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Children's Perceived Economic Disadvantage and Social Relationships in School: Family Relationships as a Mediating Factor

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Abstract
We investigate how perceived economic disadvantage is associated with social relationships in school among children aged 9–14 years and the mediating effect of family relationships in the association. We measure economic disadvantage through both perceived financial concerns and the child's estimate of the amount of money he or she has compared to friends. Social relationships are measured through the experience that teachers care and trust that other children will help if needed. Family relationships are measured through three variables measuring a child's experiences of communication with parents and having a good time with family. As data, we use the Finnish sub-survey from the third wave of the international survey Children's Worlds, The International Survey of Children's Well-being (ISCWeB) for 2018–2019 ($N=1684$), which we analyze using linear probability regression models. Results show that both measured dimensions of perceived economic disadvantage are negatively associated with the experience that teachers care and the trust that other children help. Family relationships mediate the association of financial concerns with relationships with both teachers and other children in school. Having less money than friends is associated with relationships with both teachers and other children, regardless of family relationships. Attention should be paid to the socio-emotional well-being of economically disadvantaged children in school, especially children who are exposed to vulnerability in family relationships as well. It is important not only to promote economic equality but also to be aware of hierarchies built on economic grounds among children.

Keywords Perceived Economic Disadvantage · Financial Concern · Economic Hierarchies · Teacher Relationships · Peer Relationships · Family Relationships

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1 Introduction

Offering safe, inclusive and effective learning environments equally for all children at all levels of education is declared one of the UN's sustainability goals (The United Nations General Assembly, 2015). Children's school well-being is important for two reasons. Naturally, it has intrinsic value because of the amount of time children spend in school. In addition, school well-being, measured by sense of belonging, sense of safety and caring relationships with peers and teachers, is known to strongly predict children's educational success and achievement later in life (e.g., Jones & Shindler, 2016), especially among children from socioeconomically disadvantaged families (Berkowitz et al., 2017). Thus, school well-being is crucial for social mobility.

Nordic countries, such as Finland, with comparably egalitarian educational systems are often considered bastions of educational equality, which may be the reason for the scarce scientific interest in the topic in those countries. However, the existing literature indicates that economic disadvantage predicts lack of school belonging (Hautala et al., 2022) and a weaker sense of social inclusion (Veland et al., 2009) also in Nordics. In addition, an examination of the underlying mechanisms of the possible association between socioeconomic disadvantage and sense of belonging and inclusion in school is rare or nonexistent. However, due to the weakened results in Programme for International Student Assessement (PISA), differences in children's well-being at school have recently sparked discussions in Finland.

In this article, we investigate the association of children's perceived financial concerns and the amount of money compared to peers with the experiences that teachers care and trust that schoolmates will help when needed. The family stress model suggests that the effect of economic hardship in families is transmitted to children through its effects on parenting (Masarik & Conger, 2016). As the theory has gained broad scientific support from previous studies, we examine the extent to which a child's parental and family relationships mediate the possible aforementioned associations.

Our research has a high contribution value. Although earlier research has covered the association of perceived economic hardship with children's peer relationships, overall well-being and life satisfaction (Main, 2014, 2019), we are not aware of how this association manifests itself in the educational context. The idea of schools being able to effectively balance the differences stemming from children's different family backgrounds prevails, especially in Nordic countries.

It is also important to understand the mechanism behind the possible associations that may stem from different sources. Scarcity can cause a state of stress for both neural and physical conditions, which causes a heightened sense of threat and challenges in joining social relationships (Hackman et al., 2010; McEwen & Gianaros, 2010). On the other hand, a low hierarchical position has also been found to trigger shame and stress and thus to negatively affect emotional health and self-esteem (Twenge & Campbell, 2002). Parental and family relationships may also cushion or mediate these effects. We do not know whether the perceived economic disadvantage actualizes in relationships with teachers as it does with schoolmates. Earlier research literature has indicated that teachers may treat students from different socioeconomic backgrounds differently, giving preferential treatment to better-off students (Jussim & Harber, 2005; McLoyd, 1998).

We were able to cover these gaps in previous research by conducting a linear probability regression analysis on a Finnish sub-survey from the third wave of the international survey Children's Worlds, The International Survey of Children's Well-being (ISCWeB) for 2018–2019 ($N = 1684$). The data enabled the examination of the significance of factors related to both financial concerns and hierarchical positions. In addition, we were able to examine both relationships with teachers and peers and take into account the relevance of family relationships in the possible association.

