THE DYNAMIC LAYERS OF SOCIALLY EMBEDDED VULNERABILITY IN PREADOLESCENCE

How can support meet needs in family and school contexts?

Anne-Elina Salo

TURUN YLIOPISTO
UNIVERSITY OF TURKU

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Anne-Elina Salo

University of Turku

Faculty of Education
Department of Teacher Education
Centre for Research on Learning and Instruction (CERLI)
Education
Doctoral Programme on Learning, Teaching and Learning Environments Research (OPPI)

Supervised by

Professor Emerita, Marja Vauras
University of Turku, Finland

University Research Fellow, Anu Kajamies
University of Turku, Finland

Professor, Niina Junttila
University of Turku, Finland
University of Jyväskylä, Finland

Reviewed by

Assistant Professor, Joana Cadima
University of Porto, Portugal

Professor, Anna-Maija Poikkeus
University of Jyväskylä, Finland

Opponent

Assistant Professor, Joana Cadima
University of Porto, Portugal

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ABSTRACT

Most preadolescents in Finland do well. However, growing inequality and the accumulation of vulnerabilities have raised concerns. This dissertation builds on bioecological transactional systems theory and unpacks the layered nature of vulnerability in preadolescence. More specifically, the dissertation aims to deepen understanding of: (i) the multidimensional ways in which vulnerability can be reflected (socio-emotional, motivational, cognitive), (ii) the risks embedded in relationships and interactions in family and school contexts, and (iii) the role of interactions and relationships in the realization of sensitive support that meets needs and promotes well-being and everyday resilience. To embrace the underlying complexity, versatile approaches were adopted. The longitudinal (fourth to sixth grade) data consist of preadolescents ($N = 318$), their parents, and teachers. In Studies I and II, statistical analyses were conducted through variable- and person-centered approaches. In Study III, longitudinal video observations were complemented with statistical analyses.

   Study I examined the stability and interdependence of social and emotional loneliness in preadolescence, and whether parents' loneliness predicted their preadolescent children's ($N = 318$) long-term loneliness. Social and emotional loneliness were found to be rather stable across preadolescence. Social loneliness did not predict future emotional loneliness, and the reverse was also true. Fathers' loneliness predicted their sons', but not their daughters', long-term social loneliness, and mothers' loneliness predicted their daughters', but not their sons', long-term social loneliness. These findings encourage acknowledging the type of loneliness experienced when designing interventions to tackle loneliness. Loneliness hurts, and it can do so also intergenerationally. Preventing and alleviating parents' loneliness is important, not only to enhance their own well-being but also to help prevent and break intergenerational cycles of vulnerability.

   Study II deepened understanding of socio-emotional vulnerability as socially embedded in families of preadolescents ($N = 249$). A latent profile analysis identified four family profiles of parental self-efficacy: (i) low–low, (ii) low–average, (iii)

high–average, and (iv) high–high (a mother's/father's parental self-efficacy within the family). Intra- and extra-familial relationship vulnerability accumulated to low parental self-efficacy family profiles; parents reported the highest social and emotional loneliness and less open family communication environment, and preadolescents reported the highest social and emotional loneliness and were evaluated with the lowest prosocial (in parent, teacher, and peer evaluations) and the highest antisocial (parent evaluations) behaviors, compared to other family profiles. The findings suggest that parents with high parental self-efficacy and low loneliness experiences are better placed to help their preadolescent children form and maintain meaningful relationships. This emphasizes the need to ensure that parents feel efficacious and that no parent feels lonely.

Study III examined the role of emotional support in promoting resilience. Forty students identified with different combinations of socio-motivational vulnerability and reading difficulties were chosen for a three-semester intervention conducted by special needs teachers ($N = 6$). A multi-step video analysis was conducted (first step: 12 student pairs; next steps: four student pairs, with their teachers). Teachers allocated more support time to students with cumulated socio-motivational vulnerabilities, but this was not positively associated with development of competences. Emotional support was observed separately for those episodes when the teacher was in close proximity to the student pair (i.e., the teacher with the student pair) and when the pair collaborated without the teacher's close proximity (i.e., peer dyadic). The findings appear to point to a trend that emotional support can promote resilience; when the interactions enabled mutual joy, meaningful participation and experiences of success, students' development was more positive, especially in task orientation. However, variation was observed in how emotional support was realized across pairs and lessons. One teacher struggled to find positive emotion regulation strategies, with students' needs repeatedly being unseen, unheard, or misunderstood. These kinds of interactions risk (re)producing vulnerability, rather than promoting resilience. It is important to ensure that teacher education provides all teachers with the competences to observe and meet their students' diverse needs sensitively and flexibly and to promote peer collaboration. Encouraging teachers' awareness of and reflective stance toward their own emotions and interpretations, especially in challenging situations, is further recommended.

Taken together, the three studies contribute uniquely to unpacking the layered nature of vulnerability as multidimensional and extending beyond the individual. The practical implications are presented for professionals working with families, teachers and teacher educators, policymakers, and ultimately all of us. When striving to promote well-being and resilience in preadolescence, we must ensure that families and schools have meaningful resources accessible at multiple levels. Thus, in addition to structural changes we all need to re-evaluate how we encounter one another.

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TIIVISTELMÄ

Valtaosa suomalaisista varhaisnuorista voi hyvin, mutta kasvava eriarvoisuus ja haavoittuvuustilanteiden kasautuminen herättävät huolta. Tässä väitöstutkimuksessa haavoittuvuuden kerroksellisuutta tarkastellaan bioekologisen transaktionaalisen systeemiteorian pohjalta. Väitöstutkimus pyrkii syventämään ymmärrystä: (i) haavoittuvuuden moniulotteisuudesta (sosioemotionaalinen, motivationaalinen, kognitiivinen), (ii) ihmissuhteisiin ja vuorovaikutukseen kietoutuvista riskeistä perhe- ja koulukonteksteissa, ja (iii) ihmissuhteiden ja vuorovaikutuksen roolista sensitiivisesti tarpeisiin sovitetun tuen toteutumisen ja hyvinvoinnin ja arjen resilienssin edistämisen näkökulmasta. Moninäkökulmaisuuden tavoittamiseksi hyödynnetään useita menetelmiä. Pitkittäisseuranta-aineisto (neljänneltä kuuden- nelle luokalle) koostuu varhaisnuorista (N = 318), heidän vanhemmistaan sekä opettajistaan. Tutkimuksissa I ja II hyödynnettiin muuttuja- ja henkilösuuntautuneita tilastoanalyyseja. Tutkimuksessa III pääpaino oli videohavainnoinneissa, joita täydennettiin tilastoanalyysein.

   Tutkimuksessa I tarkasteltiin sosiaalisen ja emotionaalisen yksinäisyyden pysyvyyttä sekä keskinäistä riippuvuutta varhaisnuoruudessa. Lisäksi tutkittiin, ennustaako vanhempien yksinäisyys varhaisnuorten (N = 318) pitkäaikaista yksinäisyyttä. Tulokset osoittivat, että sekä sosiaalinen että emotionaalinen yksinäisyys on varhaisnuoruudessa varsin pysyvää. Sosiaalinen yksinäisyys ei ennustanut emotionaalista yksinäisyyttä tai päinvastoin. Isien yksinäisyys ennusti poikien, mutta ei tyttöjen, ja äitien yksinäisyys ennusti tyttöjen, mutta ei poikien, pitkäaikaista sosiaalista yksinäisyyttä. Tulokset kannustavat kiinnittämään huomiota koetun yksinäisyyden laatuun kehitettäessä toimia yksinäisyyden vähentämiseksi. Yksinäisyys satuttaa, ja se voi tehdä niin myös ylisukupolvisesti. Vanhempien yksinäisyyden ennaltaehkäiseminen ja lievittäminen on tärkeää heidän oman hyvinvointinsa edistämiseksi, mutta myös ylisukupolvisten haavoittuvuuden polkujen ehkäisemiseksi ja purkamiseksi.

   Tutkimuksessa II syvennettiin ymmärrystä sosioemotionaalisesta haavoittu- vuudesta varhaisnuorten perheissä (N = 249). Latenttiprofiilianalyysin avulla

tunnistettiin neljä vanhemmuuden minäpystyvyyden perheprofiilia: (i) matala–matala, (ii) matala–keskitaso, (iii) korkea–keskitaso, ja (iv) korkea–korkea (äidin/isän vanhemmuuden minäpystyvyys). Perheen sisäisiin ja ulkopuolisiin ihmissuhteisiin liittyvä haavoittuvuus kasautui matalan vanhemmuuden minäpystyvyyden profiileihin: vanhemmilla oli enemmän sosiaalista ja emotionaalista yksinäisyyttä, he arvioivat perheen kommunikaation vähemmän avoimeksi, ja varhaisnuorilla oli eniten sosiaalista ja emotionaalista yksinäisyyttä, heikoimmat prososiaaliset taidot (vanhempi-, opettaja- ja toveriarvio) sekä vanhempiensa arvioimana eniten antisosiaalista käyttäytymistä. Tulokset osoittavat, että vanhemmilla, joilla on vahva kyvykkyydentunne, ja jotka eivät ole yksinäisiä, on paremmat mahdollisuudet tukea varhaisnuorta mielekkäiden ihmissuhteiden muodostamisessa ja ylläpitämisessä. On tärkeää varmistaa, että jokainen vanhempi voi kokea kyvykkyyttä, ja että yksikään vanhempi ei tunne jäävänsä yksin.

Tutkimuksessa III tarkasteltiin tunnetuen merkitystä resilienssin näkökulmasta. Neljäkymmentä oppilasta, joilla oli sosiomotivationaalista haavoittuvuutta ja lukemisen vaikeuksia, valittiin kolme lukukautta kestäneeseen interventioon, jonka toteuttivat erityisopettajat ($N = 6$). Tutkimuksessa toteutettiin monivaiheinen videoanalyysi (ensimmäinen vaihe: 12 oppilasparia; seuraavat vaiheet: neljä oppilasparia, opettajineen). Opettajat tarjosivat ajallisesti enemmän tukea oppilaille, joilla oli kasautunutta sosiomotivationaalista haavoittuvuutta, mutta tämä ei ollut yhteydessä taitojen kehitykseen. Tunnetukea havainnoitiin erikseen tilanteissa, joissa opettaja oli oppilasparin välittömässä läheisyydessä (opettaja ja oppilaspari) ja parin työskennellessä ilman opettajan välitöntä läheisyyttä (oppilaspari keskenään). Tulokset antoivat viitteitä tunnetuen merkityksestä resilienssin edistämisessä; kun vuorovaikutuksessa mahdollistui jaettu ilo, mielekäs osallistuminen, ja onnistumisen kokemukset, oppilaiden kehitys oli myönteisempää, erityisesti tehtäväorientaation osalta. Tunnetuen toteutumisessa oli vaihtelua oppilasparien ja oppituntien välillä. Yhdellä opettajista oli haasteita löytää myönteisiä tapoja säädellä tunnetilojaan, ja oppilaiden tarpeet jäivät toistuvasti näkymättä, kuulematta, tai tulivat väärin ymmärretyiksi. Tämä voi johtaa haavoittuvuustilanteisiin vuorovaikutuksessa, resilienssin edistämisen sijaan. On tärkeää varmistaa, että opettajankoulutus tarjoaa jokaiselle opettajalle taidot tunnistaa oppilaidensa moninaisia tarpeita ja vastata niihin sensitiivisesti, sekä tukea vertaisvuorovaikutusta. On myös tärkeää kannustaa opettajia tunnistamaan ja reflektoimaan omia tunteitaan ja tulkintojaan erityisesti haastavissa tilanteissa.

Yhteenvetona voidaan todeta, että kaikki kolme tutkimusta valottavat ainutlaatuisella tavalla haavoittuvuuden kerroksellisuutta, nostaen esiin sen moniulotteisuutta ja ulottumista yksilöä laajemmalti. Käytännön suositukset on suunnattu perheen parissa työskenteleville ammattilaisille, opettajille ja opettajankouluttajille, päätöksentekijöille, sekä yleisemmin meistä jokaiselle. Kun pyritään vahvistamaan hyvinvointia ja resilienssiä varhaisnuoruudessa, on tärkeää varmistaa perheille ja kouluille mielekkäät, saavutettavissa olevat resurssit useilla eri tasolla. Tämä tarkoittaa, että rakenteellisten muutosten lisäksi meidän jokaisen tulee tarkastella sitä, kuinka kohtaamme toisemme.

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27.11.2022
Anne-Elina Salo

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List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

I   Salo, A-E., Junttila, N., & Vauras, M. Social and emotional loneliness: Longitudinal stability, interdependence, and intergenerational transmission among boys and girls. *Family Relations,* 2020; 69(1): 151–165.
II   Salo, A-E., Junttila, N., & Vauras, M. Parental self-efficacy and intra- and extra-familial relationships. *Journal of Child and Family Studies*, 2022; 31: 2714–2729.
III   Salo, A-E., Vauras, M., Hiltunen, M., & Kajamies, A. Long-term intervention of at-risk elementary students' socio-motivational and reading comprehension competencies: Video-based case studies of emotional support in teacher–dyad and dyadic interactions. *Learning, Culture and Social Interaction*, 2022; 34: 100631.

In each publication, Salo contributed to the study conception and design and was responsible for writing the manuscript. In publications II and III, Salo was also responsible for the data analysis.

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1   Introduction

Most preadolescents in Finland do well. However, growing inequality and the accumulation of vulnerabilities have raised concerns. Recent surveys have suggested that families face new kinds of risks and uncertainties, while the sense of community has diminished (Finnish Parents' League, 2022). Moreover, teachers' risk for burnout has increased (Salmela-Aro et al., 2020), and although Finland continues to have a high reputation in education, concerns have been raised that "inequality, exclusion and differences in learning outcomes are beginning to threaten the Finnish success story" (Finnish Government, 2019, p. 174). Building on the bioecological transactional systems theory (Bronfenbrenner & Morris, 2006; Sameroff, 1975, 2009), this dissertation approaches the concept of vulnerability as being socially embedded in the dynamic interactions and relationships that preadolescents share with their significant others in family and school contexts. The focal preadolescent is seen as actively contributing instead of being a mere recipient of influences (Osher et al., 2020; Sameroff, 2009). This approach allows extending the focus beyond the individual preadolescent to capture the dynamic and socially embedded nature of vulnerability, well-being, and resilience (Cantor et al., 2019; Osher et al., 2020).

Preadolescence (roughly 10–14 years of age; Roeser et al., 2002) marks the beginning of adolescence. The importance of peers starts to increase, but significant adults, including parents and teachers, continue to play a crucial role in their developmental outcomes (Blakemore & Mills, 2014). Targeting the quality of interactions and relationships is a powerful way to promote equity and the inclusion of all, as they can be seen as drivers of human development (Osher et al., 2020). These are at the heart of this dissertation, which aims to unpack the layered nature of vulnerability in preadolescence. This is done by examining (i) the different ways through which vulnerability can be reflected (i.e., socio-emotional, motivational, cognitive), (ii) risks within relationships and interactions as embedded in multi-layered family (Studies I and II) and school (Study III) contexts, and (iii) the role that interactions and relationships play in the realization of adaptive, sensitive, and meaningful support, which contributes to well-being and (everyday) resilience in preadolescence.

