later. Altogether 1529 seventh-graders (girls n = 781; 51.1% and boys n = 748; 48.9%) from 28 lower secondary schools around Finland completed the survey in autumn 2017. Each school's SES variable indicated the socio-economic characteristics of the residential area surrounding the school (see sampling strategy): 0 = low (n = 36), 1 = high (n = 38).

Instrument

The data were collected using a survey measuring pupils' experienced social support in terms of their schoolwork, the Students' Learning Agency -inventory (SLA), which was developed and piloted by the research group. The scales assessing social support from teachers, parents and peers were used in this study. The scale consisted of 20 statements about different aspects of social support describing the nature of supportive behaviours. The reliability analysis and the used scales with items are presented in Appendix A1.

Social support between peers was assessed with a sub-scale consisting of ten items with a seven-point Likert-scale ranging from 1 to 7. The items of peers' support included items on both receiving and giving support, including aspects of socially responsive behaviours, such as taking care of others, and being encouraging and helpful. Social support from teachers was assessed with a sub-scale consisting of eleven items with a seven-point Likert-scale ranging from 1 to 7. The items measure emotional and instructional support from teachers, for example, items including the pupils' perception of their teachers' caring, encouragement and helpfulness. Social support from adults at home was assessed with a sub-scale consisting of seven items with a five-point Likert-scale ranging from 1 to 5. The scale (based on Lukin, 2013, p. 77) measures pupils' experiences of daily parental practices and parents' involvement in schoolwork, for example, how often parents show interest, encourage and help with school tasks.

Sampling of the schools based on SES

The selection of the schools (SES-sample) included three phases. Firstly, six different school districts representing the geographical variation (urban/rural) in Finland were selected in the sample (Pyhältö et al., 2018; Soini et al., 2017; Pietarinen et al., 2017). Secondly, on the basis of national statistics (Basic

Statistics Finland, 2014), schools with upper grades in the districts were profiled in terms of socio-economic status (SES) of the living area. More specifically, the school's SES index was established on the basis of six different socio-economic indicators: the proportion of adults with a higher education degree, the proportion of adults with only basic education, the median income of the residents, the median income of the households, the unemployed-employed ratio, and the unemployment percentage in the living area surrounding each school.

Thirdly, based on the combination of the six SES indicators, the comparable SES index/school was calculated and 50% of the lower secondary schools (>50 students), posited in the upper- and lower quarters in terms of the SES index, were included in the study sample (N = 28). The school authorities of the respective districts granted a general research permit. On the basis of district- and city-level permissions those schools in the area were contacted and invited to collaborate for data collection during the autumn term 2016. Of the lower secondary schools, 11 schools were from high SES areas and 17 from low SES areas. All in all, 75 out of 94 schools accepted the invitation and participated in the study (i.e. school-level response rate was 80%).

Data analyses

Our purpose was to determine whether social support from teachers and parents promotes the social support that pupils experience between peers (as a relational system) and are there differences in the strengths of these relations in terms of gender and school SES (high/low). Linear regression analyses were performed. The support from teachers and home were analysed as predictors of the shared support between peers (Model 1). The support from teachers and homes as predictors of the shared support between peers was analysed separately for the girls and boys (Model 2). In the third model, the support from teachers and homes as predictors of shared support between peers was analysed separately for the pupils of schools in the low-SES and high-SES areas. Finally, the statistical significance between the regression coefficients of different effects (Models 2 and 3) was tested with an additional set of linear regression models. These included the original predictors, a dummy coded grouping variable (gender in Model 2 and school SES in Model 3) and the corresponding interaction terms of social support and dummy variables. For the regression analyses, the support from home variable was rescaled as 1–7. All analyses were performed with SPSS Statistics (version 26).

Intra-class correlations (ICC) of each variable were calculated. Class-level clustering appears to have some effect on social support received from teachers [ICC = .066], peers [ICC = .052] and guardians [ICC = .027]. Missing values in each variable as social support from teachers, peers and guardians was 1.1%.

Results

Experienced social support in seventh graders

The means, standard deviations and intercorrelations of all sub-scales are presented in Table 1. The results revealed that the pupils experienced a good level of social support for schoolwork from peers [$M = 5.13$, $SD = 1.16$], teachers [$M = 4.80$, $SD = 1.26$] and guardians [$M = 3.76$, $SD = 0.78$]. The t-tests show statistically significant differences [$p < .001$, Cohen's $d = .46$] between boys and girls in the level of experienced social support from peers. The girls [$M = 5.39$] experienced more shared support among peers compared to the boys [$M = 4.86$]. However, the results show that there were no statistically significant differences in received support from teachers [$p = .66$] or guardians [$p = .09$] between genders. The result revealed that the experienced social support from peers in high-SES [$M = 5.12$] and low-SES [$M = 5.14$] area schools was at good level. Accordingly, the pupils experienced that they received a good level of social support from teachers in high-SES [$M = 4.81$] and low-SES

Table 1. Descriptive statistics and t-test results for gender and SES differences in social support.

	Correlations					Girls	Boys	Cohen's d (gender diff.)	High SES	Low SES	Cohen's d (SES diff.)
	1	2	3	N	α	M (SD)	M (SD)		M (SD)	M (SD)	
1 Teacher support	-			1494	.95	4.79 (1.26)	4.82 (1.28)	−.02	4.81 (1.26)	4.78 (1.27)	.02
2 Peer support	.59**	-		1542	.93	5.39 (1.05)	4.86 (1.22)	.46*	5.12 (1.15)	5.14 (1.18)	−.02
3 Guardian support	.35**	.31**	-	1544	.85	3.73 (.81)	3.80 (.75)	−.09	3.78 (.76)	3.72 (.81)	.03

at-Tests were statistically significant at the level p < .001
Guardian support was measured on a five-point scale, whereas teacher and peer support were measured using seven-point scales.

[*M* = 4.78] area schools and also from guardians in high-SES [*M* = 3.78] and low-SES [*M* = 3.72] areas. There were no statistically significant differences in the level of support between peers [*p* = .80], teachers [*p* = .68] and guardians [*p* = .12] in terms of SES schools (high/low).