2 Perceived Economic Disadvantage and Socio-emotional Well-being in School

Instead of focusing only on educational achievements and grades, social scientists and social mobility researchers have started to show growing interest in children's socio-emotional well-being in school as a predictor of many positive outcomes, including academic, behavioral and social outcomes. A sense of connectedness, caring relationships with adults and peers (Hanson & Voight, 2014; Kiefer et al., 2015; Kääriäinen et al., 1997) and a sense of safety (Lacoe, 2020; Shukla et al., 2016) have been found to predict better academic performance and achievement. Psychological safety is a prerequisite for effective learning (Darling-Hammond et al., 2019). A sense of belonging in the school community is strongly related to commitment, intrinsic motivation and participation (Niemiec & Ryan, 2009; Ryan & Deci, 2009; Ryan & Patrick, 2001), academic attitudes and achievements (Ostrove & Long, 2007), better self-esteem and confidence in one's abilities (Dotterer & Wehrspann, 2016; Fattore et al., 2007; Pittman & Richmond, 2007), lower estimated emotional stress (Resnick et al., 1997) and multiple dimensions of students' behavior (Österman, 2000).

When there are deficits in perceived well-being at school, the effects are naturally the opposite. When social and emotional needs are not met and when a child faces peer rejection (Buhs & Ladd, 2001) or low sense of belonging, engagement and connectedness (Foster et al., 2017), decreases in classroom participation, school avoidance, lower performance and self-esteem, mental health problems and higher risk for school dropout (Merikukka et al., 2019; Ream & Rumberger, 2008) are predicted. Students have a strong need to create meaningful relationships with teachers and other students (Korpershoek, 2016). Children themselves emphasize unity, safety, the company of others and a fair and reliable teacher as most important in terms of school enjoyment, rather than their individual needs (Saukkonen, 2003).

Social and emotional well-being seems to be particularly important for children from socioeconomically disadvantaged families (O'Malley et al., 2015). It seems that for disadvantaged children, school well-being might operate as an important compensatory factor, as a positive school climate has a high impact on academic success, potentially reducing the achievement gap among children from different socioeconomic backgrounds (Berkowitz et al., 2017; Bryk & Schneider, 2002; Jones & Shindler, 2016). According to the poverty thesis, a family's lack of material resources plays a central role in the association between children's socioeconomic backgrounds and educational achievement (e.g., Bäckman & Nilsson, 2011; Hobcraft & Kiernan,

2001). For example, Hautala et al. (2022) found economic disadvantage, not parental educational level, to predict adolescents' sense of school belonging in Finland.

However, in the Nordic context in particular, there has been very little research on the association between economic disadvantage and social relationships in school. The existing literature mainly focuses on other societal contexts, such as those in Anglo-American countries, or later-age stages, such as working-class students in higher education (e.g., Hertel, 2002; McGregor et al., 1991; Pittman & Richmond, 2007). Others concentrate on, instead of social and emotional needs and well-being, academic performance and educational achievement (Holzer et al., 2007; Sandsør et al., 2023). The effects of children's perceived economic hardship on their peer relationships have been covered in earlier research (e.g., Hakovirta & Rantalaiho, 2012), but examination of how it manifests itself in educational contexts is not well, if at all, understood. In addition, the mechanisms underlying the possible association are unclear.

In their study conducted in Norway, Veland et al. (2009) found that low socioeconomic status, measured by a single variable, including family wealth, housing standard and parents' level of education, predicted poorer social inclusion in school. Kristofersen (2008, as cited in Veland et al., 2015) found family income and relationships with peers and teachers to have a consistent but relatively weak association. There have also been some indications that perceived economic disadvantage is associated with a lower sense of school belonging (Hautala et al., 2022). A Norwegian study found that parental support mediates the association between socioeconomic status and perceived social relations with teachers but not with peers (Veland et al., 2015).

3 Possible Underlying Mechanisms

The mechanisms behind the possible association between economic disadvantage and children's social and emotional well-being in school remain to be understood. Depending on the societal context, the association is probably explained by different mechanisms. In Nordic welfare states, such as Finland, with free and comparably equal educational systems, low income inequality and generous social security systems (Aaberge et al., 2002; Breen & Luijkx, 2007; Erikson & Goldthorpe, 1992), the association has mostly been explained by stress-related factors rather than purely material obstacles and a lack of material necessities.

Economic hardship in the family does not always cause concern for children (Lindberg et al., 2018, 2019). Parents and society can protect children from financial concerns in many ways, for example by not sharing worries with children (Conger et al., 2002) or by prioritizing children's needs despite economic hardship (e.g., Lindberg et al., 2018). However, children can bear the financial burden, even if their parents do not, if they have fewer financial resources than their friends (Fattore & Mason, 2017; Pugh, 2009). Thus, subjective economic disadvantage does not always indicate objective economic hardship and vice versa. Nevertheless, subjective economic disadvantage is found to be an even more important predictor of children's subjective

well-being than poverty per se (Main, 2014, 2019; Rees et al., 2012) and can affect children's social relationships in the school sphere through many mechanisms.