Satisfactory and supportive interpersonal relationships are fundamental to fulfill one's basic human needs, as "human beings are fundamentally and pervasively motivated by a need to belong, that is, by a strong desire to form and maintain enduring interpersonal attachments" (Baumeister & Leary, 1995, p. 522). Not satisfying these needs severely threatens well-being. In this dissertation, socio-emotional vulnerability is approached through a discrepancy between desired and perceived close emotional attachments and social networks – that is loneliness (Peplau & Perlman, 1982; Weiss, 1973) – and difficulties in achieving social goals in meaningful ways – that is, low social competence (Junttila et al., 2006). Loneliness constitutes a painful emotional experience and can contradict desires for belonging, companionship, and social acceptance in many areas (Stoeckli, 2009). As formulated by Salminen et al. (2022), "[c]reating and maintaining meaningful relationships calls for social competence" (p. 39). Although social competence and loneliness are distinct constructs, related vulnerabilities can co-occur and accumulate (Junttila & Vauras, 2009; Lodder et al., 2016).

Parents provide preadolescents with opportunities, models, and support in establishing and maintaining meaningful interpersonal relationships, but with differential resources available (e.g., parents' own well-being and support systems) (Osher et al., 2020; Ross & Howe, 2009). In this dissertation, the social embeddedness of socio-emotional vulnerability in family context is approached through risks and promotive factors related to parental self-efficacy beliefs, parents' loneliness experiences, and the quality of family communication environment. Parental self-efficacy (PSE) refers to a parent's subjectively experienced confidence in one's ability to successfully meet parenting demands and to promote the child's positive development (Coleman & Karraker, 1998, 2000). PSE has been suggested to be a powerful construct to understanding parent–child relationships and parental and child well-being (for a review, see Albanese et al., 2019). Parents' loneliness, then again, severely threatens their own well-being but it can also, for example through less encouraged opportunities for social interactions outside the family context, increase their children's risk for loneliness (Solomon, 2000). Family communication environment refers to "intrapersonal perceptions of interpersonal relationships" (Ritchie & Fitzpatrick, 1990, p. 523) and reflects the family communication schemata regarding how to act in relationships (Koerner & Fitzpatrick, 2002a).

Families are complex and dynamic systems (Prime et al., 2020; Sameroff, 2009), further embedded in other system levels (Bronfenbrenner & Morris, 2006). This dissertation approaches socio-emotional vulnerability as socially embedded within the family context from two complementary approaches. Study I examines potential gender- and dimension-specific patterns through which parents' loneliness can be reflected in their preadolescents' long-term loneliness. To deepen understanding of

mechanisms underlying socio-emotional vulnerability, this dissertation further acknowledges that families are "shaped by the specific combinations of multiple family characteristics" (Häfner et al., 2018, p. 1405). Therefore, Study II identifies family-specific configurations of a mother's and father's PSE within the family, that is, PSE family profiles (see Junttila & Vauras, 2014). It is then further examined whether risks for socio-emotional vulnerability differ across these identified family profiles. These approaches remain scarcely mapped and therefore present areas that need further attention.

In the school context, the focus is on students identified with different combinations of socio-motivational vulnerability (i.e., low prosocial behavior and task orientation) and reading difficulties. Reading difficulties can hamper students' opportunities to experience successes at school, as reading skills are among the core competences that elementary students are expected to acquire and learning greatly depends on textual materials (Gilmour et al., 2019; Pfost et al., 2012; Vauras, 1991). Moreover, task-related behaviors and maintaining social relationships importantly contribute to achievement and success in school (Guo et al., 2022). Task orientation is crucial for establishing and maintaining of a positive valence for learning even when facing challenges and for accomplishing and maintaining persistence in learning (Vauras et al., 2009). Difficulties in cooperating with and positively responding to the emotions and needs of others (i.e., low prosocial behaviors, Junttila et al., 2006), then again, can hinder successful participation in learning. It has been suggested that prosocial behavior can be an important resource through which children can sustain well-being in the face of risks: in a study by Armstrong-Carter et al. (2021), strong prosocial behavior was shown to mitigate academic risk and promote resilience across early childhood.

High-quality emotional support in the classroom has been associated with positive development in prosocial behaviors (Pakarinen et al., 2020), emotional engagement (Pöysä et al., 2019), and academic achievement (math, reading) in school (LoCasale-Crouch et al., 2018). Emotional support has been suggested to play an especially crucial role for positive development among students with identified risks (e.g., academic, social) (Hamre & Pianta, 2005). This dissertation examines the role that teacher and peer emotional support interactions can have in promoting everyday resilience among students identified with reading difficulties and socio-motivational vulnerability. Emotional support has been traditionally observed through classroom-level interactions, with the focus being on "a typical or average student in the class" (Pianta et al., 2008, p. 10). More refined understanding of classroom process quality has been called for, as global ratings can hide intra-classroom variability (Cadima et al., 2022a; Pöysä et al., 2019). Research in the context of early education has taken important steps in these regards: for example, emotional support has been shown to vary as a function of the activity (Cadima et

al., 2022a) and in its within-day consistency (Brock & Curby, 2014; Curby et al., 2013). Moreover, in a study by LoCasale-Crouch (2018) among preadolescents, more variability in support interactions throughout the school day were associated with higher teacher reported conflict and students were observed to be less engaged.

In Study III, the global observational process tool, Classroom Assessment Scoring System (CLASS K-3, Pianta et al., 2008), was adapted into more individualized observations. More specifically, interactions that teachers shared with a specific student pair (i.e., teacher with two students) were observed, compared to traditional classroom-level observations. Observations were carried out across the three-semester-long intervention. This enabled capturing variation in how emotional support was realized across student pairs and lessons. Moreover, although peer relationships are known to play a role in students' development and learning (Cadima et al., 2022b; Wentzel et al., 2010, 2016; Wentzel & Watkins, 2002), observational tools typically focus on teacher-student interactions with less emphasis on peer interactions (Slot et al., 2016). To capture the multi-layered interactions in the school context, a framework was developed to systematically observe emotional support in dyadic peer interactions: that is, when the students interacted as a pair, without the teacher's close presence. These in-depth observations of teacher–dyad (i.e., teacher and two students) and dyadic peer (i.e., two students) emotional support interactions across the three-semester-long intervention were then illustrated through interaction excerpts and summary figures, and further reflected against students' development of competences.

Sameroff (2010) concluded that "[a]lthough we all have a strong desire for straightforward explanations of life, development is complicated and models for explaining it need to be complicated enough to usefully inform our understanding" (p. 20). To embrace this complexity, versatile approaches are applied in this dissertation to unpack the layered nature of vulnerability in preadolescence, as embedded within the interactions and relationships in the family and school contexts. In the family context, person-centered approaches are applied along with variable-centered, to capture the heterogeneity in risks and promotive factors in families (Bergman & Magnusson, 1997; Laursen & Hoff, 2006). The longitudinal video observations in the school context allowed examining interactions as they unfold in real-life learning situations (Turner et al., 2014), and combined with data from questionnaires, approaching students' development as embedded in their teacher and peer interactions.

1.1 Conceptual and theoretical premises

Bioecological systems theory (Bronfenbrenner & Morris, 2006) conceptualizes development as embedded within and across five nested system levels, namely micro-, meso-, exo-, macro- and chronosystems. The microsystem comprises the focal preadolescent's immediate environmental contexts (e.g., family, school) in which the preadolescent shares ongoing reciprocal interactions with significant others. These interactions and relationships, that is, proximal processes, are seen as "primary mechanisms producing human development" (Bronfenbrenner & Morris, 2006, p. 795). The transactional theory (e.g., Sameroff, 1975, 2009) further emphasizes the focal preadolescent's active role in contributing to these.

In the dissertation, the concept 'relationships' is applied in a wide sense, as entailing perceptions that individuals (and significant others) hold for their competences that are needed to form and maintain meaningful relationships with others (e.g., social competence) and how they experience the quality of their intra- and extra-familial relationships (e.g., loneliness) (Osher et al., 2020). The concept 'interactions,' then again, is applied when referring to the quality of interactions that the preadolescent is observed to share with others (e.g., emotional dyadic interactions with a peer student). This distinction was applied to help differentiate between self, parent, teacher, and peer evaluations (i.e., relationships) and in systematic video analysis conducted by researchers (i.e., interactions).

Adapting Neal and Neal's (2013) reconceptualization of the networked nature of systems was found beneficial to illustrate the multi-layered microsystems (see Figure 1), with the following concepts applied in the dissertation: 'Context' refers to those key proximal socialization environments that this dissertation specifically focuses on, that is, family and school contexts; and 'social microsystems' comprise the separate, yet intertwined, sets of individuals that share unique interactions and relationships with the preadolescent within these contexts (e.g., mother–preadolescent and father–preadolescent in the family context; peer dyad [i.e., focal preadolescent with a peer student] and teacher–dyad [i.e., focal preadolescent, peer student and the teacher] in the school context). The dissertation unveils the risks and promotive factors within these interactions and relationships, to deepen understanding of the social embeddedness of vulnerability, well-being and (everyday) resilience.
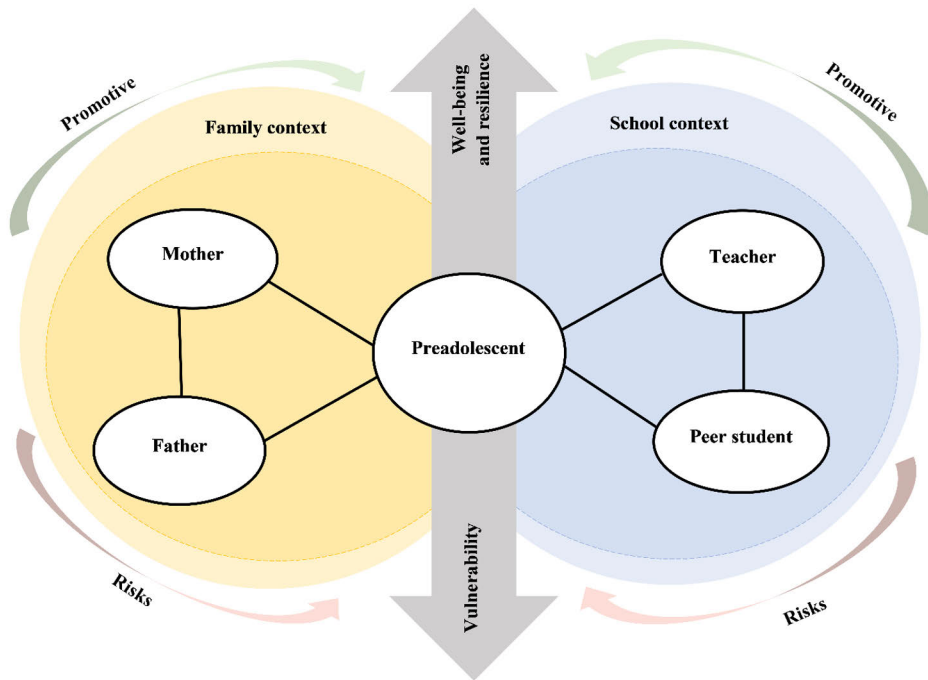
Figure 1. The social embeddedness of vulnerability, well-being and resilience as portrayed in the dissertation.

Other social microsystems (e.g., preadolescent–sibling) and system levels (e.g., macrosystem) were left out of Figure 1 (to simplify the illustration), but it is recognized that they also contribute to vulnerability, well-being, and resilience. The mesosystem comprises interconnections between microsystem contexts, such as interactions between family and school. Although the preadolescent is not an active participant at the exosystem level, it influences development. Examples of this level include parents' extra-familial relationships (e.g., friends, colleagues) and teachers' support systems and resources (e.g., professional development, leadership in school). The macrosystem refers to the society and culture at large. (Bronfenbrenner & Morris, 2006.) At this level, prejudices and gendered practices in the society, as examples, can generate and (re)produce vulnerability (Virokannas et al., 2020). Finally, the chronosystem comprises changes that occur over time, influencing development. An example would be how the timing of the COVID-19 pandemic and school closures influenced the preadolescent's well-being and development (Bronfenbrenner & Morris, 2006).

The dissertation further builds on calls for approaching vulnerability as dynamic, situational, and relational, rather than as a possession of individuals or groups (Luna, 2009, 2019; Virokannas et al., 2020). Luna (2019, p. 89) has suggested that vulnerability should be understood through "layers" rather than "labels," because

this enables "unpacking" the concept of vulnerability and how it functions, through identifying conditions (i.e., circumstances, characteristics of the context) under which layers of vulnerability are likely to be triggered for a person with certain kinds of (intersecting) dispositions. Thus, according to Luna (2019, p. 89), vulnerability functions as "relational and dynamic" and "closely related to the situation under analysis." In their literature review, Virokannas et al. (2020) found that the concept of vulnerability has typically been applied to label certain people or groups. They suggested that to understand how vulnerability is generated and (re)produced, attention should be turned "towards vulnerable life situations, social processes, society and its institutions" while recognizing "the temporal, situational, relational and structural nature of vulnerability" (p. 336).

Building on Virokannas et al.'s (2020) and Luna's (2019) research (in contexts of social scientific research and research/public health ethics) that call for approaching vulnerability as dynamic, relational, and situational, the dissertation suggests that a layered approach to vulnerability can be adopted in the context of educational (psychology) research. More specifically, it is suggested that vulnerability can be conceptualized as a discrepancy between the preadolescent's needs and support that is realized (approached through interactions and relationships), emphasizing the interactive processes between the individual and the environment. This enables unpacking the differential ways through which vulnerability can be reflected (i.e., socio-emotional, motivational, cognitive) and unveiling the risks embedded in interactions and relationships in family and school contexts (further embedded within other systems, see Bronfenbrenner & Morris, 2006). Thus, a clear distinction is made from definitions that capture vulnerability through labels localized in the preadolescent who would need to be 'fixed.' Indeed, it has been suggested that if applied in deficit-oriented categorizing ways, the concept of vulnerability carries with it a danger to act to exclude, stigmatize, and deprive agency from individuals (Brown, 2011; Luna 2009, 2019). Overall, labels such as "vulnerable" remain empty if underlying specific, heterogeneous, and dynamic needs and unequal distribution of resources and opportunities are not understood (Bauer & Wiezorek, 2016).

It is recognized that the risks that we face and the promotive resources to which we have access are not equally divided. Rather, there is a "great variation in internal as well as external risk and protective factors" that are embedded in contexts "characterized by continual interactions within and across levels" (Osher et al., 2020, p. 9). Thus, the (multi-layered) resources that are available for an individual (or a family) differ to a great extent, along with how they can be accessed (Ungar, 2012). This aligns with Mansfield et al.'s (2016, p. 77) suggestion that "personal and contextual resources along with use of particular strategies all contribute to resilience outcomes." Ungar (2012) has argued that when seeking ways to promote a child's

resilience, emphasis should be placed on what kinds of resources should be made available, and how these can be made accessible to the child, rather than focusing on changing or fixing the child. Thus, in the dissertation, resilience is seen to emerge "through coaction with contextual, supportive, and relational factors," rather than as "a fixed trait that an individual categorically possesses or lacks" (Cantor et al., 2019, p. 325).