The results show (Table 2) that all the correlations between the sub-scales were positive and statistically significant [*p* < .001] at the level p < .05 (confirmed Hypothesis 1). Social support from teachers and between peers correlated with each other [*r* = .59]. Moreover, the social support from guardians had a connection with teacher [*r* = .35] and peer [*r* = .31] support. The results indicated that the higher the level of experienced support from teachers and guardians, the higher is the level of experienced peer support.

The effect of experienced social support from teachers and guardians on the social support between peers in terms of gender and school SES (high-low) was also analysed. The results are presented below (Table 3):

The results of regression analyses (Model 1) supported Hypothesis 2: A strong effect [*β* = .549] of social support from teachers and a weaker effect from home [*β* = .118] were detected in social support between peers. However, both sources of support were statistically significant [*p* = .000] positive predictors of the peer support [*R²* = .360]. Teacher support has a stronger positive effect on shared support between peers than social support from guardians.

Further, the results of regression analyses (Model 2) partly supported Hypothesis 3. The interaction-effects in experienced social support from teachers and guardians on the social support between peers in terms of gender were tested. Statistically significant gender differences [*β* = −.229, *t* = −2.803, *p* = .005] in the effect of perceived support from teachers on the social support between peers were observed. This means that the effect of experienced social support from teachers on the social support between peers is weaker for girls than for boys. Statistically significant gender differences [*β* = −.023, *t* = −.192, *p* = .848] between the effect of perceived support from guardians on the social support between peers were not observed.

The results of regression analyses (Model 3) did not support Hypothesis 4: The interaction-effects of experienced social support from teachers and guardians on the social support between peers in terms of school SES (high-low) were also tested. Statistically significant differences in degree in the

Table 2. Correlations between three sources of support (1–3), gender and school SES.

	Variable		1	2
1	Peer support			
2	Teacher support	All	59**	
		Girls	597**	
		Boys	625**	
		SES-high	582**	
		SES-low	602**	
3	Guardian support	All	31**	35**
		Girls	368**	380**
		Boys	301**	322**
		SES-high	302**	348**
		SES-low	323**	351**

All correlations were significant at the level p < .001

Table 3. Predictors of social support: Results of Linear Regression Analyses.

Predictors	unstandardized β	β	t =	p =	R²(Adjusted R Square)
Model 1: All 7th graders (N = 1529)					
Dependent variable: Social support -peer. Adjusted R square					.360
Social support – teacher	.549			.000	
Social support – guardian	.118			.000	
Model 2: Interaction effects of gender					
Dependent variable: Social support -peer. Adjusted R square					.405
2.a Social support – teacher	.653	.596	22.708	.000	
Girl	.444	1.021	5.602	.000	
Girl x social support – teacher	−.229	−.103	−2.803	.005	
Dependent variable: Social support -peer. Adjusted R square					.154
2.b Social support – guardian	.328	.488	9.347	.000	
Girl	.262	.610	2.250	.025	
Girl x social support – guardian	−.023	−.014	−.192	.848	
Model 3: Interaction effects of school SES					
Dependent variable: Social support -peer. Adjusted R square					.348
3.a Social support – teacher	.612	.559	18.785	.000	
SES	.066	.154	.800	.424	
SES x social support – teacher	−.074	−.033	−.862	.389	
Dependent variable: Social support – peer. Adjusted R square					.095
3.b Social support – guardian	.316	.471	8.623	.000	
SES	.003	.007	.026	.979	
SES x social support – guardian	−.023	.014	−.192	.848	

effects of experienced social support from teachers [$β = −.074$, $t = −.862$, $p = .389$] and from guardians [$β = −.023$, $t = −.192$, $p = .848$] on the social support between peers in high SES schools were not observed.

Discussion

The aim of this study was to gain better understanding about social support for schoolwork from teachers, peers and guardians as perceived by 7th graders in Finland. A positive finding was that adolescent pupils experience relatively strong support from inside school (teachers and peers), as well as from home. Especially the experienced support from peers was rated quite high. Since the study focused on the social support for schoolwork and learning in school, not just for example, on a good atmosphere or friendship, this could indicate that there is a significant resource in the form of peer support for engaging in schoolwork, even though overall engagement in school is often shown to decrease in adolescence (Alexander et al., 2001; Finn, 1989). However, in line with previous research, our study shows that gender has an impact on the perceived support, especially from peers (Gherasim et al., 2013). Previous studies show that girls and boys may attach different meanings to peer relations in the context of schoolwork. For example, the members of girls' peer groups are similar in terms of adjustment and educational expectations, whereas with boys only problem behaviour is associated with the group members' educational expectations (Kiuru et al., 2007; Wentzel, 1997). This may imply that boys experience more challenges in creating a collective, positive attitudes towards schoolwork and hence, receive less support from each other in learning in school.

The results indicate that teachers and parental support is positively related to the perceived peer support. This is in line with some previous findings (Rautanen et al., 2020) and appears to imply that social support is a dynamic system of interrelated support arising from various sources where support is given, received and shared (see also Estell & Perdue, 2013; Kiefer et al., 2015). Moreover, our results showed that the social support from teachers and guardians are both positive predictors of experienced peer support and that the strongest relationship is found between support from

teachers and peers, i.e. the actors inside the school context. More precisely, support from teachers increased the likelihood of support sharing between peers, implying that teachers' support paves the way and acts as an example for good peer relations by creating a supportive atmosphere in the classroom (Farmer et al., 2011; Hughes & Chen, 2011; Rautanen et al., 2020; K. Wentzel et al., 2018). However, there are differences in this teachers' effect on peer support in terms of gender; the connection was weaker for girls than for boys. In other words, teacher support appeared to affect boys' peer relations more than girls'.

We found no significant differences between experienced support from teachers, guardians and peers related to the socio-economic status of the school which the pupils was attending. Pupils' reported social support for schoolwork was equally high in different areas (not confirmed Hypothesis 4). Hence, the results show that, support from adults has an influence on support sharing between peers. Especially, the significance of the teachers' support is high, regardless of the school's SES. Even though the socio-economic status of the guardians has shown to influence pupil's school achievement (Barr, 2015; M. Wang & Sheikh-Khalil, 2014) there are also some previous studies showing that SES is not a significant factor for the school achievement for adolescents (e.g. Marks, 2000). A growing body of research indicates that an important protective factor for a- risks pupils is the presence of supportive, attentive and caring adults (e.g. Scales & Gibbons, 1996; Wentzel, 1999), which might surpass the effects of economic or other challenges within families. In terms of this, our result is a very positive sign indicating that Finnish homes are able to support school work in adolescence regardless of their income or level of parental education. However, in Finland there are relatively small differences in socio-economic status between areas and municipalities (Karvonen et al., 2018; Yang Hansen et al., 2014). There is also a very strong emphasis on the equality of education, teacher and guardian social support and on the principle of neighbourhood schools.