3.1 Scarcity Getting Under the Skin

According to the scarcity hypothesis, financial stress and worry cause diminished cognitive ability and capacity for learning and observation (Sharif & Mullainathan, 2013). Even the mere perception of monetary scarcity—that is, a subjective feeling of having less than one needs—may reduce cognitive capacity and produce an attention shift toward the source of scarcity. The body does not distinguish the source of stress: financial stress, like any stress, also has neurological effects. In addition to the impact on cognitive abilities, financial stress has social impacts, as the body tunes in to interpret fear and threat from its environment, and the system, responding to social engagement, does not work properly (Hackman et al., 2010; McEwen & Gianaros, 2010). Living in poverty as a child has permanent physiological and psychological effects because of how it affects the child's development (Cohen et al., 2010; Evans & Kim, 2013; Hackman et al., 2010; Saridjan et al., 2010; Ursache et al., 2015). Along with actual poverty, a child's understanding and experience of their own situation can have a positive or negative effect on the child's social and emotional skills (Borghans et al., 2008; Heckman et al., 2006; Ursache et al., 2015). We thus assume that financial concern is negatively associated with a child's experiences of his or her relationships with teachers and peers.

3.2 Sense of Togetherness and Hierarchical Position

A family does not have to suffer crippling poverty for it to affect a child's social relationships. Modern theories emphasize the relative aspects of economic deprivation, especially in welfare states such as the Nordics. Relative poverty is a lack of ability to live a life on par with others (Sen, 1983). In children's worlds, material resources are used to build a feeling of togetherness (Buckingham, 2011; Fattore & Mason, 2017; Pugh, 2009). Having similar amount of resources also keep friends together (Hakovirta & Rantalaiho, 2012) in the school realm (Korkiamäki & Ellonen, 2011).

The stigma of economic disadvantage may be a greater burden than the pure material consequences (Redmond, 2009). Research has shown that individuals with low SES suffer from a lack of recognition and appreciation compared with those at the top of the social hierarchy (Blader & Chen, 2014; Fiske, 2010). A lack of economic resources may cause shame, discrimination and exclusion (van der Hoek, 2005; Walker, 2014). Children of low-income families are found to suffer from bullying and social exclusion more often than their peers (Attree, 2006; Ridge, 2002, 2011). Some studies have also found an association between families' economic capital and school belonging (Chiu et al., 2015; Hautala et al., 2022).

Hierarchies trigger shame and stress, which negatively affect emotional and physical health and self-esteem (Hertzman & Boyce, 2010; Kraus & Park, 2014; Twenge & Campbell, 2002). Individuals are found to have a tendency to develop self-concepts that justify and reproduce their hierarchical positions (Jost et al., 2004). This kind of self-understanding has been called the undervalued self (Kraus & Park, 2014).

Low-SES students have been found to experience strong insecurity regarding the perception of their worth by others (Destin et al., 2017). Presumably, the experience of having less money than friends is negatively reflected, at least in peer relationships.

3.3 School as a Hierarchical Institution and Teachers as its Representatives

In addition to the children's realm, it is important to consider the role of school as a hierarchical institution where children are labeled, categorized and positioned, and of teachers as representatives of this institution. Earlier international research indicates that teachers tend to perceive low-income pupils less positively and to provide less positive attention and reinforcement for them than for higher-income students (Jussim & Harber, 2005). Low-income students also report more penalties and more severe and humiliating punishments than high-income students for similar infractions at school (Brantlinger, 1991; McLoyd, 1998). According to some research, although disadvantaged children face more academic risks, this does not include problems with student–teacher relationships (Hamre & Pianta, 2005).

Children absorb the school's notions of ability through daily routines and institutionalized structures at a very early stage. Children's self- and peer evaluations are found to change after the first few months (Kasanen, 2003). The quality of the child–teacher relationship, in addition to children's educational success and self-esteem, also affects children's peer relationships (Sabol & Pianta, 2012). The way the teacher speaks of a child significantly impacts peer perceptions of that child, especially among children with low levels of parental support (Pianta et al., 2003). To sum up, children's experiences in relationships with peers and teachers can be intertwined to a significant extent, and adults are not necessarily more immune to norms, stereotypes and perceptions associated with economic disadvantage in larger communities (Fattore et al., 2007; Harinen & Halme, 2012; Sameroff, 2010). Thus, it is possible that having less money than friends is also negatively reflected in the experiences of being cared for by the teacher.

3.4 Effects Through Parental and Family Relationships

The family stress model is a widely supported theory explaining the effect of family poverty on children (Masarik & Conger, 2016). According to the theory, economic hardship affects children through causing parental stress and mental health problems, which lead to marital conflicts, which in turn cause diminishing warmth, responsivity and increased harshness and inconsistency in parenting, and ends up negatively affecting children's mental health and causing them increased behavioral and self-management problems. Parental stress, anxiety and depression caused by economic pressure are indeed found to increase tensions in parent–child interactions (Ridge, 2011) and the risk for deviant behavior (Albrecht & Albrecht, 2011) and mental health problems in adolescence (Paananen et al., 2012). All of this can further lead to problems in social relationships in school.

Economic hardship may have implications for parent–child relationships from early on. Based on prior studies and theories, such as Bowlby's (1969) attachment theory, scholars have argued that when children have strong attachments with their

parents, they expect to be comforted and protected, even outside the home. Attachment theory predicts that relationships with teachers are likely to mirror the patterns of attachment that children form early in life with caretakers. A positive relationship with a teacher, however, can also moderate the risks associated with negative childhood experiences by helping children revise their internal working models of attachment or expectations vis à vis interpersonal relationships (Buyse et al., 2011; Sabol & Pianta, 2012).