The way that resilience is applied in the dissertation can be seen to capture 'everyday resilience,' compared to examining it as surviving or even thriving amidst far-reaching stressors, such as the COVID-19 pandemic (e.g., Eales et al., 2021; Masten & Motti-Stefanidi, 2020). Overall, defining what constitutes contexts of adversity or high risk is not always straightforward. Naglieri and LeBuffe (2005) have argued that considering daily hassles might provide a more complete picture of risks and adversity that children face. Indeed, especially if "daily stressors, challenges, and setbacks" (Skinner & Pitzer, 2012, p. 24) become chronic or accumulate, they can be seen to importantly inform stress and adversity. For example, difficulties in learning can lead to frustration and perceiving oneself as incompetent (especially if combined with unsupportive interactions), which can endanger engagement in learning (Skinner & Pitzer, 2012). These factors can lead to negative cycles in which low engagement and frustration become intertwined with conflicted teacher–student relationships (McGrath & Van Bergen, 2015; Nurmi, 2012). Positive teacher–student relationships, by comparison, can "safeguard students' beliefs about themselves and increase student resilience" (McGrath & Van Bergen, 2015, p. 13). In the dissertation, resilience is approached through a goodness-of-fit between students' needs and support that is realized (through teacher and peer interactions) among students identified with different combinations of socio-motivational vulnerability and reading difficulties.

According to Zimmerman et al. (2013), promotive factors can "operate in the presence of risk or with each other to reduce negative outcomes or enhance positive development" (p. 215). This concept is applied in the dissertation, instead of 'protective' as it fits both family and school contexts: unlike students examined in the school context, the whole sample of families was not identified with the presence of specific risks. Overall, the concept of well-being, compared to resilience, is perhaps better suited to the family context. However, families with intra- and extra-familial relationship well-being have been suggested to be better prepared to face future stress and adversity, including risks from outside the family (e.g., COVID-19; see Prime et al., 2020). It thus seems reasonable to presume that the entanglement of relationship well-being in a family can promote resilience (also in the face of future stress). To further add to the importance of this kind of approach, supportive relationships have been suggested to be among the crucial foundations and resources for resilience (Cantor et al., 2019; McGrath & Van Bergen, 2015; Ungar, 2012).

1.2 Layered nature of vulnerability in preadolescence

The dynamic and heterogeneous ways in which vulnerability (and well-being and resilience, on the other hand) can be reflected in preadolescence are next discussed, before moving on to the risks and promotive factors embedded in relationships and interactions in family and school contexts (see Figure 2). As discussed, this dissertation approaches vulnerability through discrepancies between individual needs and support that is realized. These discrepancies are captured through socio-emotional (i.e., loneliness and low social competence), socio-motivational (i.e., low task orientation and low prosocial behavior), and cognitive (i.e., reading difficulties) vulnerability. Difficulties in these areas can endanger fulfillment of preadolescents' needs to belong, feel competent, and experience autonomy (Deci & Ryan, 2000; Vansteenkiste et al., 2020). Unveiling the heterogeneous ways in which vulnerability can be reflected is crucial when designing preventive and intervention efforts. Indeed, one size does not fit all: heterogeneity, such as different configurations of underlying risks, needs to be captured to target vulnerability more strategically (Chen et al., 2022; Eccles & Qualter, 2021; Hankin et al., 2018; Zhu et al., 2019).

The vast research literature shows how loneliness can intertwine with multiple risks, such as low trust beliefs, low levels of social engagement, depression, and school disliking (Ladd & Ettekal, 2013; Qualter et al., 2010, 2013; Rotenberg et al., 2010; Rönkä et al., 2017). Weiss (1973) originally differentiated between social (i.e., a discrepancy between desired and perceived social networks) and emotional (i.e., a discrepancy between desired and perceived close emotional attachments) loneliness. This two-dimensional measurement has been applied in research among children and preadolescents (Junttila & Vauras, 2009; Qualter & Munn, 2002). Moreover, loneliness has been approached through its different trajectories. In their study, Vanhalst et al. (2015) established that adolescents following a chronic loneliness trajectory were more likely than their peers to hold attributions and emotions, in situations of social inclusion and exclusion, that further risked prolonging their loneliness. To that end, although targeting socio-emotional competence as well as providing opportunities for social encounters show promise in helping some adolescents overcome loneliness experiences, those with prolonged loneliness are likely to need more intensive support that also targets the negative cognitive biases and anxiety linked with chronic loneliness (Eccles & Qualter, 2021; Qualter et al., 2015). This dissertation contributes to research on loneliness in preadolescence by deepening understanding of scarcely understood longitudinal patterns in social and emotional loneliness, through examining their interdependence and stability across time (Mund et al., 2020).
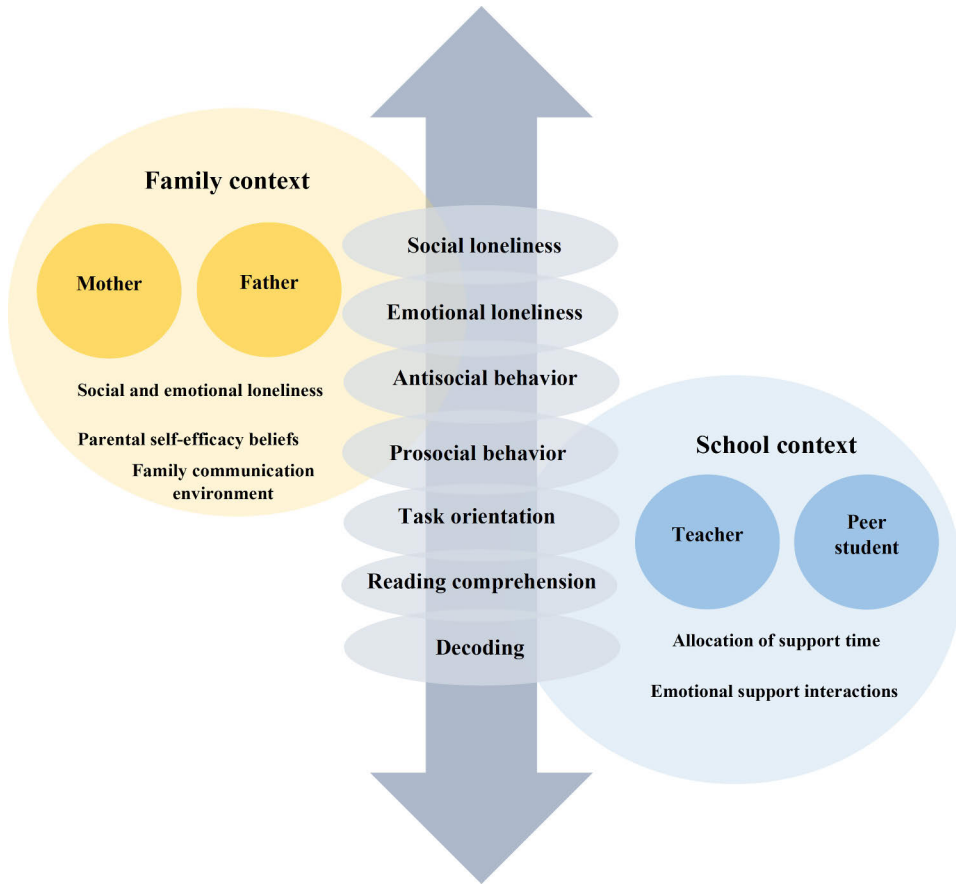
Figure 2. An overview of the constructs applied in the dissertation.

Social competence comprises skills to coordinate behavior and emotions to achieve social outcomes that are valued in the specific context and culture, while positively responding to others' behaviors and emotions (Dirks et al., 2018; Junttila et al., 2006). In this dissertation social competence is approached through its two dimensions: prosocial (i.e., cooperation skills and empathy) and antisocial (i.e., impulsivity and disruptiveness) behaviors (Junttila et al., 2006). Low social competence, conceptualized here through low prosocial and high antisocial behaviors (see, Salminen et al., 2022), can be reflected through difficulties collaborating with others (Hukkelberg et al., 2019; Junttila et al., 2006). Although often individually measured, social competence can be seen as socially constructed through interactions and relationships with significant others (Garte, 2020; Junge et al., 2020). For example, opportunities to engage in complex interactions, combined with high-quality support, can provide safe and meaningful opportunities to practice conflict resolution and successful regulation of one's emotions when collaborating

with peers (Salminen et al., 2022). Moreover, as suggested by Junttila et al. (2006), "different sources of information tend to provide divergent pictures of children's social competence" (p. 892; see also Junge et al., 2020). To that end, applying multisource evaluations of social competence, as in this dissertation, can provide a complementary understanding of how socio-emotional vulnerability can be reflected in preadolescence (i.e., through self, teacher, peer, and parent evaluations). Loneliness and social competence can further intertwine and accumulate (Junttila & Vauras, 2009; Lodder et al., 2016). As an example, lonely individuals can hold negative self-evaluations of their social competence which can further make it more difficult for them to reconnect with others (Lodder et al., 2016).

Student learning extends beyond cognitive aspects (Domitrovich et al., 2017; Salminen et al., 2022). Thus, reflections of vulnerability in the school context are approached, in addition to difficulties in reading, through low task-orientation and prosocial behavior (i.e., socio-motivational vulnerability). According to Pfost et al. (2012), prevention and effective targeting of reading difficulties is of great importance, as students who have difficulties in reading do not necessarily catch up with their peers across time. As suggested by Vauras (1991), students who struggle with learning can especially benefit from sensitive scaffolding of their reading comprehension skills in order to increase their opportunities to respond to demands in learning, as the complexity of content increases across the school years. The patterns underlying reading difficulties can differ among students, and it is therefore important to further identify aspects of reading that students are especially struggling with (i.e., decoding skills, reading comprehension skills, or a combination of both) (Spear-Swerling, 2015). Reading skills are not only needed to respond to learning demands in schools, but also to fully participate in societal life. Aligning, Frønes et al. (2020, p. 328) have concluded that we need to seek for "new equitable opportunities for learning and, hopefully, remove a gatekeeper for participation in our text-based, digitised society".

Task orientation is important for experiencing positive valence in the face of challenging tasks. Thus, low task orientation can threaten academic achievement, self-competence, and well-being (Vauras et al., 2009). As learning, overall, is deeply social by nature, the development of task orientation is socially embedded even if it reflects individual tendencies in approaching tasks. Indeed, Järvelä et al. (2010) encouraged to study motivation "as an individual psychological concept embedded within the social, shared, and interactive processes of learning" (p. 24). As suggested by Skinner and Pitzer (2012), experiences of failure that can relate to unsupportive interactions, and experiences of incompetency, it follows, can severely undermine learning and achievement through impeding joy and engagement in learning. Then again, positive teacher affect and peer acceptance, as examples, have been shown to be positively associated with students' academic performance namely through their

impact on better task focus in learning tasks (Kiuru et al., 2014). Prosocial behavior, comprising cooperation skills and empathy, reflects "both behavioral and affective aspects of social competence" (Junttila et al., 2006, p. 891). Cooperation skills are crucial for sharing mutual goals with others, while empathy is reflected through sensitivity toward others' needs and emotions (Junttila et al., 2006). Overall, prosocial behavior facilitates positive peer relationships (Wentzel et al., 2016). As with other constructs here, prosocial behavior is deeply socially embedded: indeed, Garte (2020) suggested that using the interacting group of children as the unit of analysis, as conceptualized through collaborative competence, can provide a fruitful basis for understanding how competence is, in fact, reflected through collaboration (rather than merely through individual-level skills).

Prevention and intervention strategies hold the highest potential when they target social along with individual aspects; for example, in tackling loneliness, increasing opportunities for social contact, reducing stigma, and enhancing social support are seen as important, in addition to instruction in social skills (Eccles & Qualter, 2021; Masi et al., 2011). As development and learning can be seen as inherently risky, researchers have further emphasized the need to target interactions and relationships rather than focusing on 'fixing' individuals (Gershon, 2012; Osher et al., 2020). Indeed, as concluded by Armstrong-Carter et al. (2021), efforts to promote resilience "should not be only the child's responsibility to simply change their behaviors"; rather, opportunities should be structured in ways that enable children to practice and develop positive behaviors (p. 1518). The social embeddedness of socio-emotional vulnerability in the family context is next discussed, followed by patterns underlying realization of teacher and peer emotional support and the role that these hold for understanding vulnerability and resilience.

1.3   Socio-emotional vulnerability in the family context

Risks and resources are not equally divided among families (Sorkkila & Aunola, 2022; Upadyaya & Salmela-Aro, 2021). If risks become entangled, without sufficient promotive factors accessible, there is a risk for intergenerational processes of vulnerability (Cantor et al., 2019; Osher et al., 2020). Resilience, then again, as defined by Ungar (2012), depends on the resources and opportunities "that are available and accessible to individuals, their families and communities" (p. 3). This dissertation deepens understanding on: (i) parents' loneliness as a risk factor for their preadolescents' long-term loneliness experiences (acknowledging gender- and dimension-specific patterns) (Study I), and (ii) the role that parental self-efficacy, and between- and within-family differences therein, can play for entanglement of mothers', fathers' and preadolescents' intra- and extra-familial relationship

vulnerability (Study II). Due to the increasing uncertainties and risks that families are facing (with unequally distributed and accessible resources), this is more relevant than ever, given that, as formulated by Jordan (2005), "[r]elationships are at the heart of growth, healthy resistance, and resilience" (p. 80).

1.3.1 Parental loneliness, self-efficacy, and family communication environment

Parents' loneliness experiences, parental self-efficacy, and the family communication environment are all seen to contribute to parents' resources and well-being, and thereby be reflected in their efforts to promote their preadolescents' socio-emotional well-being. Figure 3 illustrates the social embeddedness of socio-emotional vulnerability, well-being, and everyday resilience in family context, as approached in the dissertation.
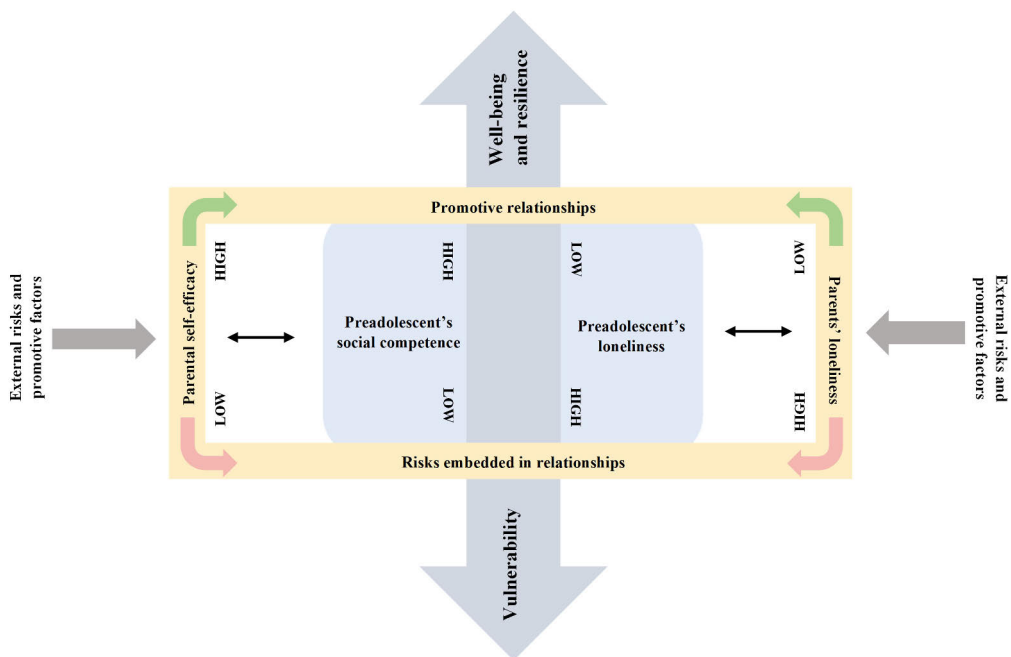
Figure 3. Socio-emotional vulnerability, well-being, and resilience in the family context.