In adolescence, the significance of engaging in peer relations increases and can even challenge engagement in schoolwork. Adults have a great responsibility to help develop an atmosphere, in which everyone is respected and accepted. This kind of supportive atmosphere may also trigger positive behaviour, such as effort, persistence, and participation that may reflect positively on schoolwork (Furrer & Skinner, 2003; see also King, 2015). For example, guardian involvement in daily practices (e.g. instrumental support) may directly impact pupils' study habits and indirectly foster a sense of trust in others, e.g. peers (Vollet, 2017). Moreover, social support (e.g. emotional and instrumental) from teachers may promote the social support that pupils share between peers. Teachers' a high level of support, respect, care and sensitivity encourage active participation in peer groups, i.e. discussing opinions and thoughts (Furrer & Skinner, 2003; Woolley et al., 2009; Wang & Holcombe, 2010; Wang & Eccles, 2011, p. 2012; Wang & Fredricks, 2014). Especially, the quality of teacher-pupil interactions is linked to pro-social goal pursuit (K. Wentzel & R, 1994, p. 1997) and pupils' engagement such as working hard, enjoyment of learning and a willingness to share ideas and materials with others (Rimm-Kaufman et al., 2015). Previous studies have shown that boys are more at risks of having insufficient support for schoolwork than girls (Kerr et al., 2006; Murberg & Bru, 2004). However, we found that the relationship between support from adults to peer support was even stronger for boys than for girls, which led us to believe that adult support is a powerful tool in constructing a more supportive school experience for boys especially.

Methodological reflections

Our study aimed to explore the social support for schoolwork from teachers, between peers and from adults at home. The results are based on the data that were collected from pupils with a questionnaire. Therefore, the results are based solely on the pupils' self-reports which are influenced by the way they have understood to the questions. There are also individual differences in the social support experiences between the pupils. For example, the words may have different meanings for different pupils. The pupils' experiences may vary notably also. Our results provide only partial

explanations of the relations between social support from different sources, i.e. some of the variance remained unexplained by the variables.

Disclosure statement

We have no known conflict of interest to disclose.

Funding

ORCID

Tiina Soini 🆔 http://orcid.org/0000-0002-0637-8931
Janne Pietarinen 🆔 http://orcid.org/0000-0003-4696-1977
Kirsi Pyhältö 🆔 http://orcid.org/0000-0002-8766-0559

References

0'Connor, E. (2010). Teacher-child relationships as dynamic system. *Journal of School Psychology*, 48 (3) , 187–218. https://doi.org/10.1016/j.jsp.2010.01.001

Ahmed, W., Minnaert, A., van der Werf, G., & Kuyper, H. (2010). Perceived social support and early adolescents' achievement: the mediational roles of motivational beliefs and emotions. *Journal of Youth and Adolescence*, 39(1), 36–46. https://doi.org/10.1007/s10964-008-9367-7

Alexander, K. L., Entwisle, D. R., & Kabbani, N. S. (2001). The dropout process in life course perspective. Early risk factors at home and school. *Teachers College Record*, 103 (5) , 760–822. https://doi.org/10.1111/0161-4681.00134

Azmitia, M., Cooper, C. R., & Brown, J. R. (2009). Support and guidance from families, friends, and teachers in latino early adolescents' math pathways. *Journal of Early Adolescence*, 29(1), 142–169. https://doi.org/10.1177/0272431608324476

Baker, J. A. (2006). Contributions of teacher-child relationships to positive school adjustment during elementary school. *Journal of School Psychology*, 44 (3) , 211–229. https://doi.org/10.1016/j.jsp.2006.02.002

Barr, A. B. (2015). Family socioeconomic status, family healty, and schanges in students' math achievement across high school: A mediational model. *Social Science & Medicine*, 140, 27–34. https://doi.org/10.1016/j.socscimed.2015.06.028

Basic Statistics Finland. (2014). Numbers in parentheses refer to the OECD, OECD (Corporate Author), 1/2016. OECD Economic Surveys: Finland, OECD Economic Surveys: Finland 2016, 7-7.

Berisha, A. K., & Seppänen, P. (2017). Pupil selection segments urban comprehensive schooling in Finland: composition of school classes in pupils' school performance, gender, and ethnicity. *Scandinavian Journal of Educational Research*, 61(2), 240–254. https://doi.org/10.1080/00313831.2015.1120235

Bernelius, V., & Vaattovaara, M. (2016). Choice and segregation in the 'most egalitarian' schools: cumulative decline in urban schools and neighborhoods of Helsinki, Finland. *Urban Studies*, 53(15), 3155–3171. https://doi.org/10.1177/0042098015621441

Blyth, D. A., & Foster-Clark, F. S. (1987). Gender differences in perceived intimacy with different members of adolescents' social networks. *Sex Roles*, 17(11–12), 689–718. https://doi.org/10.1007/BF00287683

Breines, J. G., & Chen, S. (2013). Activating the inner care giver: the role of support-giving schemas in increasing safe self-compassion. *Journal of Experimental Social Psychology*, 49 (1) , 58–64. https://doi.org/10.1016/j.jesp.2012.07.015

Buhrmester, D., & Furman, W. (1987). The development of companionship and intimacy. *Child Development*, 58(4), 1101–1113. https://doi.org/10.2307/1130550

Camara, M., Bacigalupe, G., & Padilla, P. (2017). The role of social support in adolescents. *Are You Helping Me or Stressing Me Out? International Journal of Adolescence and Youth*, 22(2), 123–136. https://doi.org/10.1080/02673843.2013.875480

Capella, E., Watling, J., & Sahu, N. (2012). Children's agreement on classroom social networks: cross-level predictors in urban elementary schools. *Merrill-Palmer Quarterly*, 58(3), 285–313. https://doi.org/10.1353/mpq.2012.0017

Chen, J. (2005). Relation of academic support from parents, teachers, and peers to Hong Kong adolescents' academic achievement: the mediating role of academic engagement. *Genetic, Social, and General Psychology Monographs*, 131 (2), 77–127. https://doi.org/10.3200/MONO.131.2.77-127

Chen, S., Mc Alpine, L., & Amundsen, C. (2015). Postdoctoral positions as preparation for desired careers: A narrative approach to understanding postdoctoral experience. *Higher Education Research & Development*, 34(6), 1083–1096. https://doi.org/10.1080/07294360.2015.1024633

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, 38(5), 300–314. https://doi.org/10.1097/00006842-197609000-00003

Cohen, S., & Syme, L. (1985). Issues in the study and application of social support. In S. Cohen & L. Syme (Eds.), *Social support and health* (pp. 3–22). Academic Press.