Attachment level with parents is found to predict sense of safety in school among male adolescents (Wallace & May, 2005). Some research has also found parental involvement to mediate the association between poverty and a sense of safety in school (Shumow & Lomax, 2001). We are not aware of the corresponding research regarding the child's experiences of social relationships in school. We assume the association between perceived economic disadvantage and the school's social relationships to be at least partly mediated by parental and family relationships, especially regarding the feeling of being cared for by the teachers.

4 Data and Methods

4.1 Research Questions

1) Do children's financial concerns predict their experience that teachers care or their trust in getting help from other children when needed?
2) Do children's experiences of having less money than their friends predict their experience that teachers care or their trust in getting help from other children when needed?
3) Do parental and family relationships act as mediating factors in the above-mentioned possible associations?

4.2 Data

We used the Finnish sub-survey from the third wave of the international survey Children's Worlds, ISCWeB. Children's Worlds, ISCWeB, is a worldwide research survey aiming to study children's subjective well-being in as many countries as possible around the globe.

The data collection in Finland was carried out during 2018 and 2019, and the sampling was based on the idea of stratified sampling (see more, Children's Worlds National Report, Finland). Stratified sampling was used to ensure that the whole population is properly represented in the sample. Finland was divided according to NUTS2-level (five regions), leaving out Åland (autonomous region). The remaining four regions were Helsinki-Uusimaa, Southern Finland, Western Finland and Northern and Eastern Finland. Towns or municipalities in these regions were randomly selected according to the proportional number of pupils in each region. The participating schools were selected from the towns' or municipalities' web pages in alpha-

betical order or randomly chosen. The survey was aimed at all students in the second, fourth and sixth grades of the schools that granted research permission.

The survey was implemented as a Webropol survey under the guidance of a teacher or researcher during school hours for pupils who were permitted by their parents to participate. The questionnaire consisted of eight main sections, three of which included questions about money and possessions, school and home, and people with whom one lived.

The original data consisted of the answers of 3246 students from 46 schools. Answering the questionnaire was made easier for the youngest, 8-year-old, respondents by converting some answer options into emojis, and as their answers would not have been comparable to others, they were dropped from the data (1112 respondents altogether). After the chosen variables, variable transformations and dropping 8-year-olds from the data, the analytical sample remained with 1684 9 to 14 years old students from 41 schools.

4.3 Dependent Variables

As dependent variables, we used five-point Likert scale variables to measure experiences of relationships with teachers and other children. Respondents were asked whether they agreed or disagreed with the following statements: (1) My teachers care about me and (2) If I have a problem at school, other children will help me.

The response options were as follows: (1) I do not agree, (2) I agree a little, (3) I agree somewhat, (4) I agree a lot, (5) I totally agree and (6) I don't know. The variables were categorized into binary dummy variables, with options one and two indicating disagreement and options three, four and five indicating agreement with the statement and forming a reference category. Missing observations and those who chose answer option 6 were dropped from the data (319 respondents altogether).

4.4 Independent Variables

We measured perceived economic disadvantage by using two variables that took into account financial concerns and the experience about the amount of money compared with friends. Thus, the independent variables did not address whether the children perceived themselves as poor. Subjective economic disadvantage is nevertheless found to be an even more important predictor of children's subjective well-being than poverty per se (Main, 2014, 2019; Rees et al., 2012).

The respondents were asked: How often do you worry about how much money your family has? The response options were as follows: (1) Never, (2) Sometimes, (3) Often, (4) Always and (5) Don't know. The original five-category variable was transformed into three categories combining categories three and four indicating worrying often or always and making the first category a reference category. The fourth category was formed, along with missing observations, of those who chose option 5.

As a second question measuring economic disadvantage, respondents were asked: Compared with your friends, do you have more money, less money or about the same? The response options were as follows: (1) I have more money, (2) I have less money, (3) I have about the same and (4) I don't know. The third category was a ref-

erence category. The fourth category was formed, along with missing observations, of those who chose option 5. This group consisted of a total of 33,6% of the respondents, but based on our analysis, the loss was not systematic.

4.5 Mediating Variables

To consider the strong support for the family stress model in earlier research, we used parental and family relationships as mediating factors. According to Baron and Kenny (1986), to establish mediation, the following conditions must hold: First, the independent variable must be a significant predictor of the dependent variable. Second, the independent variable must be a significant predictor of the mediating variable. Third, the mediating variable must be a significant predictor of the dependent variable and controlling the mediator in the model must greatly reduce the coefficient of the independent variable or make it statistically nonsignificant, which is the case in complete mediation. In partial mediation, the coefficient reduces.