Note. The figure was based on the research presented in this chapter and Studies I and II.

Parents' loneliness as a risk factor. In their review on loneliness in parenthood, Nowland et al. (2021) concluded that parents' loneliness can have several adverse impacts on parents themselves (e.g., stress, depression) as well as on their children's health and well-being (e.g., internalizing behaviors, fear of negative evaluations). Junttila and Vauras (2009) have applied the concept of intergenerational transmission of loneliness when discussing how parents' loneliness can predict their children's loneliness experiences. Mechanisms through which parents' loneliness can be reflected in that of their children are complex and varied, ranging from genetic contributions to proximal processes.

Genetics have been shown to play a role in risk for loneliness (e.g., Boomsma et al, 2006; Waaktaar & Torgersen, 2012), but in their recent review, Spithoven et al. (2019) suggested that genes are unlikely to have a direct effect; rather, environmental factors are likely to determine how genes are expressed. The power of heritability in loneliness has, in fact, shown to rapidly decrease in preadolescence, while that of environmental factors increases (Bartels et al., 2008). Due to the complexity underlying loneliness and its multifaceted nature, it is likely that intergenerational processes of vulnerability occur through an interplay of multiple mechanisms, such as through a cumulative contribution of genetic and proximal processes (Junttila & Vauras, 2009; Spithoven et al., 2019).

Less open and supportive family environments (Segrin et al., 2012), and less encouraged opportunities for social interactions outside the family because of more isolated family environments (Solomon, 2000), can pose risks for loneliness experiences. Thus, non-lonely parents can be better placed to provide, encourage, and model their preadolescents with rich social encounters outside the family context, compared to lonely parents. In a study by Jakobsen et al. (2020), loneliness was found to be negatively related to resilience resources available across the intrapersonal (e.g., social competence), intra-family interpersonal (i.e., cohesion in the family), and extra-family interpersonal (social resources) domains. That is, those adults with low resilience resources, as reflected through these domains, also felt lonelier, compared to those with higher resilience resources. Moreover, multiple concomitant risks can accumulate to parents who experience loneliness, including parenting stress (Berry & Jones, 1995) and depression (Junttila et al., 2015a). As all these threaten parents' well-being, this can be negatively reflected in parental functioning, thereby potentially further contributing to preadolescents' risk of socio-emotional vulnerability. Junttila et al. (2007) have also established associations between parents' loneliness and low parental self-efficacy beliefs. As PSE has been shown to be a powerful construct for explaining parent–child relationships, as will be discussed next, it can deepen understanding of mechanisms underlying preadolescents' loneliness.

Parental self-efficacy as a risk and promotive factor. As discussed, PSE presents a powerful construct for understanding parenting practices and the well-being of parents and their children (Albanese et al., 2019; Coleman & Karraker, 1998, 2000). Parents' low PSE has been associated with their children's socio-emotional vulnerability in middle childhood and preadolescence, for instance through internalizing problem trajectories (Ahun et al., 2017), whereas parents' high PSE has been shown to promote their children's socio-emotional well-being in preadolescence, for example through its positive associations with prosocial behaviors (Junttila & Vauras, 2014). PSE has further been associated with parental well-being, for instance through associations between low PSE and loneliness experiences (Junttila et al., 2007) and through associations between high PSE and parenting satisfaction (Coleman & Karraker, 2000). Moreover, associations have been established between PSE, parenting practices, and parent–child relationships; high PSE is associated with responsiveness, age-appropriate parental involvement and monitoring, and more open communication (Ardelt & Eccles, 2001; Bandura et al., 2011; Coleman & Karraker, 1998, 2000; Glatz & Buchanan, 2015; Shumow & Lomax, 2002), whereas parents with low PSE are more prone to controlling, withdrawn, and passive parenting (Coleman & Karraker, 1998; Jones & Prinz, 2005). PSE has also been shown to mediate relations between parents' loneliness and their preadolescents' social competence (Junttila et al., 2007) and to promote parents' resilience through mitigating risks and adverse circumstances (see, e.g., Choe, 2022; Gavidia-Payne et al., 2015).

PSE does not present a fixed trait; it is malleable to change (Bandura, 1977; Coleman & Karraker, 1998). Preadolescents and their parents reciprocally influence one another through complex processes. If the parent experiences the child's behavior as challenging (e.g., impulsive or disruptive), it can undermine parents' confidence in their own parenting abilities (Ardelt & Eccles, 2001; Jones & Prinz, 2005). This is because it can be more difficult to experience confidence if one does not receive positive feedback through the child's development and behavior (Ardelt & Eccles, 2001; Coleman & Karraker, 1998, 2000). Indeed, a child's responses through interactions are suggested to be the primary source of feedback for parenting (Coleman & Karraker, 1998). On the other hand, parents with low PSE can overestimate their child's difficult behaviors, due to previous negative feedback loops and lack of confidence in their ability to overcome challenges (Coleman & Karraker, 1998). Then again, parents who feel efficacious are more likely to experience success and satisfaction in parenting and tend to perceive their children as more sociable, compared to parents with low PSE (Coleman & Karraker, 2000).

Family communication environment reflects the family communication schemata. As parents and preadolescents both influence one another, "family relationship schemas are clearly the outcomes of family interactivity" (Koerner &

Fitzpatrick, 2002a, p. 89). In this dissertation family communication environment, comprising dimensions of conversation and conformity orientations, is approached through parental reports (Koerner & Fitzpatrick, 2002b; Ritchie & Fitzpatrick, 1990). Conversation orientation reflects "the degree to which families create a climate in which all family members are encouraged to participate in unrestrained interaction about a wide array of topics" (Koerner & Fitzpatrick, 2002a, p. 85). Conformity orientation, by contrast, refers to "the degree to which family communication stresses a climate of homogeneity of attitudes, values, and beliefs" (Koerner & Fitzpatrick, 2002a, p. 85). Ritchie and Fitzpatrick (1990; see also Koerner & Fitzpatrick, 2002b) have encouraged identifying four family communication types based on the intersection of conversation and conformity orientations (see Figure 4).
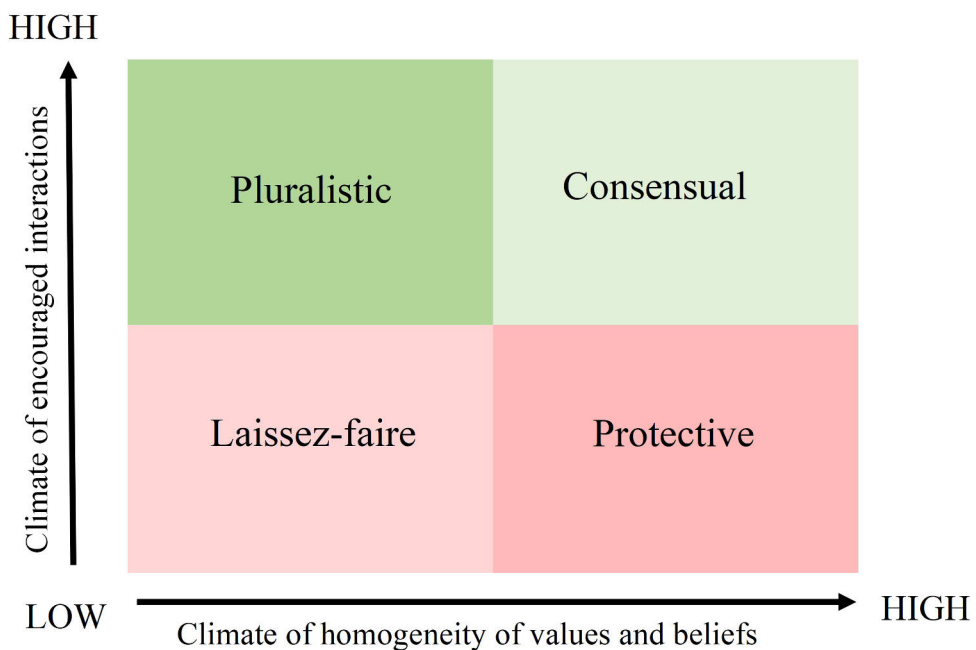
Figure 4. Family communication types based on the intersection of conversation and conformity orientations.

Note. The figure was based on studies by Koerner and Fitzpatrick (2002b) and Ritchie and Fitzpatrick (1990).

Laissez-faire families are characterized by infrequent family interactions and typically have low family cohesion. Parents place emphasis on the individual beliefs and values of family members. Protective families are characterized by low degree

of encouraged open family communication, and family members tend to hide their private feelings and thoughts. Parents in these families typically value a hierarchical family structure and uniformity of beliefs and values, with little room for children to disagree with their parents. Consensual families are characterized by frequent and open discussions of a variety of topics. Parents balance in maintaining a family hierarchy while including their children in family discussions to hear their thoughts and to communicate the rationale behind the decisions they make. Pluralistic families are characterized by free and open interactions, including sharing ideas and expressing concerns even on sensitive topics. Parents include their children in decision-making and emphasize equality and individual growth among all family members (Koerner & Fitzpatrick, 2002a, 2002b; Ritchie & Fitzpatrick, 1990.). Overall, children from high-conversation-oriented families are presumed to be better prepared to develop good relationships with others and typically have a higher preparedness to flexibly adapt to changing situations (Koerner & Fitzpatrick, 2002b).

1.3.2 Gender-specific and family-level configurations of risks and promotive factors

Risks and promotive factors can present within-family, in addition to between-family, differences. This dissertation examines gender-specific patterns through which, on average, loneliness by mothers and fathers is reflected in their sons' and daughters' loneliness (Study I). In Study II, a more synergistic approach was adopted, through a person-centered approach to family, which enabled identifying families who "look similar across a profile of measures" and then "comparing subgroups with respect to outcome variables of interest" (Roeser et al., 2002, pp. 347–348). More specifically, family profiles with unique configurations of the mother's and father's PSE within the family were identified, and these profiles were then applied to examine between-family differences in mothers', fathers' and preadolescents' intra- and extra-familial relationship vulnerability. Accordingly, this dissertation targets both dyadic (i.e., mother–preadolescent and father–preadolescent) and triadic (i.e., the focal preadolescent, mother, and father) social microsystems in the family context.

Gender-specific patterns in intergenerational vulnerability to loneliness experiences. Previous studies have suggested that gender-specific patterns can partly influence how parents' loneliness influences that of their children. Junttila and Vauras (2009) found that mothers' and fathers' loneliness experiences indirectly predicted their preadolescent daughters', but not sons', loneliness, as mediated by peer-evaluated cooperation skills. Moreover, in a study by Henwood and Solano (1994), mothers', but not fathers', loneliness was associated with their children's

loneliness. However, as they did not examine boys and girls separately, any potential gendered patterns remained unmapped.

Overall, the social opportunities that preadolescents are provided with, and the ways that they are responded to by significant others, importantly shape their development and can carry gender-specific patterns (for an integrative framework of gender in the family, see Endendijk et al., 2018). According to Mesman and Groeneveld (2018), gendered socialization often occurs through implicit parenting practices, such as "parental messages and behaviors that convey information about how girls and boys are supposed to behave" (p. 22). That is, parents can model gender-related social expectations and attitudes both intentionally (e.g., gender-related instruction) and unintentionally (e.g., different responses to same behavior, or emotional reactions) (Endendijk et al., 2018). These gendered proximal processes can further contribute to children's gender-typed behaviors and experiences, such as differences in socio-emotional behaviors and activity preferences between boys and girls (Endendijk et al., 2018).

Preadolescents have, however, a role in interpreting and shaping these processes. Moreover, they are ultimately influenced by all system levels in which they are embedded (e.g., peers, teachers [microsystem], media [exosystem], cultural beliefs and values [macrosystem], Bronfenbrenner & Morris, 2006); therefore, any influences are not merely about 'delivering' and 'receiving' (Endendijk et al., 2018; Sameroff, 2009). This dissertation examines how mothers' and fathers' loneliness is reflected in their preadolescent daughters' and sons' long-term social and emotional loneliness. This deepens understanding of gender- and dimension-specific mechanisms underlying intergenerational vulnerability to loneliness experiences (Junttila & Vauras, 2009).

Family-level configurations of the mother's and father's PSE, with associated risks and promotive factors. Most studies have focused on mothers' PSE, especially those with younger children (0–6 years old) (Fang et al., 2021). This dissertation takes an important step toward deepening understanding of the role that PSE plays in families with preadolescents, by acknowledging both parents within the family. The identification of family profiles based on PSE configuration has been shown to be a meaningful way to increase understanding of how PSE relates to preadolescents' social competence. In a study by Junttila and Vauras (2014), low, mediocre, and strong PSE family profiles were identified (based on the mother's and father's PSE). Preadolescents in low PSE family profile were assessed as the least prosocial and the most antisocial, compared to their peers in other family profiles.

However, as family members uniquely influence each other through complex processes, mechanisms underlying the social embeddedness of socio-emotional vulnerability are not expected to be merely a sum of risks and promotive factors (Osher et al., 2020; Sameroff, 1975, 2009). Indeed, in a study by Panula et al. (2020)

among parents of young children, the higher psychosocial well-being of one parent was found to have the potential to protect the development of a child's social competence when the other parent's psychosocial well-being was lower. This emphasizes the need for a multi-layered understanding of the family context: that is, how differences between parents can influence preadolescents' well-being.

To that end, this dissertation recognizes potential family-level discrepancies in the mother's and father's PSE, along with the balanced families (i.e., in which both parents have either low, average, or high PSE). It has further been presumed that families with several risks and vulnerabilities are typically less prepared to face challenges and adversity (Prime et al., 2020). Therefore, it is further examined whether we can see accumulation of family members' intra- and extra-familial relationship vulnerability and well-being based on the PSE family profile membership. Combined, these deepen understanding of both the mechanisms underlying family-level processes contributing to vulnerability and well-being, and the potential entanglement of vulnerabilities.

1.4 Teacher and peer interactions among students with vulnerabilities

Supportive teacher and peer interactions are crucial for promoting all students' learning and well-being (Cantor et al., 2019; Darling-Hammond et al., 2020; Osher et al., 2020). In this dissertation, the focus is on students identified with different combinations of socio-motivational vulnerability (i.e., low prosocial behavior and task orientation) and reading difficulties. Socio-motivational vulnerabilities can predispose students to daily stressors (Skinner & Pitzer, 2012), for instance through experienced difficulties collaborating with peers and maintaining positive valence toward learning in the face of challenges (Junttila et al., 2006; Vauras et al., 2009). Reading difficulties, then again, can lead to repeated and accumulating academic setbacks, and especially when intertwined with motivational vulnerability, endanger coping with increasing learning demands along with emotional attunement to learning (Lepola et al., 2016; Vauras et al., 2009). Skinner and Pitzer (2012) have defined everyday resilience through "resources students can access to help them bounce back from setbacks and failures and allow them to constructively reengage with challenging academic tasks after running into obstacles or problems" (p. 31). According to them, these include "interpersonal resources, such as teacher warmth or peer engagement" (p. 31). Thus, both teachers and peer students importantly contribute to understanding the resources that are accessible, and thereby well-being and resilience. The role of teacher and peer interactions is next discussed in more detail.