Cohen, S., Underwood, L. G., & Gottlieb, B. H. (Eds.). (2000). *Social support measurement and intervention: A guide for health and social scientists*. Oxford University Press.

Connell, J. P. (1990). Context, self, and action: A motivational analysis of self-system processes across the life-span. In D. C. M. Beeghly (Ed.), *The self in transaction: Infancy to childhood* (pp. 61–97). University of Chicago Press.

Danielsen, A. G., Samdal, O., Hetland, J., & Wold, B. (2009). School-related social support and students' perceived life satisfaction. *The Journal of Educational Research*, 102(4), 303–318. https://doi.org/10.3200/JOER.102.4.303-320

Demaray, M. K., & Malecki, C. K. (2002a). Critical levels of perceived social support associated with student adjustment. *School Psychology Quartery*, 17 (3) , 213–241. https://doi.org/10.1521/scpq.17.3.213.20883

Demaray, M. K., & Malecki, C. K. (2002b). The relationship between perceived social support and in maladjustment for students at risk. *Psychology in the Schools*, 39(3), 305–316. https://doi.org/10.1002/pits.10018

Estell, D. B., & Perdue, N. H. (2013). Social support and behavioral and affective school engagement: the effects of peers, parents and teachers. *Psychology in the Schools*, 50(4), 325–339. https://doi.org/10.1002/pits.21681

Farmer, T., Lines, M., & Hamm, J. (2011). Revealing the invisible hand: the role of teachers in children's peer experiences. *Journal of Applied Developmental Psychology*, 32(5), 247–256. https://doi.org/10.1016/j.appdev.2011.04.006

Feeney, B. C., & Collins, N. L. (2015). A new look at social support. A theoretical perspective on thriving through relationships. *Personality and Social Psychology Review*, 19(2), 113–147. https://doi.org/10.1177/1088868314544222

Finn, J. D. (1989). Withdrawing from a school. *Review of Educational Research*, 59 (2) , 117–142. https://doi.org/10.3102/00346543059002117

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, 21(6), 1016–1024. https://doi.org/10.1038/0012-1649.21.6.1016

Furrer, C., & Skinner, E. A. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, 95(1), 148–162. https://doi.org/10.1037/0022-0663.95.1.148

Gest, S. D., Madill, R. A., Zadzora, K. M., Miller, A. M., & Rodkin, P. C. (2014). Teacher management of elementary classroom social dynamics: associations with changes in student adjustment. *Journal of Emotional and Behavioral Disorders*, 22 (2), 107–118. https://doi.org/10.1177/1063426613512677

Gest, S. D., & Rodkin, P. C. (2011). Teaching practices and elementary classroom peer ecologies. *Journal of Applied Developmental Psychology*, 32(5), 288–296. https://doi.org/10.1016/j.appdev.2011.02.004

Gherasim, L. R., Butnaru, S., & Mairean, C. (2013). Classroom environment, achievement goals and maths performance: Gender differences. *Educational Studies*, 39(1), 1–12. https://doi.org/10.1080/03055698.2012.663480

Goodenow, C. (1992). Strengthening the links between educational psychology and the study of social contexts. *Educational Psychologist*, 27(2), 177–196. https://doi.org/10.1207/s15326985ep2702_4

Goodenow, C. (1993). The psychological sense of school membership among adolescents: scale development and educational correlates. *Psychology in the Schools*, 30(1), 79–90. https://doi.org/10.1002/1520-6807(199301)30:1<79::AID-PITS2310300113>3.0.CO;2-X

Guay, F., Boivin, M., & Hodges, E. V. (1999). Predicting change in academic achievement: A model of peer experiences and self-system processes. *Journal of Educational Psychology*, 91 (1) , 105–115. https://doi.org/10.1037/0022-0663.91.1.105

Halme, N., Hedman, L., Ikonen, R., & Rajala, R. (2018). *Lasten ja nuorten hyvinvointi 2017*. Kouluterveyskyselyn tuloksia. Työpaperi 15/2018. Helsinki: Terveyden ja Hyvinvoinnin laitos. http://urn.fi./URN:ISBN:978-952-343-115-7

Hamm, J. V., Farmer, T. W., Dadisman, K., Gravelle, M., & Murray, A. K. (2011). Teachers' attunement to students' peer group affiliations as a source of improved student experiencies of the school social-affective context following the middle school transition. *Journal of Applied Developmental Psychology*, 32 (5) , 267–277. https://doi.org/10.1016/j.appdev.2010.06.003

Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Development*, 76(5), 949–967. https://doi.org/10.1111/j.1467-8624.2005.00889.x

Hart, C. H., Newell, L. D., & Olsen, S. F. (2003). Parenting skills and social-communicative competence in childhood. In J. O. Greene & B. R. Burleson (Eds.), *Handbook of communication and social interaction skills* (pp. 753–801). Erlbaum.

Hopson, L. M., Schiller, K. S., & Lawson, H. A. (2014). Exploring linkages between school climate, behavioral norms, social supports, and academic success. *Social Work Research*, 38(4), 197–209. https://doi.org/10.1093/swr/svu017

House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science*, 241(4865), 540–545. https://doi.org/10.1126/science.3399889

House, J. S. (1981). *Work stress and social support*. Second printing, Addison-Wesley Publishing Company.