In the data, there are six statements concerning parental and family relationships. According to the regression analysis, three of them are statistically significantly associated with both the variables measuring economic disadvantage and the dependent variables: (1) My parent(s) listen to me and take what I say into account, (2) We have a good time together in my family and (3) My parents and I make decisions about my life together. The response options were as follows: (1) I do not agree, (2) I agree a little, (3) I agree somewhat, (4) I agree a lot, (5) I totally agree and (6) I don't know. The variables were categorized into binary dummy variables, with options one and two indicating a disagreement with the statement and negative experiences and options three, four and five indicating agreement and thus positive experiences and forming a reference category. Those who chose option 6 were dropped from the data, along with the missing observations (74 observations altogether). As robustness analysis, we conducted all the models also with likert- and multi-item scale (variables added together) variables, but the results remained the same.

4.6 Control Variables

Respondents' age group, gender, immigration status and whether living with a single parent were controlled for through the analysis. All these variables are known to be associated with both our dependent and independent variables and partly also with mediating variables. Thus it is important to take their effect into account in the analysis.

For example, previous studies show that younger, female and students with non-immigrant backgrounds tend to be more satisfied with their school life (Chiu et al., 2015; Liu et al., 2016; Randolph et al., 2008). The child's age and level of development is also found to be associated with whether he or she bears financial concern (Dickinson et al., 2023). Also, girls are found to more often be concerned about financial matters (Lindberg et al., 2021) and children of single parents and with immigrant backgrounds are at a higher risk of economic disadvantage (Lindroos et al., 2021; Vaalavuo, 2019). Both single-mother status and female gender are also found to be

Table 1 Descriptive statistics

Variable	*n*	%
Teachers care		
Agree	1526	90,6
Disagree	158	9,4
Schoolmates help		
Agree	1521	90,3
Disagree	163	9,7
Worry about family money		
Never	729	43,3
Sometimes	626	37,2
Often	148	8,8
Don't know/missing	181	10,8
Money compared to friends		
Same	642	38,1
Less	242	14,4
More	232	13,8
Don't know/missing	568	33,7
Age group		
10 years old	827	49,1
12 years old	857	50,9
Single parent		
No	1455	86,4
Yes	229	13,6
Gender		
Boy	797	47,3
Girl	887	52,7
Born in this country		
Yes	1605	95,3
No	79	4,7

associated with relationships with parents (Daryanani et al., 2016) and satisfaction with family life (Strózik et al., 2016).

Missing observations from the control variables were dropped from the data (62 respondents altogether). The direct distributions of all used variables are presented in Table 1.

4.7 Methods

We analyzed the data using a school fixed-effects linear probability model (LPM). Some previous studies have used logistic regression to analyze binary dependent variables. However, we see that LPM is a more efficient and flexible way of analyzing binary outcomes. First, the LPM is used instead of logit models because the interpretation of the results is more straightforward and regression coefficients can be compared across models (Hellevik, 2007; Mood, 2010). The results of the LPM can be interpreted as percentage point differences between the groups. Second, logit models can be biased because variance on the individual level is fixed, particularly when models are compared to each other in the fixed-effect models (Mood, 2010). However, in LPM, variation is not fixed but is allowed to vary. Because LPM may

violate the homoscedasticity assumption, we calculated clustered robust standard errors for all the models (Hellevik, 2007).

Because our data were multilevel, where students were nested in the schools, we used school fixed-effect models. However, in our preliminary analyses, we found that school differences are only minimal in our dependent variables, explaining less than 2% of outcomes.

4.8 Analysis Strategy

In our analysis, we examined one explanatory variable at a time. First, we investigated the association of financial concerns with our two dependent variables, the experience that teaches care and the trust that other children will help. In Model 1, we investigated the association between financial concerns and the experience that teachers care. In Model 2, we introduced all the parent- and family-related factors to the analysis to see how much they mediate the association observed in Model 1. In Model 3, we investigated whether financial worry was associated with trust in schoolmates' help. In Model 4, we added variables related to family and parents to the analysis to see the extent to which the associations observed in Model 3 were mediated through them. Control variables were included in all models.

In the second phase of our analysis, we investigated the significance of our second explanatory variable, the estimated amount of money compared to friends, in predicting the experience that teachers care and that schoolmates help if needed. In Model 1, we investigated the association between the amount of money compared to friends and the experience that teachers care. In Model 2, we added parent- and family-related variables to the model to see how much they mediated the association observed in Model 1. In Model 3, we were interested in the association between the amount of money compared to friends and the trust that schoolmates would help when needed. In Model 4, we again introduced family-related factors into the model to determine how much the association was mediated through them.

5 Results

5.1 The Association Between Financial Concerns and Relationships with Teachers and Peers

We started our analysis by investigating the association of perceived financial concerns with the experience that teachers care and the trust that other children will help when needed. We also investigated the mediating effect of parental and family relationships on possible associations. Based on earlier research, it is assumable that perceived financial concern is associated with both relationships with teachers (e.g. Jussim & Harber, 2005) and other children (e.g. Hautala et al., 2022) and that parental and family relationships at least partly mediate the association (Veland et al., 2015).