1.4.1   Interactions between teacher and students as reciprocally shaped

Classroom-level observational studies have shown that high-quality emotional support is a powerful way to promote academic self-efficacy, engagement, and positive affect among students with diverse needs (Blazar & Archer, 2020). As Qi et al. (2020) demonstrated, high-quality emotional support can function as a protective factor, buffering the negative effects that students' lower competencies might otherwise have on their development. Moreover, high-quality emotional support can help those students struggling with learning catch up with their peers (Blazar & Archer, 2020; Hamre & Pianta, 2005; Qi et al., 2020).

Here, high-quality emotional support is conceptualized through positive climate, teacher sensitivity, regard for student perspectives, and refraining from negativity in interactions (Hamre et al., 2013; Pianta et al., 2008). As discussed, observational tools for emotional support typically advise on observing 'average' interactions within classrooms (Pianta et al., 2008). As interactions are shaped reciprocally between the participants, understanding risks and promotive factors as embedded in the interactions between the teacher and specific students, contributes to a richer understanding of how these interactions can (re)produce vulnerability or on the other hand promote resilience. Indeed, Nurmi (2012) emphasized the need to "change the focus of research from classrooms on the whole to individual students in classrooms" because "different students may receive different kinds of instruction and responses from their teachers" (p. 178). Reciprocity in the realization of support is next discussed, through perspectives that were found relevant for grounding the more individualized approach to emotional support (i.e., teacher and two students), as adopted in this dissertation, compared to classroom-level observations (see Figure 5).
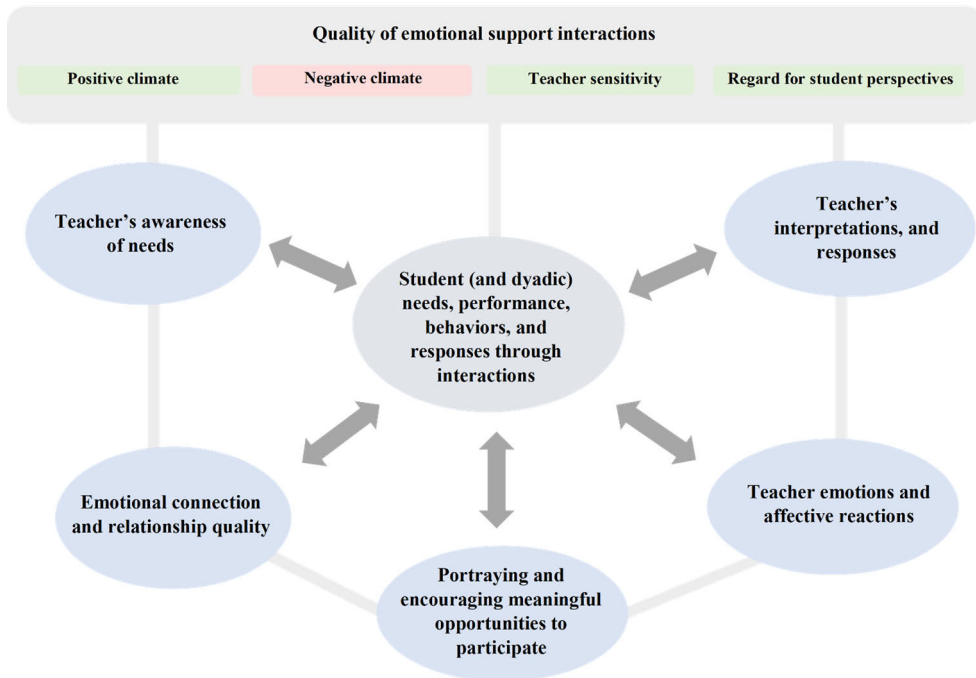
Figure 5. Illustration of reciprocity in interactions underlying the realization of emotional support.

Note. The figure represents a synthesis of the research presented in this chapter. The dimensions of emotional support were adopted from Pianta et al.'s (2008) CLASS K-3.

Heterogeneity in the quality of teacher–student relationships. The Classroom Assessment Scoring System (CLASS K-3) conceptualizes a positive climate through reflections of warm and emotionally supportive relationships, expressions of positive affect, and respect for one another, and a negative climate comprising displays of irritability, anger, sarcasm, and harsh voice, as examples (Pianta et al., 2008). However, these global observations focus on average classroom interactions, which risks that those teacher–student interactions that deviate from it will remain invisible. Observational studies at a more individual level (such as teacher–dyad) are scarce, but interest in such approaches is clearly increasing. Indeed, studies conducted through questionnaires have shown classroom-level heterogeneity in students' perceptions of classroom climate (Schenke et al., 2017) and differential trajectories in perceived emotional support (Tvedt et al., 2021).

As discussed by Nurmi (2012), students' academic performance, motivation, engagement, and socio-emotional behaviors can impact teacher–student interactions through responses that they evoke in the teacher. McGrath and Van Bergen (2015)

discussed how a student's externalizing behavior can commence a cycle of reciprocal and accumulating negativity between a teacher and the student that, without intervention, is likely to continue, with increasingly negative outcomes for both the student and the teacher. In particular, student disruptive and externalizing behaviors and lack of engagement in learning can evoke negative emotions in teachers (Hagenauer et al., 2015; Hoglund et al., 2015). As discussed by Silinskas et al. (2016), negativity in interactions can threaten the fulfillment of needs for relatedness, autonomy, and competence, especially if the student interprets the teacher's negative emotions as reflecting the teacher not liking them, that they are not doing well enough, or that the task at hand is unpleasant.

These transactional processes suggest that risks, as reflected through indicators of negative climate, can further reproduce vulnerability, or at least impede promoting everyday resilience. By contrast, teachers may feel more comfortable working with students with prosocial behaviors, experiencing more positive emotions and potentially indicating more positive responses through their interactions (Nurmi, 2012). These findings importantly inform how teacher and student interactions are shaped reciprocally, and emphasize the need for observational studies, such as in this dissertation, to scope into these interactions more closely, compared to classroom-level observations. Indeed, doing so contributes to understanding how well an environment fits student dyads' needs (Eccles & Roeser, 2009), as approached through emotional support interactions between the teacher and two students.

Adaptive calibration of emotional support to meet student needs can be challenging. Teacher sensitivity in emotional support reflects the extent to which the teacher is aware of those students in need of additional support and whether the teacher matches their support, accordingly, being in tune with students' evolving needs (Pianta et al., 2008). Adaptive calibration of support, to meet the manifold and dynamic needs of students, is not easy and can be especially challenging when students struggle with learning (see Kajamies, 2017; Turner et al., 2014). To that end, more individualized observations of teachers' emotional support, as in this dissertation, are needed to complement traditional classroom-level observations and to deepen understanding of how teachers calibrate their emotional support according to students' evolving and manifold needs (Kajamies, 2017) – and, further, how this relates to the development of competencies.

The adaptation of support requires not only being aware of students' needs (Rodriguez et al., 2020) but also adapting one's own behaviors and interactions accordingly while acknowledging that students' needs evolve over time (Kajamies, 2017). Findings of Silinskas et al. (2016) show that although lower-achieving students received more individual attention and instructional support from their teachers, this was often loaded with teaching-related stress and negative affect. Therefore, although teachers noticed students' needs for more individualized

support, this was not positively reflected in students' development. Silinskas et al. emphasized that teachers need to be aware of their affective reactions and develop positive emotion regulation strategies both to avoid transmitting negative emotions and stress to students and to be able to adaptively calibrate their support among students with diverse needs.

Opportunities for meaningful participation can be differently realized for students. Student participation is not only related to how the teacher portrays offers to participate but also how students uptake these, and how students themselves make offers to participate, then again encouraged and enabled by their teacher (Turner et al., 2014). For example, in a study by Lepola et al. (2022), children with initially higher story comprehension skills took up more opportunities to participate in dialogic reading conversations, compared to their less competent peers. This finding further emphasizes the importance of teacher's skillfulness in changing the course of interactions and promoting safe and meaningful participation by all.

Moreover, as participation can be expressed through various combinations of "doing, talking, thinking, feeling, and belonging" (Wenger, 1998, p. 56), teachers need sensitivity to identify and encourage different forms of participation that are meaningful for specific students. High-quality emotional support is presumed to be a crucial component in ensuring that all students have meaningful opportunities to participate (Kajamies et al., 2016; see also Li & Julian, 2012). Indeed, all dimensions of emotional support are presumed to play a role in the realization of meaningful opportunities to participate; from the teacher's lookout for opportunities to involve students in meaningful ways (i.e., regard for student perspectives), to teacher's sensitivity in noticing and encouraging student efforts to participate through a variety of ways and to emotionally safe environments, characterized by positive climate, devoid of negativity (Pianta et al., 2008).

1.4.2 Peer collaboration: Risks and promotive factors

As discussed, observational tools for emotional support typically focus on teacher behaviors with less emphasis on peer interactions (Slot et al., 2016). Researchers have been encouraged to target the joint effects that teachers and peers have in learning, for a richer and more complete understanding of classroom processes (e.g., Vollet et al., 2017; Wentzel et al., 2010, 2016). Wentzel and Watkins (2002) concluded that peers can have a profound impact on students' learning and development (p. 374). Indeed, meaningful peer relationships both positively contribute to the fulfillment of needs to belong and provide opportunities for practicing social skills (e.g., Klima & Repetti, 2008; Ladd et al., 2002; Ryan & Shin, 2018). Daiute and Dalton (1993) discussed how peer collaboration can promote students' cognitive development and, moreover, provide valuable opportunities for

teachers to observe their students' needs and interests, as these can be reflected differently and more freely through peer interactions. To that end, important questions arise: Under which circumstances does peer collaboration promote learning, and what can constitute as risks for successful peer collaboration? These are discussed next through potential risks and promotive factors for successful peer collaboration (see Figure 6).
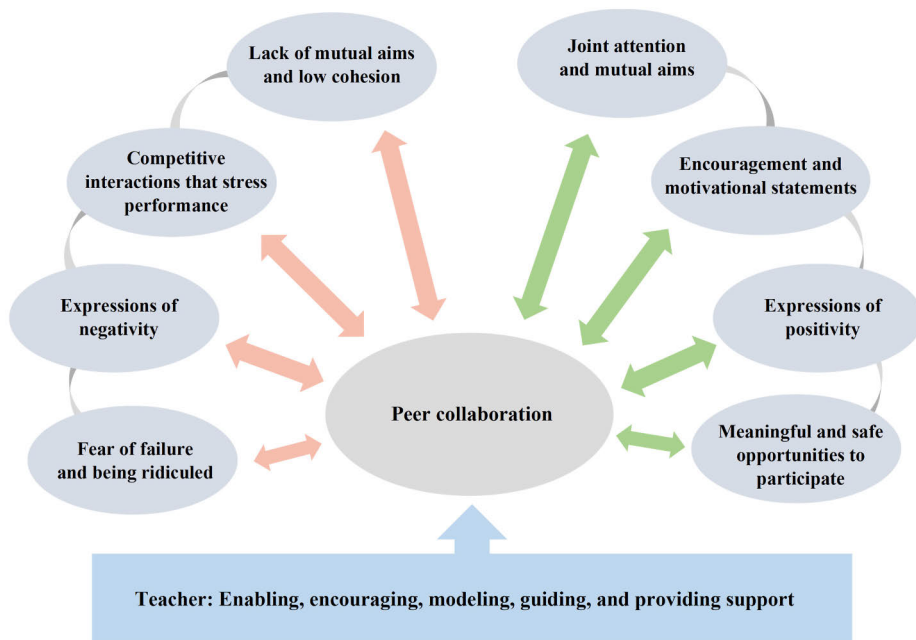
Figure 6. Risks and promotive factors embedded in peer collaboration and the teacher's role.

Note. The figure represents a synthesis of the research presented in this chapter. Red arrows = risks; green arrows = promotive factors. The arrows are bidirectional to illustrate that these associations can be reciprocal and further reinforced by one another. For example, expressions of negativity can lead to less successful peer collaboration, which can further increase negativity and, in turn, increase the fear of failure.

Supportive and positive peer interactions. In a recent meta-analysis, Tenenbaum et al. (2020) concluded that peer collaboration that requires shared responsibility for task outcomes and working toward consensus have especially high potential to positively contribute to the development of students' social skills, such as perspective-taking. Moreover, Barron (2003) suggested that joint attention, echoing

each other's ideas, and mutual gaze constitute crucial elements of successful peer collaboration. In a study among young adults, Bakhtiar et al. (2018) established that encouragement and motivational statements facilitate a positive group socio-emotional climate: establishing and maintaining shared goals is crucial not only for a group's success but also for individual group members' learning. Indeed, as shown in a study by Linnenbrink-Garcia et al. (2011), group members' positive interactions are linked to positive motivational outcomes. As examples of positive socio-emotional group interactions, Mänty et al. (2020) listed laughing, joking, and encouraging verbal expression. Moreover, as discussed by Wentzel (2003), viewing peers as supportive of academic effort and tolerant of mistakes has a positive impact on students' interest in school. Overall, caring and positive learning environments, in which students receive help from their peers, behave in socially responsible and respectful ways toward one another, tolerate mistakes, and safely share knowledge, harness the potential of peers in promoting positive social and academic development (Wentzel, 2003). Moreover, observational tools on classroom interactions describe indicators for observing the overall quality of peer interactions through a positive climate (e.g., peer assistance and cooperation) (CLASS K-3, Pianta et al., 2008).

Risks embedded in peer interactions. Equally important is acknowledging potential risks that can be reflected through peer interactions and have adverse effects on peer collaboration and learning. Barron (2003) suggested that competitive interactions and self-focused behaviors seem to be associated with less successful peer collaboration among elementary students. More specifically, collaboration that stresses individual competition and grades over mutual aims and gains can be problematic, as it can decrease students' shared efforts to engage in joint learning. This can be presumed to be especially harmful for those students who struggle academically, as they may, as it is, avoid participating due to concerns that peers will see their difficulties (Farmer et al., 2021). Moreover, in a study by Mänty et al. (2020) among Finnish preadolescents, negative group interactions during collaborative learning were reflected in individual students' negative task-related emotions. These findings show that negativity, as reflected through group interactions, can undermine students' positive valence for tasks and that peers have a crucial role in promoting joy in learning. As examples of such negative socio-emotional group interactions, Mänty et al. (2020) listed verbal expressions that carry a clear negative value, lack of focus (i.e., off-task behaviors, such as wandering around), negatively charged interactions (such as criticizing others and teasing), and 'tensioned silence.' In a study by Bakhtiar et al. (2018), negative interactions, such as pressuring or discouraging others, had the potential to hinder group functioning among young adults, especially in the face of challenges. Likewise, observational tools on classroom interactions describe indicators for observing the overall quality

of peer interactions through a negative climate (e.g., teasing and irritability) (CLASS K-3, Pianta et al., 2008).