Howes, C. (2000). Social-emotional classroom climate in child care, child-teacher relationships and children's second grade peer relations. *Social Development*, 9(2), 191–204. https://doi.org/10.1111/1467-9507.00119

Hughes, J. N., Cavell, T. A., & Willson, V. (2001). Further support for the developmental significance of the quality of the teacher-student relationship. *Journal of School Psychology*, 39(4), 289–301. https://doi.org/10.1016/S0022-4405(01)00074-7

Hughes, J., & Chen, Q. (2011). Reciprocal effects of student-teacher and student-peer relatedness: effects on academic self-efficacy. *Journal of Applied Developmental Psychology*, 32 (5) , 278–287. https://doi.org/10.1016/j.appdev.2010.03.005

Hughes, T. F., Andel, R., Small, B., Borenstein, A. R., & Mortimer, J. A. (2008). The association between social resources and cognitive change in older adults. Evidence from the Charlotte country healthy aging study. *Journal of Gerontology*, 63 (4) , 241–244 https://doi.org/ doi:10.1093/geronb/63.4.P241.

Jelas, Z. M., Azman, N., Zulnaidi, H., & Ahmad, N. A. (2016). Learning support and academic achievement among Malaysian adolescents: The mediating role of student engagement. *Learning Environ Res*, 19, 221–240. https://doi.org/10.1007/s10984-015-9202-5

Juvonen, J., Nishina, A., & Graham, S. (2000). Peer harassment, psychological adjustment, and school functioning in early adolescence. *Journal of Educational Psychology*, 92 (2) , 349–359. https://doi.org/10.1037/0022-0663.92.2.349

Juvonen, J. (2007). Reforming middle schools: focus on continuity, social connectedness and engagement. *Educational Psychologist*, 42(4), 197–208. https://doi.org/10.1080/00461520701621046

Juvonen, J. (2006). *Sense of belonging, social bonds, and school functioning* (pp. 655–674). (P. A. Alexander & P. H. Winne, eds.). Lawrence Erlbaum Associates Publises.

Karvonen, S., Tokola, K., & Rimpelä, A. (2018). Well-being and achievement. Differences between schools from 2002 to 2010 in the Helsinki Metropolitan Area. *Journal of School Health*, 88(11), 821–829. https://doi.org/10.1111/josh.12691

Kay, J. S., Shane, J., & Heckhausen, J. (2016). High-school predictors of university achievement: youths' self-reported relationships with parents, beliefs about success and university aspirations. *Journal of Adolescence*, 53, 95–106. https://doi.org/10.1016/j.adolescence.2016.08.014

Kerr, M., Stattin, H., Kiesner, J., Kerr, M., Stattin, H., & Engels, R. C. M. E. (2006). Peers and problem behavior: Have we missed something? In R. Engels, M. Kerr, & H. Stattin (Eds.), *Friends, lovers and groups: Who is important in adolescence and why?* (pp. 125–153). Wiley.

Kiefer, S. M., Alley, K. M., & Ellerbrock, C. R. (2015). Teacher and peer support for young adolescents' motivation, engagement and school belonging. *RMLE Online*, 38(8), 1–18. https://doi.org/10.1080/19404476.2015.11641184

King, R. B., & Ganotice, F. A., Jr. (2014). The social underpinnings of motivation and achievement: investigating the role of parents, teachers, and peers on academic outcomes. *The Asia-Pacific Education Researcher*, 23(3), 745–756. https://doi.org/10.1007/s40299-013-0148-z

King, R. B. (2015). Sense of relatedness boosts engagement, achievement, and well-being: A latent growth model study. *Contemporary Educational Psychology*, 42, 26–38. https://doi.org/10.1016/j.cedpsych.2015.04.002

Kiuru, N., Aunola, K., Vuori, J., & Nurmi, J.-E. (2007). The role of peer groups in adolescents' educational expectations and adjustment. *Journal of Youth Adolescence*, 36, 995–1009. https://doi.org/10.1007/s10964-006-9118-6

Lee, J.-S. (2014). The relationship between student engagement and academic performance: is it a myth or reality? *The Journal of Educational Research*, 107(3), 177–185. https://doi.org/10.1080/00220671.2013.807491

Lee, Y. (2010). Views on education and achievement: Finland's story of success and South Korea's story of decline. KJEP 7: 2.KEDI. *Journal of Educational Policy* 7 (2) , 379–401.

Lindfors, P., Minkkinen, J., Rimpelä, A., & Hotulainen, R. (2018). Family and school social capital, school burnout and academic achievement: A multilevel longitudinal analysis among finnish students. *International Journal of Adolescence and Youth*, 23(3), 368–381. https://doi.org/10.1080/02673843.2017.1389758

Liu, W., Mei, J., Tian, L., & Huebner, E. S. (2016). Age and gender differences in the relation between school - related social support and subjective well - being in school among students. *Social Indicators Research*, 125(3), 1065–1083. https://doi.org/10.1007/s11205-015-0873-1

Lukin, T. (2013). Motivation in studying mathematics – A longitudinal study on motivational factors and the relations between them during lower secondary school. University of Eastern Finland. Dissertations in Education, Humanities, and Theology No 47.

MacEvoy, J. P., & Asher, S. R. (2012). When friends disappoint: boy's and girl's responses to transgression of friendship expectations. *Child Development*, 83(1), 104–119. https://doi.org/10.1111/j.1467-8624.2011.01685.x

Malecki, C. K., & Demaray, M. K. (2002). Measuring perceived social support: development of the child and adolescent social support scale (CASSS). *Psychology In The Schools*, 39(1), 1–18. https://doi.org/10.1002/pits.10004

Malecki, C. K., & Demaray, M. K. (2003). What type of support do they need? investigating student adjustment as related to emotional, informational, appraisal, and instrumental support. *School Psychology Quarterly*, 18(3), 231–252. https://doi.org/10.1521/scpq.18.3.231.22576

Malecki, C. K., & Demaray, M. K. (2006). Social support as a buffer in the relationship between socioeconomic status and academic performance. *School Psychology Quartely*, 21(4), 375–395. https://doi.org/10.1037/h0084129

Marion, D., Laursen, B., Kiuru, N., Nurmi, J.-E., & Salmela-Aro, K. (2014). Maternal affection moderates friend in influence on schoolwork engagement. *Developmental Psychology*, 50(3), 766–771. https://doi.org/10.1037/a0034295

Marks, H. M. (2000). Student engagement in instructional activity: patterns in the elementary, middle, and high school years. *American Educational Research Journal*, 37(1), 153–184. https://doi.org/10.3102/00028312037001153