In Model 1 (Table 2), we found that compared to children who never worry about their families' financial situation, children who often worry about their families' financial situation are 7,9 (100*–0.079) percentage points less likely to feel that teachers

Table 2 The Association between financial concerns and the experience that teachers care and the trust that schoolmates will help. Empty values are controlled for in every model. Linear probability school fixed-effect models

	Teachers care		Schoolmates help	
Worry about family money, ref. Never	Model 1	Model 2	Model 3	Model 4
Sometimes	-0.016	-0.009	-0.030*	-0.023
	(0.015)	(0.015)	(0.014)	(0.013)
Often	-0.079**	-0.045	-0.105*	-0.077
	(0.028)	(0.024)	(0.041)	(0.041)
Parents listen ref. Disagree				
Agree		0.052		0.065
		(0.075)		(0.090)
Good time together with family, ref. Disagree				
Agree		0.189*		0.053
		(0.082)		(0.080)
Joint decisions together with parents, ref. Disagree				
Agree		0.180*		0.200*
		(0.069)		(0.075)
Age group ref. 12 years old				
10 years old	-0.058***	-0.054***	-0.005	-0.003
	(0.015)	(0.015)	(0.017)	(0.017)
Single parent ref. No				
Yes	-0.085***	-0.078***	-0.029	-0.025
	(0.021)	(0.020)	(0.025)	(0.025)
Gender ref. Boy				
Girl	0.054**	0.046**	0.039*	0.033*
	(0.016)	(0.016)	(0.016)	(0.016)
Born in this country ref. Yes				
No	-0.023	-0.016	-0.044	-0.039
	(0.036)	(0.034)	(0.045)	(0.045)
Constant	0.936***	0.527***	0.913***	0.607***
	(0.013)	(0.078)	(0.011)	(0.075)
N	1684	1684	1684	1684

Standard errors in parentheses, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

care about them. Occasional worry about a family's financial situation seems not to be a risk factor in this regard.

In Model 2, we introduced all the variables measuring parental and family relationships into the model. We found that financial worry is no longer statistically sig-

nificantly associated with the experience that teachers care. The coefficient for those children who often worry about their family's financial situation decreased to -0.045, which was 43% less ((1-0.045/0.079)*100) than in Model 1. This result suggests that parental and family relationships mediate a large part of the association between perceived financial concerns and relationships with teachers.

In Models 3 and 4, we investigated the significance of financial worry in predicting trust in getting help from other children when needed and the mediating effect of parental and family relationships in the association. In Model 3, we found that children who sometimes worried about their family's financial situation were 3% points less likely to trust that schoolmates would help them in need than children who never worried about their family's financial situation. The probability is 10,5% points lower for children who were often worried compared to those who were never worried about their family's financial situation.

In Model 4, we introduced all the variables measuring parental and family relationships into the model. We found that the statistically significant association between financial concerns and the trust in getting helped by other children no longer existed and the coefficient for children who often worried decreased to -0.077, that is, a 22% change. The result thus suggests that parental and family relationships mediate some part of the association between financial worry and trust in peer relationships. However, family relationships mediated a lower amount of the association than when the outcome was how much teachers care.

5.2 The Association Between the Amount of Money Compared to Friends and Relationships with Teachers and Peers

In the second phase of our analysis, we investigated the significance of our second explanatory variable, the estimated amount of money compared to friends, in predicting the experience that teachers care and that schoolmates help if needed. Because material resources are found to be important in building togetherness among children (Buckingham, 2011; Fattore & Mason, 2017; Pugh, 2009), it can be assumed that the amount of money compared to friends is associated with at least trust in peer relationships. As far as we are aware, there is no research on the association between a child's hierarchical position and student–teacher relationships. Hierarchical position is, nevertheless, found to affect a child's self-image (Jost et al., 2004; Kraus & Park, 2014), which again may also affect the relationship with teachers. Warm and protecting family relationships are likely to act as protective factors concerning the effects of low hierarchical position on self-image.

In Model 1 (Table 3), we found that compared with children who felt they had as much money as others, children who felt they had less money than others were 6,6% points less likely to feel that the teachers care about them. As we introduced all the variables concerning parental and family relationships in Model 2, we found that they only slightly mediated the association. Children who estimate having less money than friends were 4,6% points less likely to experience teachers' care, regardless of parental and family relationships.