Teachers' role in harnessing the potential of peer collaboration. Barron (2003) suggested that "[r]ather than focusing on issues of composition defined with respect to individual characteristics like prior achievement or only on cognitive aspects of the development," attention should be paid "to the relational context that is developed as students work together" (p. 351). However, promoting students' successful collaboration is not an easy task for teachers (Barron, 2003). In fact, in a study by Ryan et al. (2015), teachers reported feeling less efficacious in managing peer relations, compared to instruction, motivation, and classroom management. The teacher's role as an invisible hand has been emphasized (Farmer et al., 2011): this stands for establishing environments that provide opportunities to model positive values and norms regarding peers and learning (Farmer et al., 2011 Hughes, 2012; Luckner & Pianta, 2011; Ruzek et al., 2016; Ryan & Patrick, 2001). Indeed, students may model teacher's caring and supportive interactions in their own interactions with peers (Farmer et al., 2021; Gest & Rodkin, 2011; Hendrickx et al., 2016). As discussed by Salminen et al. (2022), consistency in teacher–student interactions can play a crucial role here: unpredictable teachers may provide poorer role models for students' social behaviors. Moreover, teachers have an important role in harnessing the potential of peer interactions through setting and managing socio-emotional guidelines (Yan et al., 2011) and in addressing student difficulties in overcoming disagreement; Through these, teachers can help students successfully relate to one another and rehearse and strengthen their social, emotion recognition, expression, and regulation skills (Farmer et al., 2011; Luckner & Pianta, 2011; Ryan & Patrick, 2001; Ryan & Shin, 2018; Yan et al., 2011).

1.4.3 Toward dynamic and in-depth understanding of emotional support interactions

As discussed, there is a need for in-depth observations of how emotional support is realized. This dissertation contributes by targeting reciprocally shaped interactions between a teacher and two students and between the two students, dyadically, and observes more individualized patterns in emotional support interactions, compared to classroom-level studies. Studies that have examined emotional support as perceived by students, have shown that multi-layered (i.e., comprising both peer and teacher support evaluations), instead of single-layered (i.e., focusing solely on perceived teacher emotional support) provide a richer and more comprehensive understanding of processes contributing to student well-being and development (see Wentzel et al., 2010, 2016). Wentzel et al. (2016) established that while perceived teacher support can significantly predict students' academic outcomes, perceived

peer emotional support can significantly predict social behavior. Moreover, perceived teacher and peer emotional support has been shown to independently contribute to students' motivational outcomes (Wentzel et al., 2010). Therefore, an observational longitudinal approach to capturing both teacher and peer emotional support across a longer period, as in this dissertation, presents an important next step to deepen understanding of how they, separately and combined, contribute to promoting (everyday) resilience in students identified with vulnerabilities.

Moreover, cross-sectional measures may not reveal all the crucial aspects of emotional support interaction quality and its contributions to student development (Cadima et al., 2022b). This dissertation contributes by observing emotional support trajectories as evolving across a long period – that is, through a three-semester-long intervention. This provides a unique opportunity to deepen understanding of intertwining teacher and peer emotional support interactions as evolving across time. Overall, observing emotional support trajectories enables examination of how interactions are adapted according to student dyads' dynamically evolving needs (Kajamies, 2017).

Researchers have further called for a more nuanced and refined understanding of emotional support (e.g., Cadima et al., 2022b), and this dissertation contributes by illustrating teacher–dyad emotional support interactions across all four dimensions of emotional support, instead of providing global scores for the domain of emotional support (see, Pianta et al., 2008). These illustrations of emotional support trajectories are further combined with qualitative descriptions of teacher–dyad and peer dyadic emotional support interactions. Interaction excerpts importantly deepen understanding of the complexity underlying interactions and provide examples of how high-quality emotional support is realized in real-life learning situations (see, Salminen et al., 2012).

2   Aims

This dissertation builds on the bioecological transactional systems theory (Bronfenbrenner & Morris, 2006; Sameroff, 2009) and on calls for approaching vulnerability as dynamic, situational, and relational, rather than as a possession of individuals or groups (Luna, 2009, 2019; Virokannas et al., 2020). Vulnerability is conceptualized as a discrepancy between needs and support that is realized and approached through relationships and interactions in family and school contexts. The overall and specific aims of the dissertation are described in Table 1.

Table 1.   The overall and specific aims of the dissertation.

The overall aims of the dissertation	
Theoretical	Deepening the understanding of vulnerability as extending beyond the individual to capture its socially embedded, dynamic, and layered nature.
Empirical	Unveiling differential ways in which vulnerability can be reflected in preadolescence and the risks and promotive factors embedded in relationships and interactions in family and school contexts.
Methodological	Developing innovative ways to capture and illustrate the complexity underlying the layered nature of vulnerability.
Practical	Enhancing the understanding of the role of interactions and relationships in the realization of adaptive, sensitive, and meaningful support that promotes well-being and (everyday) resilience.
The specific aims of the three studies were to	
Study I	Deepen the understanding of the dynamic and two-dimensional nature of loneliness in preadolescence and to examine whether parents' loneliness predicts their preadolescent children's long-term loneliness through dimension- and gender-specific patterns.
Study II	Examine how parental self-efficacy family profiles contribute to understanding parents' and their preadolescent children's intra- and extra-familial relationship vulnerability and well-being.
Study III	Systematically observe and illustrate teacher–dyad and peer dyadic emotional support trajectories and examine their role in promoting resilience among students identified with different combinations of socio-motivational vulnerability and reading difficulties.

3   Methods

To embrace the complexity underlying vulnerability, this dissertation scopes into separate yet intertwined social microsystems within the family (i.e., mother–preadolescent, father–preadolescent, and the mother, father, and preadolescent triad) and school (i.e., teacher–dyad and peer dyadic) contexts. A longitudinal mixed-method approach is adopted; quantitative statistical analyses are conducted with both variable- and person-centered approaches (for their strengths, see Laursen & Hoff, 2006), and systematic in-depth observational case studies are conducted through rich and vast video footage (see Figure 7). Combined, these lead to a dynamic and rich understanding of the layered nature of vulnerability, as embedded in the interactions and relationships.

The data for the three studies comprises 318 preadolescents (10–11 years old when the data collection began) and their parents and teachers. Data were collected in a medium-sized city and its surrounding rural communities in Finland. The number of boys was slightly higher (52.7%) compared to girls (47.3%). The project was funded by Grants No. 114048 and No. 130307 from the Council of Cultural and Social Science Research, Academy of Finland, awarded to Professor Marja Vauras.

Methods are next briefly presented here, separately for the family and school contexts; more detailed information can be found in the original publications.
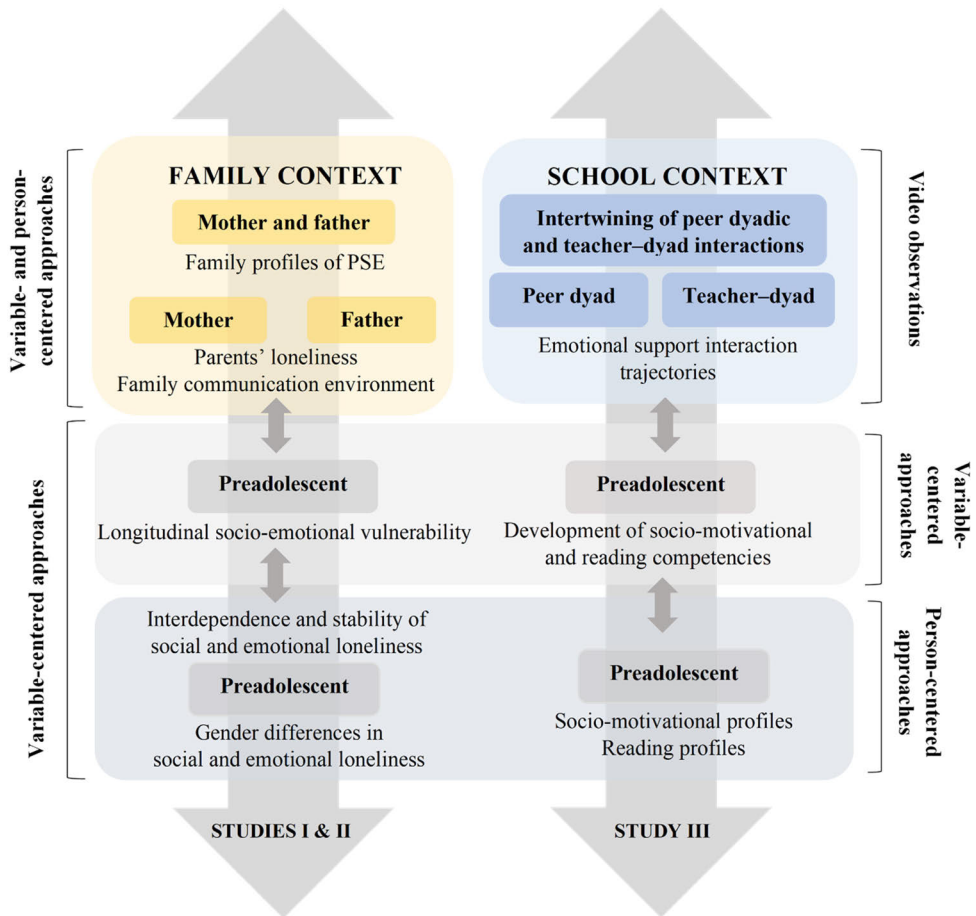
Figure 7. Overview of the longitudinal mixed methods approach adopted in the dissertation.

3.1 Family context

Most families (N = 318) participating were nuclear families (77.6%), and the remaining were stepfamilies (11.4%) and single-parent families (11.0%). Mothers were 27 to 52 years of age (M = 39.9), and fathers were 28 to 62 years of age (M = 42.0). In all, 86.5% of mothers (N = 275) and 77.4% of fathers (N = 246) provided data for their loneliness experiences through the parents' questionnaire (Study I). Study II included only those families where both parents provided valid data for their PSE (N = 249), as the focus was on family configurations of mother's and father's PSE.

3.1.1   Measurements

Preadolescents' social and emotional loneliness. Preadolescents' loneliness was assessed using the Finnish version (Junttila & Vauras, 2009) of the Peer Network and Dyadic Loneliness Scale (PNDLS, Hoza et al., 2000). Preadolescents filled the questionnaire at five time points across fourth to sixth grade, during regular school lessons. The scale measures loneliness across different levels of peer relationships: more specifically, perceived lack of involvement in a social network (i.e., social loneliness) and perceived absence of a close dyadic friendship (i.e., emotional loneliness) (Hoza et al., 2000). The scale has been validated for Finnish preadolescents (Junttila & Vauras, 2009) and for Finnish adolescents (Junttila et al., 2010).

   Preadolescents' multisource evaluated social competence. The Multisource Assessment of Children's Social Competence Scale (MASCS) (Junttila et al., 2006) was applied to evaluate preadolescents' social competence: self, teacher, and peer evaluations across three time points (fourth, fifth, and sixth grade autumn), and parent evaluations at two time points (fourth and sixth grade autumn). The scale comprises dimensions of prosocial (i.e., cooperation skills and empathy) and antisocial (i.e., impulsivity and disruptiveness) behaviors. The scale was originally developed to measure the social competence of children in elementary school and to acknowledge the perspectives of relevant social agents, that is children themselves and their peers, teachers, and parents (Junttila et al., 2006).

   Parents' social and emotional loneliness. Parents' loneliness was assessed using a translated and modified Finnish version (Junttila et al., 2007) of the Revised UCLA Loneliness Scale (Russell et al., 1980). Both mothers and fathers separately evaluated their loneliness experiences through a parent questionnaire at the first time point. The scale was originally developed to measure experiences of social isolation and the absence of relational and collective connectedness (Russell et al., 1980), with items measuring social (e.g., "I feel isolated from others") and emotional (e.g., "There are people I feel close to") experiences of loneliness (Junttila et al., 2007). Since then, the scale has been validated among Finnish parents to comprise dimensions of social and emotional loneliness (Junttila et al., 2013).

   Parental self-efficacy beliefs (PSE). Mothers and fathers separately evaluated their PSE through a modified and validated Finnish version (Junttila et al., 2007) of the Self-Efficacy for Parenting Tasks Index (SEPTI) (Coleman & Karraker, 2000). The Finnish version of the scale consists of dimensions of nurturance (e.g., "I know I'm not there enough emotionally for my child"), discipline (e.g., "It is difficult to me to decide on appropriate rules for my child"), recreation (e.g., "I know I should care more about my child's social life"), and participation (e.g., "I am not as involved in my child's school work as I think I should be") and has been validated among Finnish parents of preadolescents (fourth graders) (Junttila et al., 2007).

Family communication environment. Mothers and fathers separately evaluated their family communication patterns through a modified and translated version of the Revised Family Communication Pattern Instrument (RFCP; Ritchie & Fitzpatrick, 1990). The modified version comprises fewer items, compared to the original scale, to measure the family communication environment across two orientations: conversation (COM) (e.g., "We often talk as a family about things we have done during the day") and conformity (CON) (e.g., "When anything really important is involved, I expect my child to obey me without question").

3.1.2   Statistical analyses

Longitudinal patterns in social and emotional loneliness, and intergenerational transmission of loneliness (Study I). Variable-centered analyses are suitable for examining overall associations between constructs and making predictions (Bergman & Magnusson, 1997). A longitudinal confirmatory factor analysis with stability and interdependence paths was conducted in Study I to examine the stability and interdependence of two dimensions of preadolescent loneliness (i.e., social and emotional loneliness). A structural equation model analysis was then conducted applying a multigroup method for the boys' and girls' data to examine dimension- and gender-specific patterns in intergenerational transmission of loneliness from parents to their preadolescent children (Mplus version 7.3; Muthén & Muthén, 1998– 2015.)

   Identifying family-level configurations of mother's and father's PSE (Study II). Variable-centered approaches entail limitations when constructs vary across different subgroups within a population (Bergman & Magnusson, 1997). Therefore, a person-centered approach to family was adopted to identify different configurations of a mother's and a father's PSE within families. Four family profiles – comprising balanced and discrepant ones – were identified through latent profile analysis: (i) low–low, (i) low–average, (iii) high–average, and (iv) high–high (mother's/father's PSE) (Mplus version 8.0; Muthén & Muthén, 2017).

   Mothers', fathers', and preadolescents' intra- and extra-familial relationship vulnerability and well-being in the identified PSE family profiles (Study II). First, family communication types were derived based on the intersection of conversation and conformity orientations (i.e., low vs. high COM and CON; see Koerner & Fitzpatrick, 2002b; Ritchie & Fitzpatrick, 1990) through a K-means cluster analysis (IBM SPSS Statistics 24.0). The four-cluster solution was separately run for mothers and fathers and fitted the data, identifying the following family communication types: (i) laissez-faire (i.e., low COM and CON), (ii) protective (i.e., low COM, high CON), (iii) consensual (i.e., high COM and CON), and (iv) pluralistic (i.e., high COM, low CON). The Mplus auxiliary function was then

applied (see Asparouhov & Muthén, 2014; Marsh et al., 2009) by treating standardized mean scores of preadolescents' social and emotional loneliness (longitudinal), multisource evaluations of prosocial and antisocial behaviors (longitudinal), and mothers' and fathers' social and emotional loneliness as continuous auxiliary variables. Moreover, family communication types were treated as categorical auxiliary variables to examine the probability of a family communication type falling into a particular PSE family profile for mothers and fathers separately. The auxiliary function enabled us to consider all these variables separately (see Marsh et al., 2009), and p-values below .05 indicated statistically significant differences in these variables between the PSE family profiles (Mplus version 8.0; Muthén & Muthén, 2017).