Martin, A. J., & Dowson, M. (2009). Interpersonal relationships, motivation, engagement and achievement: yield for theory, current issues and educational practice. *Review of Educational Research*, 79(1), 327–365. https://doi.org/10.3102/0034654308325583

Martin, D. P., & Rimm-Kaufman, S. E. (2015). Do student self-efficacy and teacher-student interaction quality contribute to emotional and social engagement in fifth grade math? *Journal of School Psychology*, 53(5), 359–373. https://doi.org/10.1016/j.jsp.2015.07.001

Moreira, P. A. S., Dias, A., Matias, C., Gastro, J., Gaspar, T., & Oliveira, J. (2018). School effects on students' engagement with school: academic performance moderates the effect of school support for learning on students' engagement. *Learning and Individual Differences*, 67, 67–77. https://doi.org/10.1016/j.lindif.2018.07.007

Murberg, T. A., & Bru, E. (2004). Social support, negative life events and emotional problems among Norwegian adolescents. *School Psychology International*, 25(4), 387–403. https://doi.org/10.1177/0143034304048775

Murdock, T. B., & Miller, A. (2003). Teachers as sources of middle school students' motivational identity: variable-centered and person-centered analytic approaches. *The Elementary School Journal*, 103 (4) , 383–399. https://doi.org/10.1086/499732

Nesdale, D., Zimmer-Gembeck, M. J., & Roxburgh, N. (2014). Peer group rejection in childhood: effects of rejection ambiguity, rejection sensitivity and social acumen. *Journal of Social Issues*, 70(81), 12–28. https://doi.org/10.1111/josi.12044

Newton, E. K., Laible, D., Carlo, G., Steele, J. S., & McGinley, M. (2014). Do sensitive parents foster kind children, or vice versa? bidirectional influences between children's prosocial behavior and parental sensitivity. *Developmental Psychology*, 50(6), 1808–1816. https://doi.org/10.1037/a0036495

Noddings, N. (2005). The challenge to care in schools. In *An alternative approach to education* (Second edition).Teachers College Press.

Pietarinen, J., Pyhältö, K., & Soini, T. (2019). Shared sense-making in curriculum reform: orchestrating the local curriculum work. *Scandinavian Journal of Educational Research*, 63 (4) , 491–505. https://doi.org/10.1080/00313831.2017.1402367

Plunkett, S. W., Behnke, A. O., Sands, T., & Choi, B. Y. (2009). Adolescents' reports of parental engagement and academic achievement in immigrant families. *J Youth Adolescence*, 38, 257–268. https://doi.org/10.1007/s10964-008-9325-4

Pyhältö, K. (2018). Function of supervisory and researcher community support in PhD and post -PhD trajectories. In E. Bizer, L. Frick, M. Fourie-Malherbe, & K. Pyhältö (Eds.), Spaces, journeys and new horizons for postgraduate supervision (pp. 205-222). (Studies into Higher Education; No. 5). AFRICAN SUN MeDIA.

Pyhältö, K., Pietarinen, J., & Soini, T. (2018). Dynamic and shared sense-making in large scale curriculumreform in school districts. *The Curriculum Journal*, 29(2), 181–200. https://doi.org/10.1080/095855176.2018.1447306

Pyhältö, K., Soini, T., & Pietarinen, J. (2010). Pupils' pedagogical well-being in comprehensive school-significant positive and negative school experiences of finnish ninth grades. *European Journal of Psychology Education*, 25, 207–221. https://doi.org/10.1007/s10212-010-0013-x

Rautanen, P., Soini, T., Pietarinen, J., & Pyhältö, K. (2020). Primary school students' experienced social support in relation to study engagement. *European Journal of Psychology of Education* 36 653–672 . https://doi.org/10.1007/s10212-020-00492-3

Rice, L., Barth, J. M., Guadagno, R. E., Smith, G. P. A., & McCallum, D. M., & ASERT. (2013). The role of social support in students' perceived abilities and attitudes toward math and science. *Journal of Youth Adolescence*, 42, 1028–1040. https://doi.org/10.1007/s10964-012-9801-8

Richman, J. M., Rosenfeld, L. B., & Bowen, G. L. (1998). Social support for adolescents at risk of school failure. *Social Work*, 43(4), 309–323. https://doi.org/10.1093/sw/43.4.309

Rimm-Kaufman, S. E., Baroody, A. E., Larsen, R. A. A., Curby, T. N., & Abry, T. (2015). To what extent do teacher-student interaction quality and student gender contribute to fifth graders' engagement in mathematics learning? *Journal of Educational Psychology*, 107(1), 170–185. https://doi.org/10.1037/a0037252

Rueger, S. Y., Malecki, C. K., & Demaray, M. K. (2010). Relationship between multiple sources of perceived social support and psychological and academic adjustment in early adolescence: comparisons across gender. *Journal of Youth and Adolescence*, 39(1), 47–61. https://doi.org/10.1007/s10964-008-9368-6

Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, 38(2), 437–460. https://doi.org/10.3102/00028312038002437

Ryan, A. M., & Pintrich, P. R. (1997). "Should I ask for help?" the role of motivation and attitudes in adolescents' help seeking in math class. *Journal of Educational Psychology*, 89(2), 329–341. https://doi.org/10.1037/0022-0663.89.2.329

Ryan, R. M., & Deci, E. L. (2002). Overview of Self-Determination Theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of Self-Determination Research* (pp. 3–33). The University of Rochester Press.

Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J.-E. (2009). School-burnout inventory (SBI): reliability and validity. *European Journal of Psychological Assessment*, 25(1), 48–57. https://doi.org/10.1027/1015-5759.25.1.48

Salmela-Aro, K., Kiuru, N., & Nurmi, J.-E. (2008). The role of educational track in adolescents' school burnout: A longitudinal study. *British Journal of Educational Psychology*, 78 (4) , 663–689. https://doi.org/10.1348/000709908X281628

Salmela-Aro, K., & Upadaya, K. (2012). The schoolwork engagement inventory: energy, dedication, and absorption (EDA). *European Journal of Psychological Assessment*, 28(1), 60–67. https://doi.org/10.1027/1015-5759/a000091

Sarason, I. G., Sarason, B. R., & Pierce, G. R. (1990). Social support: The search for theory. *Journal of Social and Clinical Psychology*, 9(1), 133–147 https://doi.org/10.1521/jscp.1990.9.1.133 .