In Model 3, we found that compared with children who felt they had as much money as others, children who estimated having less money than others were 10,9%

Table 3 The Association between the amount of money compared to friends and the experience that teachers care and the trust that schoolmates will help. Empty values are controlled for in every model. Linear probability school fixed-effect models

	Teachers care		Schoolmates help	
Money compared to friends ref. Same	Model 1	Model 2	Model 3	Model 4
Less	-0.066**	-0.046*	-0.109***	-0.090**
	(0.020)	(0.020)	(0.028)	(0.027)
More	-0.103***	-0.093***	-0.058**	-0.047*
	(0.023)	(0.022)	(0.019)	(0.019)
Parents listen ref. Disagree				
Agree		0.050		0.063
		(0.075)		(0.086)
Good time together with family, ref. Disagree				
Agree		0.196*		0.063
		(0.083)		(0.081)
Joint decisions together with parents, ref. Disagree				
Agree		0.174*		0.194*
		(0.070)		(0.075)
Age group ref. 12 years old				
10 years old	-0.064***	-0.058***	-0.012	-0.009
	(0.017)	(0.016)	(0.016)	(0.017)
Single parent, ref. No				
Yes	-0.089***	-0.081***	-0.031	-0.026
	(0.021)	(0.019)	(0.025)	(0.026)
Gender, ref. Boy				
Girl	0.045**	0.040*	0.031*	0.028
	(0.016)	(0.016)	(0.015)	(0.015)
Immigrant background ref. Yes				
No	-0.027	-0.020	-0.044	-0.039
	(0.035)	(0.033)	(0.044)	(0.044)
Constant	0.967***	0.556***	0.937***	0.625***
	(0.018)	(0.076)	(0.014)	(0.075)
N	1684	1684	1684	1684

Standard errors in parentheses, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

points less likely to trust that other children would help when needed. In Model 4, the variables measuring parental and family relationships were included in the model. The result shows that the association observed in Model 3 was not mediated through parental and family relationships (Models 3 and 4 do not differ statistically significantly). Children who estimated having less money than friends were 9% points less likely to trust that other children would help when needed.

Surprisingly, compared to the reference group, that is, children who estimate having about the same amount of money as friends, also estimating having more money than friends, predicted a lower probability of experiencing, that teachers care and that other children can be trusted. The association persists regardless of parental and family relationships.

Although the estimates do not seem very large, they must be compared with the distribution of the dependent variables in the entire dataset. Only about 10% of the respondents disagreed with the statements that teachers care for them or that the schoolmates' help can be trusted. For example, a 9% points higher risk to disagree with the statement means that the risk is almost doubled.

6 Discussion

In this study, we asked whether the child's concern about his or her family's financial situation or the estimated amount of money compared to friends is related to the child's experiences of their relationships with teachers and schoolmates. Considering the extensive support for the family stress theory in previous research (Masarik & Conger, 2016), we have also been interested in the extent to which the child's experiences of his or her family relationships mediate the aforementioned associations.

According to the results, financial concern is negatively associated with relationships with both teachers and other children in school. Taking into account that only approximately 10% of children do not agree with the statement that the teacher cares for them in the whole sample, the risk for children bearing financial concerns is almost 80% higher.

Existing research suggests three possible mechanisms behind the association. According to the scarcity hypothesis, the mere perception of monetary scarcity can produce attention shifts toward the source of scarcity and negatively affect a child's social and emotional development and skills (Borghans et al., 2008; Heckman et al., 2006; Ursache et al., 2015). Financial concerns can also cause stress attunement, where the child is prone to interpret the environment as more threatening than safe (Hackman et al., 2010; McEwen & Gianaros, 2010).

Nevertheless, parental and family relationships mediate the effect completely. The result does not support the interpretation that financial stress would cause physical stress attunement or an attention shift toward the source of scarcity, which would inevitably negatively affect a child's emotional and social development and social relationships. Rather, it would seem that financial concern is associated with a child's social relationships in school only if he or she also lacks favorable, warm and functional family relationships.

According to the family stress model, economic hardship affects children by negatively affecting parenting, which leads to the child's emotional and behavioral problems and troubles in social relationships. Financial worries can also interfere in the parent–child attachment from early on (e.g., Justice et al., 2019; Troller-Renfree et al., 2022). The child's relationship with the teacher and other children is likely to mirror the patterns of his or her attachment to caretakers. When children have strong attachments to their parents, they expect to be comforted and protected, even outside the home (Bowlby, 1969).

Perceived economic concern is also associated with a child's trust in getting help from other children. Worrying often about the family's financial situation doubles the risk of not trusting other children's help. The explanation for this association can be found in physical stress attunement, which is not optimal for connecting with other people socially. The scarcity hypothesis builds on the idea that a lack of material necessities shifts attention toward the scarcity and thus undermines the child's emotional and social development and skills (Borghans et al., 2008; Heckman et al., 2006; Ursache et al., 2015) and makes it more difficult to feel safe in one's environment.

Again, favorable family relationships mediate the association, protecting children from the effect of financial worry on peer relationships. As in the case of teacher relationships, the discovery supports the idea of family relationships' ability to buffer children against the effect of financial stress on social relationships rather than scarcity hypothesis–based interpretations.

Having less money than friends is associated with both teacher and peer relationships in school, regardless of parental and family relationships. Children who estimate having less money than friends are 60% likelier to lack the experience that teachers care and double their risk of not trusting schoolmates' help.