3.2   School context

Originally, 40 students from six schools were chosen for an intervention aimed at helping students catch up with their peers and preventing the accumulation of difficulties. The selection of intervention students was mainly based on identified needs for more individualized support in reading, and additionally, these students were identified with different levels of socio-motivational vulnerability. Students were fourth graders at inception, and the intervention was implemented across a 1.5-year period. Special needs teachers ($N = 6$) who were genuinely interested in developing their professional expertise volunteered to carry out the intervention. (From this point forward, they are referred to as 'teachers' for simplification.)

The intervention was carried out once a week (45 min) in small groups of four students, but the students mostly collaborated as dyads. When optimally designed and implemented, small group learning enables the provision of individualized support and opportunities for all students to participate, including those who might avoid participating in whole-classroom situations (Darling-Hammond et al., 2020; Farmer et al., 2021). Dyadic collaboration took place in a computer-supported learning environment (SANTTU with Mates educational software; Vauras & Kinnunen, 2009) built around three youth mystery books: *Threat in the desert island* (Vauras, 2003), *Shadows of the night* (Vauras, 2008), and *Traces in the sand* (Vauras, 2009). The intervention comprised three phases with specific core focuses as follows: text comprehension skills (fourth grade spring); regulation of cognition, affect, and social behavior (fifth grade autumn); and emotion regulation and learning-related social skills (fifth grade spring), gradually building on one another (i.e., instruction related to text comprehension was carried out throughout the intervention). As cognitive and socio-emotional competences are highly intertwined, researchers have encouraged combining their instruction for more generalizable outcomes (Durlak et al., 2011; Jagers et al., 2019; Miller et al., 2011).

As the intervention was conducted in an authentic school environment, changes inevitably occurred; for some students, group and dyadic compositions went through some changes; however, 12 of the dyads remained intact. Moreover, one of the teachers handed over two of her groups for workload reasons, and a new teacher continued with them after the first intervention phase. In Study III, only those 12 peer dyads ($N = 24$) that had remained intact were included in the video observations of teacher and peer support time. Four dyads ($N = 8$) with different levels of socio-motivational vulnerability (all with reading difficulties) and their teachers ($N = 4$; originally 3, but one teacher changed, as described above) were then chosen from these intact dyads for in-depth analysis of emotional support interactions.

3.2.1 Measurements and identification of reading and socio-motivational profiles

Classroom teachers ($N = 14$) were not observed, but they provided evaluations of students' competences (i.e., task orientation and prosocial behavior) and supervised reading tests that were then evaluated by researchers (i.e., for the whole sample of students, $N = 318$). These were then applied to identify students with different levels of socio-motivational vulnerability and reading difficulties.

Prosocial behavior. Classroom teachers evaluated students' prosocial behavior in typical classroom learning situations by using MASCS (Junttila et al., 2006). Evaluations were completed before (fourth grade autumn) and after (delayed test, sixth grade autumn) the intervention. The scale measures prosocial behaviors through cooperation skills and empathy. Cooperation skills reflect successful relating and functioning in social situations, whereas empathy reflects recognizing and relating to others' feelings and acknowledging them through one's own behaviors (Junttila et al., 2006). Combined, these are seen as essential to establishing and maintaining meaningful, close relationships with peers and teachers (Junttila et al., 2006; Salminen et al., 2022).

Task orientation. Classroom teachers evaluated students' task orientation in typical classroom learning situations through the Motivational Orientation and Coping Scale for Children (see, e.g., Kajamies, 2017; Kajamies et al., 2010). Evaluations were completed before (fourth grade autumn) and after (post-test, fifth grade spring) the intervention. Task-oriented behaviors reflect students' persistency, intrinsic interest, and positive valence in working on tasks, as well as in the face of challenges (Kajamies, 2017; Vauras et al., 2009).

Reading comprehension skills. Students' reading comprehension skills were evaluated through two texts related to environmental protection (deteriorating air and emptying sea; Vauras et al., 2017) with open questions and cloze tasks. The researchers scored the tests based on the depth and inference-making in student

understanding. Reading comprehension tests were administered before (fourth grade autumn) and after (post-test, fifth grade spring) the intervention.

Decoding. The Finnish Standardized Reading Test ALLU (Comprehensive School Reading Test; Lindeman, 1998) was applied to evaluate the students' decoding skills. In the test, students were instructed to separate words from chains of words within a limited 2-minute period. The test was scored by the researchers based on the number of correct words separated from chains. Decoding tests were conducted before (fourth grade autumn) and after (post-test, fifth grade spring) the intervention.

Identifying socio-motivational and reading profiles. A K-means cluster analysis (SPSS Statistics 25) was run to identify socio-motivational and reading profiles among the whole sample of students ($N = 318$) at the first time point. A five-cluster solution was adopted for; Socio-motivational profiles: (i) high prosocial behavior and task orientation, (ii) above average prosocial behavior, (iii) low prosocial behavior, (iv) cumulated vulnerabilities, and (v) strong cumulated vulnerabilities; and for Reading profiles: (i) high reading competencies, (ii) high reading comprehension, (iii) low decoding, (iv) low reading comprehension, and (v) cumulated reading difficulties. All eight intervention students chosen for in-depth observations had reading difficulties (six cumulated, one only comprehension, and one only decoding difficulty), and all except two (with above average prosocial behavior) had cumulated or high cumulated socio-motivational vulnerability.

3.2.2 Systematic video observations of interactions, and student development of competences

To enable systematic analysis of moment-to-moment interactions, teachers were asked to video-record every third intervention lesson. Some teachers recorded more than was asked for, and eventually, the number of recorded lessons ranged between 18 and 41 ($M = 26$) for each dyad. Video observations present a powerful way to understand learning as contextualized and as shaped through participation during that specific activity: that is, as naturistically emerging and evolving (Greeno & Gresalfi, 2008). In Study III, video observations were conducted through multiple steps (see Figure 8), as is next described.

Coding in steps 1, 3, and 4 was conducted with the Noldus Observer XT 14 software systematic observation tool to allocate observed interactions (verbal and non-verbal activity) to predefined categories (e.g., negative peer interactions) that were based on carefully designed frameworks. Observer XT allows multi-layered coding of interactions, such as identification of in-depth turn-level utterances embedded within episodes (Snell, 2011) (e.g., applying the identified on-task episodes for finer-grained turn-level coding of positive peer interactions). Therefore,

it was well-suited for the multi-step analysis in Study III. However, coding in step 2 was conducted using CLASS K-3 observation sheets (Pianta et al., 2008).
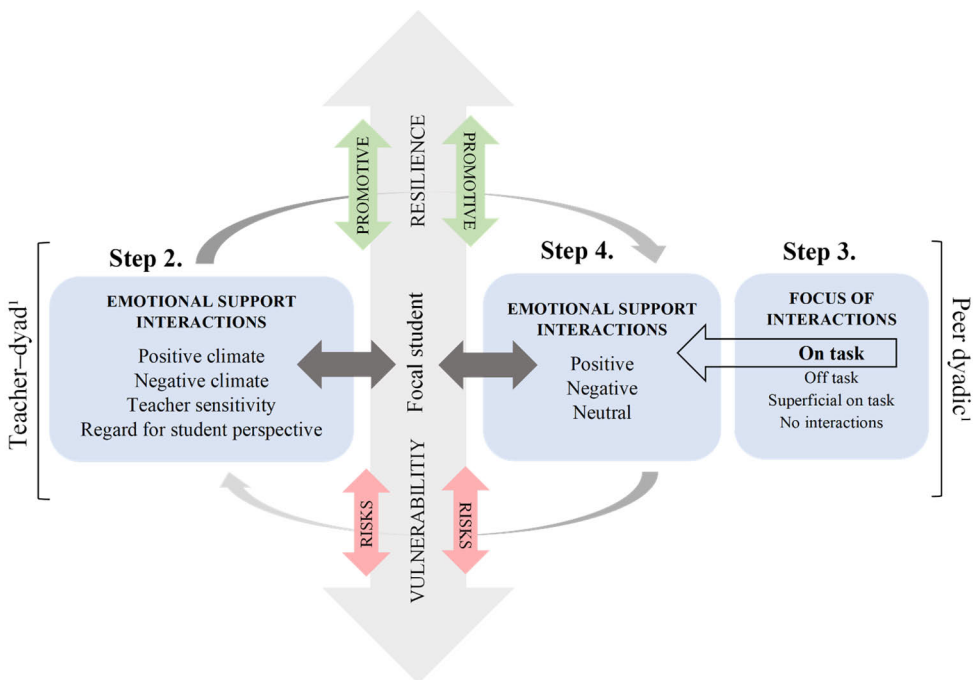
Figure 8. Overview of the analysis steps in Study Ⅲ

Note [1]Step 1.

Step 1: Allocation of support time. Video footage was divided into the following two episodes: (i) teacher–dyad (i.e., teacher in close proximity to the dyad, talking to them, or supervising their collaboration), and (ii) dyadic peer (i.e., the peer dyad collaborating without the teacher's close proximity) social microsystems. This enabled controlling for any effects of mere support time on students' development, as well as whether teachers allocated their support time differently, based on students' identified socio-motivational and reading profiles.

Nine lessons were randomly selected for each of the four dyads that were more closely observed in the next steps (i.e., total of 36 lessons for the four dyads), to systematically scrutinize the quality of teacher–dyad and dyadic peer interactions.

Step 2: **Teacher–dyad emotional support**. The CLASS K-3 assessment scoring system (Pianta et al., 2008) was adapted here to capture more individualized interactions between the teacher and two students, compared to traditional classroom-level analysis. Teacher–dyad emotional support was observed across all

episodes that were identified in the teacher–dyad social microsystems, during each lesson, and for each teacher–dyad separately. The frequency, quality, and intensity of interactions were acknowledged, and interactions were scored on a 7-point scale (1–2 low; 3–5 middle; 6–7 high range), through dimensions of (i) positive climate, (ii) negative climate, (iii) teacher sensitivity, and (iv) regard for student perspective (Pianta et al., 2008). Coding was conducted by a certified CLASS K-3 observer (myself). Inter-coder agreement was further calculated for a third of the observed lessons, on each dimension separately (83.3%–100% agreement, with Cohen's kappas of 0.71–1.0), indicating substantial [0.61–0.80] to perfect [0.81–1.0] agreement (Landis & Koch, 1977). Instead of applying the scoring summary sheet to compute average scores for the domain of emotional support (Pianta et al., 2008, p. 18), observations were illustrated through emotional support trajectories. These trajectory figures comprised each of the four dimensions, across the nine observed lessons. Interaction excerpts were also provided to concretize and deepen understanding of the unique nature of emotional support as realized for each of the dyads.

Step 3: **Focus of dyadic peer interactions**. Students' dyadic peer interactions were first coded into episodes based on the focus of the interaction. As described by Ponitz et al. (2009), behavioral engagement reflects whether the student participates in the learning opportunities that they are intended to (p. 104). Importantly, the tone or intensity of observed dyadic interactions was not acknowledged at this step (e.g., affective), only the focus of interactions. Specifically, the following episodes were identified: (i) on-task interactions (i.e., the dyad was involved in interactions that were instructed by the teacher and were closely related to the task at hand), (ii) off-task interactions (i.e., students were uninvolved in the activity that was instructed by the teacher, that is, interactions were not related to the task at hand), (iii) superficial on-task interactions (i.e., students were interacting seemingly on-task, such as reading the text aloud taking turns, but simultaneously exhibited off-task behaviors indicating that their attention was clearly only partly on the task at hand), and (iv) no peer interactions (i.e., on-task type of behaviors that lacked the interactive element, that is, no verbal or non-verbal interactions were observed for the dyad). On rare occasions when students were observed with different focuses, the dyad's interactions were coded based on the weakest focus. That is, only those episodes that were characterized by mutuality of on-task focus were coded as on-task. These categories were collaboratively established by two researchers and then coded by one researcher, after having practiced with videos that were not included in the actual analyses.

Step 4: **On-task peer dyadic emotional support interactions**. Here, the quality of interactions during the on-task episodes was scrutinized in order to observe peer dyadic emotional support interactions. On-task episodes were divided into turn-level

(i.e., consisting of utterances with a verbal or non-verbal contribution) (Hennessy et al., 2020). A coding framework was developed through researcher collaboration, strongly based on research literature on emotionally supportive (e.g., descriptions of student interactions in CLASS; see Pianta et al., 2008) and prosocial (e.g., Dirks et al., 2018; Dunfield, 2014) peer interactions. Neutral interactions were treated as default; that is, if no clear positivity or negativity were observed, interactions were coded as neutral. Positive peer emotional support comprised the following indicators: (i) encouraging, (ii) emotional consideration, (iii) promoting collaboration, and (iv) shared humor/laughter. Negativity comprised (i) discouraging, (ii) overruling, (iii) low cohesion/trust, and (iv) harsh language/behaviors. Inter-coder agreements were calculated for each observed dyad, with agreements ranging between 93.9% and 96.8% (Cohen's kappa 0.78–0.87), indicating substantial to perfect agreement (Landis & Koch, 1977). Micro level analysis (i.e., turn-level), rather than macro level (e.g., lessons) was well-suited here as it enabled highlighting the "key markers of dialogue" (i.e., expressions of positivity and negativity here) and examining change in peer emotional support interactions across time (i.e., trajectory figures comprising the nine observed lessons for each of the dyads separately) (Hennessy et al., 2020, p. 4). As for teacher–dyad emotional support, interaction excerpts were provided in order to concretize how peer emotional support was reflected in the interactions for each of the observed dyads.

Development of competences across the intervention. The Kruskal–Wallis test was run for the 12 intact dyads ($N = 24$) to control for: (i) whether the time spent in teacher–dyad and that in dyadic peer social microsystems were differently distributed, based on students' initial socio-motivational and reading profiles, and (ii) whether quantity of support time, as such, was associated with student development in task orientation, prosocial behavior, and reading competences, as captured through magnitude within the whole sample ($N = 318$). For those four dyads ($N = 8$) observed more closely, the development of competences was reflected against the whole sample in magnitude of change and relative position to identify how prominent their development was across the intervention. This information was then applied to examine how development was associated with the observed emotional support trajectories; that is, whether student development would suggest differences based on the quality of the observed teacher–dyad and peer dyadic emotional support trajectories. This contributed to the yet scarce mapping of the reciprocal and transactional nature of interactions and development (Doyle et al., 2022).