Scales, P. C., & Gibbons, J. L. (1996). Extended family members and unrelated adults in the lives of young adolescents: A research agenda. *Journal of Early Adolescence*, 16 (4) , 365–389. https://doi.org/10.1177/0272431696016004001

Segrin, C., McNelis, M., & Swiatkowski, P. (2016). Social skills, social support and psychological distress: A test of the social skills deficit vulnerability model. *Human Communication Research*, 42 (1) , 122–137. https://doi.org/10.1111/hcre.12070

Sieber, R. T. (1979). Classmates as workmates: informal peer activity in the elementary school. *Anthropology & Education Quarterly*, 10(4), 207–235. https://doi.org/10.1525/aeq.1979.10.4.05x1385g

Soini, T., Pietarinen, J., & Pyhältö, K. (2017). Shared sense making strategies in curriculum reform: district level perspective. *Improving Schools* 21 (2) 111–126 . https://doi.org/10.1177/1365480217744290

Sulkunen, S., Välijärvi, J., Arffman, I., Harju-Luukkainen, H., Kupari, P., Nissinen, K., Puhakka, E., & Reinikainen, P. (2010). PISA 2009 ensituloksia. 15 -vuotiaiden nuorten lukutaito sekä matematiikan ja luonnontieteiden osaaminen.2010:21 (Opetus- ja kulttuuriministeriö)http://urn.URN:ISBN:978-952-485-960-8 .

Tanigawa, D., Furlong, M. J., Felix, E. D., & Sharkey, J. D. (2011). The protective role of perceived social support against the manifestation of depressive symptoms in peer victims. *Journal of School Violence*, 10(4), 393–412. https://doi.org/10.1080/15388220.2011.602614

Tardy, C. H. (1985). Social support measurement. *American Journal of Community Psychology*, 13(2), 187–202. https://doi.org/10.1007/BF00905728

Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior*, 52(2), 145–161. https://doi.org/10.1177/0022146510395592

Tikkanen, J. (2019). Parental school satisfaction in the context of segregation of basic education in urban Finland. *Nordic Journal of Studies in Educational Policy*, 5(3), 165–179. https://doi.org/10.1080/20020317.2019.1688451

Tuggle, F. J., Kerpelman, J. L., & Pittman, J. F. (2014). Parental support, psychological control, and early adolescents' relationships with friends and dating partners. *Family Relations*, 63(4), 496–512. https://doi.org/10.1111/fare.12080

Ulmanen, S. (2017). Miten kiinnittyä kouluun? Oppilaiden näkökulma koulutyöhön kiinnittymisen haasteisiin. Akateeminen väitöskirja. Acta Universitatis Tamperensis 2289 (Tampere University Press)http://urn.fi/URN:ISBN:978-952-03-0465-2 .

Ulmanen, S., Soini, T., Pietarinen, J., & Pyhältö, K. (2016). The anatomy of adolescents' emotional engagemenet in schoolwork. *Social Psychology of Education*, 19(3), 587–606. https://doi.org/10.1007/s11218-016-9343-0

Urdan, T., & Schoenfelder, E. (2006). Classroom effects on student motivation: goal structures, social relationships, and competence beliefs. *Journal of School Psychology*, 44(5), 331–349. https://doi.org/10.1016/j.jsp.2006.04.003

Vasques, A. C., Patall, E. A., Fong, C. J., Corrigan, A. S., & Pine, L. (2016). Parental autonomy support, academic achievement, and psychological functioning. A meta-analysis of research. *Educational Psychology Review*, 28(3), 605–644. https://doi.org/10.1007/s10648-015-9329-z

Vettenranta, J., Välijärvi, J., Ahonen, A., Hautamäki, J., Hiltunen, J., Leino, K., Lähteinen, S., Nissinen, K., Nissinen, V., Puhakka, E., Rautapuro, J., & Vainikainen, M.-P. (2016). Huipulla pudotuksesta huolimatta. PISA 2015 ensituloksia [PISA 2015 First results]. The Ministry of Education and Culture & University of Jyväskylä & University of Helsinki.

Vilkama, K., Vattovaara, M., & Dhalmann, H. (2013). Kantaväestön pakoa? miksi maahanmuuttajakeskittymistä muutetaan pois? ["White flight"? Why do people move out of immigrant-dense neighbourhoods?]. *Yhteiskuntapolitiikka*, 78 (5), 485–497 http://urn.fi/URN:NBN:fi-fe201310236845 .

Virtanen, T. E., Lerkkanen, M.-K., Poikkeus, A.-M., & Kuorelahti, M. (2014). Student behavioral engagement as a mediator between teacher, family, and peer support and school truancy. *Learning and Individual Differences*, 36, 201–206. https://doi.org/10.1016/j.lindif.2014.09.001

Vollet, J. W. (2017 (Portland State University https://pdxscholar.library.pdx.edu/open_access_etds/3774 Accessed 14 october 2021 (to this https-adress))). Capturing peers', teachers', and parents' joint contributions to students' engagement: an Exploration Models. Dissertations and Theses. Paper 3774.

Wang, C. W., & Neihart, M. (2015). How do supports from parents, teachers and peers influence academic achievement of twice-exceptional students. *Gifted Child Today*, 38(3), 148–159. https://doi.org/10.1177/1076217515583742

Wang, M. T., & Fredricks, J. A. (2014). The reciprocal links between school engagement, youth problem behaviors, and school dropout during adolescence. *Child Development*, 85, 722–737. https://doi.org/10.1111/cdev.12138

Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement and academic achievement in middle school. *American Educational Research Journal*, 47(3), 633–662. https://doi.org/10.3102/0002831209361209

Wang, M.-T., & Eccles, J. S. (2011). Adolescent behavioral, and cognitive engagement trajectories in school and their differential relations to educational success. *Journal of Research on Adolescence*, 22(1), 31–39. https://doi.org/10.1111/j.1532-7795.2011.00753.x

Wang, M.-T., & Eccles, J. S. (2012). Social support matters: longitudinal effects of social support on three dimensions of school engagement from middle to high school. *Child Development*, 83(3), 877–895. https://doi.org/10.1111/j.1467-8624.2012.01745.x