Less surprising is the association with trust in getting help from other children. This result supports the previous understanding of the importance of economic factors in building children's peer relationships (Buckingham, 2011; Fattore & Mason, 2017; Pugh, 2009). Having similar amount of resources keep friends together (Hakovirta & Rantalaiho, 2012). Being in a low hierarchical position can trigger shame and stress (van der Hoek, 2005; Walker, 2014) and thus mistrust in other children. It is also possible that a child in a lower hierarchical position is treated worse than others as children of low-income families are found to suffer from bullying and social exclusion more often than others (Attree, 2006; Ridge, 2002, 2011).

In addition, the association between having less money than friends and the experience of not being cared for by teachers can be explained by the child's hierarchical position in his or her peer community. A low hierarchical position is found to trigger shame and stress and negatively affect emotional health and self-esteem (Twenge & Campbell, 2002). Individuals are found to have a tendency to develop self-concepts that justify and reproduce their hierarchical positions. (Jost et al., 2004). This kind of self-understanding has been called the undervalued self (Kraus & Park, 2014) and is likely to affect the student–teacher relationship as well.

In both cases, the association is independent of parental and family relationships. The result underlines the importance of hierarchies based on economic status in peer relationships. However, it is important to remember that hierarchies among children are not built in a vacuum but reflect the hierarchies in the larger community, that

is, among adults and society as a whole. In addition to its goals related to equality, school can also be considered an inherently hierarchical institution where children are labeled, categorized and positioned and teachers as its representatives. Children are found to adopt these notions of their ability-based hierarchical position at a very early stage (Kasanen, 2003). Therefore, the possibility that students at the bottom of the economic hierarchy are treated differently from those in better positions must also be critically examined. In sociology, the phenomenon is referred to as cultural reproduction, where the school system is seen as an arena for maintaining and reproducing power structures and hierarchies (Bourdieu & Passeron, 1977). To summarize, children's experiences in relationships with teachers and other children in the school community can be intertwined to a significant extent, as adults are not necessarily more immune to norms, stereotypes and perceptions associated with economic disadvantage in society as a whole (Fattore et al., 2007; Harinen & Halme, 2012; Sameroff, 2010;).

A surprising result outside our scope, which is economic disadvantage, concerns a group of children who estimate having more money than others. These children are clearly at a higher risk of feeling that teachers do not care about them and that other children's help cannot be trusted. It is possible that for children, it is essential to not stand out in any way. Children who estimate that they have more money than their friends are vulnerable in their social relationships in school, regardless of parental and family relationships. Within the scope of this study, it is difficult to assess who these children are and what such associations could indicate. The topic requires further research.

Our research has some shortcomings. Typical problems in research conducted using survey data include data selection. The selection problem is probably not particularly significant, as the survey was completed during the school day. Of course, selection bias could have occurred in parents permitting their child to participate in the survey and in children who attended school the day the survey was implemented. With children as respondents, there is a particular risk that they have not understood the questions or have misunderstood them. However, this risk is reduced by the fact that the survey was answered under the guidance of a teacher or researcher. In particular, the question of the amount of money a child has compared to his or her friends can be ambiguous and the answer depends on who is being compared. In the case of this question, the loss was substantial but not systematic.

It is also likely that the same respondents have a tendency to evaluate both their economic situation and social relationships negatively and the associations are partly explained by that. Even if more objective measures of financial disadvantage would help to get rid of this problem, it is the subjective experience of the financial situation in particular that has in previous research been found to be a significant predictor of children's well-being. In all, when interpreting the results, it is important to remember that although many confounding variables were controlled for, this study did not show causal relationships between the studied variables.

Our results support the notion that financial concerns and the experienced financial status compared to peers can be reflected in children's lives through different mechanisms. Thus, to understand the phenomenon, it is important to pay attention to the measures used and to use multiple measures of economic disadvantage and

child well-being. More research concerning the mechanisms behind the association is needed. In particular, there is a lack of research regarding how economic disadvantage is reflected in children's well-being at school.

7 Conclusion

All in all, children who perceive financial disadvantage more often lack the experience that teachers care for them and that other children's help can be trusted in school. Therefore, the economic disadvantage experienced by children is reflected in the child's experiences of social relationships not only in his or her free time but also in the educational realm. Concerning the underlying mechanism behind the association between financial concerns and relationships with teachers and peers, our results support interpretations that conform to the family stress model. However, having less than others has an association independent of parental and family relationships, supporting the idea of the significance of hierarchies based on money and material possessions among children and in the school community as a whole.

The goals of the UN sustainability program declare that schools should offer their students a safe, inclusive and effective learning environment (the UN). Despite the idea of the school as a bastion of equality, at least within the framework of the Nordic universal and free educational system, it seems that the school does not manage to equalize the differences between children as far as the effect of the child's economic disadvantage is concerned.

Our results suggest, first of all, the importance of reducing poverty among families with children. It would also be important to strengthen the resilience of economically disadvantaged families in supporting parenting in difficult circumstances. One of the most central recommendations emerging from our results is to pay attention to the basis on which hierarchies are built in school and what kind of dynamics they create in the school community. It is important not only to promote economic equality but also to look at the communities where hierarchies are created and to consider what can be done about the phenomenon.

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