Wang, M., & Sheikh-Khalil, S. (2014). Does parental involvement matter for student achievement and mental health in high school? *Child Development*, 85(2), 610–625. https://doi.org/10.1111/cdev.12153

Wang, Q., Chan, H.-W., & Lin, L. (2012). Antecedents of Chinese parents' autonomy support and psychological control: the interplay between parents' self-development socialization goals and adolescents' school performance. *Journal of Youth and Adolescence*, 41(11), 1442–1454. https://doi.org/10.1007/s10964-012-9760-0

Weigel, D. J., Devereux, P., Leigh, G. K., & Ballard-Reisch, D. (1998). A longitudinal study of adolescents' perceptions of support and stress. *Journal of Adolescent Research*, 13 (2) , 158–177. https://doi.org/10.1177/0743554898132004

Wentzel, K. R., McNamara Barry, C., & Caldwell, K. A. (2004). Friendships in middle school: influences on motivation and school adjustment. *Journal of Educational Psychology*, 96(2), 195–203. https://doi.org/10.1037/0022-0663.96.2.195

Wentzel, K. R., Muenks, K., McNeish, D., & Russell, S. (2017). Peer and teacher supports in relation to motivation and effort: A multi-level study. *Contemporary Educational Psychology*, 49, 32–45. https://doi.org/10.1016/j.cedpsych.2016.11.002

Wentzel, K. R., Russel, S., & Baker, S. (2016). Emotional support and expectations from parents, teachers and peers predict adolescent competence at school. *Journal of Educational Psychology*, 108(2), 242–255. https://doi.org/10.1037/edu0000049

Wentzel, K. R., & Watkins, D. E. (2002). Peer relationships and collaborative learning as contexts for academic enablers. *School Psychology Review*, 31(3), 366–377. https://doi.org/10.1080/02796015.2002.12086161

Wentzel, K. R. (1997). Student motivation in middle school: the role of perceived pedagogical caring. *Journal of Educational Psychology*, 89 (3) , 411–419. https://doi.org/10.1037/0022-0663.89.3.411

Wentzel, K. R. (1998). Social relationships and motivation in middle school: the role of parents, teachers, and peers. *Journal of Educational Psychology*, 90(2), 202–209. https://doi.org/10.1037/0022-0663.90.2.202

Wentzel, K. R. (1999). Social-motivational processes and interpersonal relationships: implications for understanding motivation at school. *Journal of Educational Psychology*, 91 (1) , 76–97. https://doi.org/10.1037/0022-0663.91.1.76

Wentzel, K. R. (1996). Motivation in context: Social relationships and achievement in middle school. In J. Juvonen & K. Wentzel (Eds.), *Social motivation: Understanding children's school adjustment* (pp. 226–247). Cambridge University Press.

Wentzel, K., Muenks, K., McNeish, D., & Russell, S. (2018). Emotional support, social goals, and classroom behavior: A multilevel, multisite study. *Journal of Educational Psychology*, 110(5), 611–627. https://doi.org/10.1037/edu0000239

Wentzel, K., & R. (1994). Relations of social goal pursuit to social acceptance, classroom behaviour, and perceived social support. *Journal of Educational Psychology*, 86 (2) , 173–182. https://doi.org/10.1037/0022-0663.86.2.173

Wigfield, A., Eccles, J. S., Fredrick, J. A., Simpkins, S., Roeser, R., & Schiefele, U. (2015). Development of achievement motivation and engagement. In R. M. Lerner, E. Series, & M. Lamb (Eds.), *Handbook of child psychology and developmental science* (Vol. 3, pp. 657–700). Wiley.

Woolley, M. E., & Bowen, G. L. (2007). In the context of risk: supportive adults and the school engagement of middle school students. *Family Relations*, 56(1), 92–104. https://doi.org/10.1111/j.1741-3729.2007.00442.x

Woolley, M. E., Kol, K. L., & Bowen, G. L. (2009). The social context of school success for latino middle school students. Direct and indirect influences of teachers, family and friends. *Journal of Early Adolescence*, 29(1), 43–70. https://doi.org/10.1177/0272431608324478

Yang Hansen, K., Gustafsson, J., & Rosén, M. (2014). School performance differences and policy variations in Finland, Normaw and Sweden. In K. Yang Hansen, J. Gustafsson, M. Rosén, S. Sulkunen, K. Nissinen, & P. Kupari (Eds.), *Northern Lights on TIMSS and PIRLS 2011* (pp. 25–47). Nordic Council of Ministers.

You, S. (2011). Peer influence and adolescents' school engagement. *International conference on education and educational psychology (ICEEPSY 2011). Procedia – social and behavioral sciences* 19th-22nd October 2011 Instanbul Turkey, 29 (Elsevier Ltd), 829–835.

Appendix A1. Reliability analyses and SLA sub-scale items (translated from Finnish)

Scale	α	Items	Range
Social support among peers	0.916	I want to help others in their studies.	1.00–7.00
		My classmates' encouragement inspires me in my studies.	
		I want my friends to do well in school.	
		I have the courage to ask others for help with my studies.	
		I have the courage to offer my friends help with their studies.	
		I feel it is easy for others to ask me for help.	
		I am sure that my classmates think of me as helpful.	
		I support my friends in their studies.	
		I know when my friends need help with their studies.	
Social support from teachers	0.940	My teachers give me encouragement and support.	1.00–7.00
		Problems are addressed in a constructive manner at my school.	
		I am treated with respect.	
		I often receive constructive feedback from teachers.	
		I am treated equally.	
		I can openly discuss problems related to my studies with teachers.	
		I feel that my teachers appreciate the work I have done for my studies.	
		The teachers are interested in my opinions.	
		I feel that my teachers care about me.	
		I often receive encouraging feedback from my teachers.	
		The teachers listen to the students at my school.	
Social support from guardians	0.827	How often has an adult at home . . . wanted to see what kind of homework you have?	1.00–5.00
		How often has an adult at home . . . asked what you have been recently taught?	
		How often has an adult at home . . . asked how you are doing in your studies?	
		How often has an adult at home . . . asked if you need help with your homework or in preparing for an exam?	
		How often has an adult at home . . . told you that school is important?	
		How often has an adult at home . . . asked you if you are satisfied with your studying?	
		How often has an adult at home . . . praised you for doing well in your studies?	