3.3   Ethical considerations

This dissertation would not have been possible without the participating preadolescents, their parents, and their teachers. Signed consent was collected from all parents for their own and for their preadolescent children's participation and from teachers for their participation and videotaping of the intervention lessons. As discussed by Flinders (1992), it is crucial that the participants "enter into the research voluntarily" and "know what they are getting into before deciding whether or not to take part in any given study" (p. 102). The data for this dissertation were collected over a decade ago, and at that time, signed consent was not required from preadolescents. They were, however, informed of why they participated in the research and what data would be used for research purposes, and that they could withdraw during any phase of the research. Children at this age typically generally understand their rights as participants, especially the aspect of confidentiality in research, which is highly important (Mayeux et al., 2007).

In this dissertation, measures were taken throughout the process to ensure confidentiality. All material was confidentially processed by members of the research group and stored according to regulations. Contemporary ethical principles were stringently followed in accordance with national ethical guidelines (https://tenk.fi/en). In Studies I and II, which were conducted through quantitative analysis, participants were not individually discussed and therefore cannot be recognized. In Study III, pseudonyms were adopted for students, and teachers were referred to as 'teacher.' No detailed portraits of participants were presented in order to ensure confidentiality. Interaction excerpts were selected in ways that no such information that could reveal the participating students' identity was presented (Flinders, 1992). Moreover, outsiders cannot identify teachers and, given that the data were collected over a decade ago and that the interaction excerpts were selected with care, it is unlikely that an individual teacher would be able to identify themselves, either.

In Finland, distinct ethical approval from an ethics committee was not necessary for this kind of research when the data were collected. Importantly, avoidance of harm "holds that even when participants are fully informed and freely agree to participate, researchers are morally bound to conduct their research in ways that minimize potential risk or harm to those involved" (Flinders, 1992, p. 103). To that end, acknowledging any potential risks in participating in a study is crucial (Kjellström et al., 2010). The preadolescents were valuable informants for both their own and their peers' relationships, and they provided perspectives that could not be similarly captured through adult evaluations (Junttila et al., 2006; Mayeux et al., 2007). Due to the potentially painful experiences that completing such evaluations might raise, researchers must be sensitive to any discomfort. Reflecting on the findings of Mayeux et al. (2007), it can be presumed that, overall, children are not

hurt and do not experience distress when providing evaluations of their peers or when being evaluated themselves when they can trust that these evaluations are confidential. The questionnaires that were applied for collecting the data for this dissertation have been applied in several previous studies for children of similar age, and confidentiality was emphasized for the preadolescents.

Mayeux et al. (2007) further discussed that when collecting data from children on their peer relationships, researchers have a moral obligation to apply the data in ways that aim at improving the well-being of every child. In this dissertation, the collected data were applied with the aim of enhancing knowledge to inform efforts to provide all preadolescents support that would adaptively meet their needs. As for the parents who completed the parent questionnaire, this dissertation focuses on parents' well-being, along with that of the preadolescents, as a crucial target for attention and effort. As Luthar (2015) argued, "[d]evelopmental science is replete with lists of behaviors that mothers should and should not do, but there has been scant attention to how women might be helped to sustain positive parenting over time, especially when highly stressed themselves" (p. 296). Indeed, parents' resources differ, and parenting is always embedded in the wider cultural and social context, which is acknowledged when presenting the practical implications.

The participating teachers also contributed to enabling this dissertation. Classroom teachers took time to evaluate their students' competences at several time points. The researchers strived to distribute the evaluations in ways that would not overtax the teachers (e.g., some tests were conducted at the post-, and some at the delayed time point). Moreover, teachers who volunteered to carry out the extensive three-semester-long intervention and agreed to videotape the lessons (thereby allowing the researchers to observe their work with students) showed considerable confidence in the researchers. Teachers were observed during a limited number of lessons, and observations and descriptions based on them should not be interpreted as signs of whether the teachers were 'good' or not. Indeed, given that teachers work amid uncertainties and face hurdles of many kinds, and given the diversity of students with different and dynamic needs and responses, discussions on good enough interactions can, altogether, provide more sustainable approaches. When discussing teachers' interactions with students, aspects of teachers' well-being and resources cannot be overlooked (Darling-Hammond et al., 2020), and these are addressed when presenting the practical implications of the findings.

Finally, conceptual choices were critically evaluated from an ethical perspective. The risks underlying the concept of vulnerability, if not handled with care (Brown, 2011), are discussed in this dissertation (for conceptual premises, see Chapter 1.1.). Herein, stigmas were unraveled by emphasizing that the processes of vulnerability extend far beyond an individual.

4   Overview of the empirical studies

This dissertation comprises three studies that each deepen understanding of how vulnerability can be reflected in preadolescence and of risks and promotive factors embedded in interactions and relationships within the multi-layered family (Studies I and II) and school (Study III) contexts. The studies proceeded from a variable-centered approach to capturing the layered and dynamic nature of loneliness (Study I), to a person-centered approach to family, examining family-level relationship well-being and risks for socio-emotional vulnerability (Study II), and a mixed-method study, immersing into the transactional patterns of teacher and peer emotional support and the development of competences among students with identified socio-motivational vulnerability and reading difficulties (Study III).

***Study I.* Salo, A-E., Junttila, N., & Vauras, M. Social and emotional loneliness: Longitudinal stability, interdependence, and intergenerational transmission among boys and girls. *Family Relations*, 2020; 69(1): 151–165.**

This longitudinal quantitative study aimed to examine the stability and interdependence of social and emotional loneliness experiences among boys and girls and gender- and dimension-specific patterns in intergenerational transmission of loneliness from parents to their preadolescents. Finnish preadolescents ($N = 318$) reported their social and emotional loneliness experiences through the fourth to sixth grades across five time points. Mothers and fathers reported their loneliness experiences separately at the first time point (i.e., when preadolescents were 10 to 11 years old). Longitudinal confirmatory factor analysis was conducted with stability and interdependence paths to analyze the stability and interdependence of the preadolescents' social and emotional loneliness over time. Structural equation model analysis with a multigroup model was then conducted to assess whether mothers' and fathers' loneliness predicted the long-term social and emotional loneliness of girls and boys.

The preadolescents' social and emotional loneliness was found to be rather stable across fourth through sixth grade. Social and emotional loneliness correlated at least moderately, but loneliness experienced in one dimension did not predict loneliness

in the other after accounting for the predictive value of the same dimension. That is, preadolescents who reported emotional loneliness were likely to continue experiencing it over time, but it did not predict their future social loneliness, and the reverse is also true. Boys reported higher emotional loneliness than girls across the time points, and girls' social loneliness experiences were higher than boys' at the last time point. Moreover, fathers reported higher loneliness compared to mothers. Gender- and dimension-specific patterns were further identified in how parents' loneliness was reflected in their preadolescent children's loneliness: fathers', but not mothers', loneliness predicted boys' long-term social loneliness, and mothers', but not fathers', loneliness predicted girls' long-term social loneliness. No statistically significant associations were found for emotional loneliness, or for fathers' loneliness reflected in girls', or for mothers' loneliness in boys' loneliness.

These findings emphasize the layered and dynamic mechanisms that underlie the development of loneliness. Therefore, efforts to tackle loneliness might benefit from acknowledging the dimension through which loneliness is experienced. Moreover, targeting parents' loneliness, along with that of their preadolescent children, is highly encouraged. Gender differences in loneliness further emphasize the need to ensure that any harmful gender-typical expectations or other hurdles are targeted.

Study II. **Salo, A-E., Junttila, N., & Vauras, M. Parental self-efficacy and intra- and extra-familial relationships.** *Journal of Child and Family Studies*, **2022; 31: 2714–2729.**

This study adopted a person-centered approach to family with the aim of identifying family configurations of mother's and father's PSE. The aim was to further deepen understanding of potential differences in mothers', fathers', and preadolescents' intra- and extra-familial relationship vulnerability and well-being in the identified PSE family profiles. The data were extracted from a larger dataset of Finnish families of preadolescents ($N = 318$), including only those families where both parents provided valid data for their PSE ($N = 249$). Both parents separately reported their social and emotional loneliness and their perceptions of the family communication environment at the first time point (i.e., when preadolescents were in fourth grade). Preadolescents reported their social and emotional loneliness at five time points (through the fourth to sixth grades). Self, teacher, and peer evaluations of social competence were collected at three time points (fourth, fifth and sixth grade) and parent evaluations at the first and last time points (fourth and sixth grade).

A latent profile analysis identified four PSE family profiles: (1) low–low, (2) low–average, (3) high–average, and (4) high–high (mother's/father's PSE within the family). Family communication types were derived based on the intersection of conversation and conformity orientations, for mothers and fathers separately,

through a K-means cluster analysis. The Mplus auxiliary function was then applied to examine whether there were differences in mothers' and fathers' social and emotional loneliness and perceived family communication type between the identified PSE family profiles, and whether belonging to a specific PSE family profile was associated with preadolescents' risk for socio-emotional vulnerability, as reflected through social and emotional loneliness and multisource evaluated low social competence (i.e., low prosocial and high antisocial behaviors).

Belonging to low PSE family profiles was associated with intra- and extra-familial relationship vulnerability; mothers, fathers, and preadolescents reported the highest social and emotional loneliness, parents perceived their family communication environment as less open, and preadolescents were evaluated with the lowest prosocial (parent, teacher, and peer evaluations) and highest antisocial (parent evaluations) behaviors. Parents' and preadolescents' social and emotional loneliness experiences were lowest in high PSE family profiles, where family communication environment was also evaluated as more open. As for the discrepant family profiles (i.e., differing in the level of mother's and father's PSE), preadolescents reported lower emotional loneliness and were evaluated with higher prosocial behavior (parent, teacher, and peer evaluations) in high–average, compared to low–average PSE family profile.

These findings suggest that vulnerability and well-being can become entangled between family members, which is in line with the notion that vulnerability is layered and socially embedded. Ensuring that parents feel efficacious and that they have satisfactory and meaningful emotional attachments and social networks can not only help promote their own well-being but also their function as crucial resources to help preadolescents form and maintain meaningful intra- and extra-familial relationships.

***Study III.* Salo, A-E., Vauras, M., Hiltunen, M., & Kajamies, A. Long-term intervention of at-risk elementary students' socio-motivational and reading comprehension competencies: Video-based case studies of emotional support in teacher–dyad and dyadic interactions. *Learning, Culture and Social Interaction*, 2022; 34: 100631.**

This longitudinal mixed methods study examined what characterizes teacher–dyad (i.e., teacher and two students) and dyadic peer (i.e., two students) emotional support interactions among students identified with different combinations of socio-motivational vulnerabilities and reading difficulties as well as how students' development of competencies was embedded within the quality of emotional support realized. Forty students were selected for a three-semester-long intervention that was carried out by special needs teachers ($N = 6$) in small groups of four students, with students mostly working as dyads in a computer-supported learning environment.

The teachers were asked to video-record every third intervention lesson to enable systematic video observations of teacher and peer interactions.

The students' reading and socio-motivational profiles were identified through a K-means cluster analysis within the whole sample of students ($N = 318$). Systematic video observations were conducted through multi-step analysis. First, the total video footage of 12 intact student dyads (167 h 21 min) was divided into teacher–dyad and dyadic peer interaction episodes with Observer XT software. Student development in task orientation, prosocial behavior, reading comprehension, and decoding was reflected against the whole sample in magnitude. The Kruskal–Wallis test was applied to control for any effect that the time spent in teacher–dyad and dyadic peer social microsystems would have on the students' development.

Teachers allocated more support time to dyads with socio-motivational vulnerability, but this was not associated with students' development in task orientation or prosocial behavior. However, higher quantity of support time was negatively related to student development in reading comprehension. This emphasized the need to scrutinize the quality of interactions. Four student dyads ($N = 8$) with different levels of socio-motivational vulnerability (all with reading difficulties) were chosen for these in-depth observations. The Classroom Assessment Scoring System (CLASS K-3, Pianta et al., 2008) was adapted to observe teacher–dyad (i.e., teacher with two students) emotional support, which differed from its traditional application for classroom-level observations. Dyadic peer interactions (i.e., two students) were first coded for their focus (i.e., on-task, off-task, superficial on-task, and no peer interactions). On-task episodes were then targeted, to systematically observe peer dyadic emotional support interactions through a coding framework that was developed as part of the study. Teacher–dyad and dyadic peer emotional support trajectories were separately illustrated through summary figures and interaction excerpts. Students' development of competences was then examined as embedded in these emotional support trajectories.

High-quality emotional support interactions characterized by mutuality, shared joy, and safe and meaningful opportunities for students to participate were associated with positive development, especially in task orientation but also prosocial behaviors. The development of reading skills, however, followed somewhat more independent pathways. Variations were observed in the realization of emotional support across the student dyads and lessons observed. The findings point to a trend in which the support did not always meet students' needs, at least to an extent that would have enabled the promotion of everyday resilience. Thus, the adaptive calibration of support to meet students' needs was, at times, challenging. The teacher who started in the middle of the intervention was observed struggling to find positive emotion regulation strategies, which led to a downward trajectory in positive climate, sensitivity, and regard for student perspectives and an upward trajectory in negative

climate for one student dyad. These students were observed with slightly increasing peer dyadic negativity, and they exhibited the weakest development among the observed dyads. Overall, students' dyadic interactions were mostly on task and neutral or positive, and peer negativity was generally rare. One dyad expressed peer dyadic negativity to some degree throughout the observed lessons, but high-quality teacher–dyad emotional support appeared to promote resilience, as it provided students with the resources to solve conflicts and regulate emotions more successfully. Indeed, despite their initial difficulties, these students were observed with increasingly positive peer dyadic interactions, and their development of competencies was the most prominent of the observed dyads.

Illustrations of longitudinal trajectories of emotional support in teacher and peer interactions, along with the qualitative interaction excerpts, provided rich insights into the complexity of learning interactions and how students' development was embedded within. The findings indicate the need to ensure a goodness-of-fit between students' needs and support that is realized through teacher and peer interactions. Targeting the quality of these interactions is likely to be more effective than merely aiming to fix individual students.

5   Main findings and discussion

The three studies in this dissertation uniquely contributed to unpacking the layered nature of vulnerability and deepened understanding of its social embeddedness in family (Studies I, II) and school (Study III) contexts. Understanding vulnerability as socially embedded—that is, as reflected through a discrepancy between needs and support—emphasized the importance of unveiling risks and promotive factors as realized through interactions and relationships. Building on the bioecological transactional systems theory (Bronfenbrenner & Morris, 2006; Sameroff, 1975, 2009) and on calls to approach vulnerability as layered, rather than labels placed on individuals or groups (Luna, 2009, 2019), meant that instead of discussions on delivering, or receiving, support, its realization through complex and dynamic processes was emphasized. The main findings of the dissertation are presented next, followed by methodological considerations and limitations, practical implications, and finally, directions for the future.

5.1   Unpacking the layered nature of vulnerability in preadolescence

Lonely preadolescents risk remaining lonely across preadolescence, but loneliness in one dimension does not predict loneliness in the other. Social and emotional loneliness dimensions were found to be rather stable across fourth through sixth grade (Study I). Indeed, loneliness does not necessarily fade or pass away by itself, but can become prolonged for some (Qualter et al., 2013; Vanhalst et al., 2015). As chronic loneliness experiences, especially, have been associated with several negative outcomes (Eccles & Qualter, 2021; Qualter et al., 2013, 2015), this should not be overlooked. Positively, experiencing emotional loneliness did not predict future social loneliness, and the reverse was also true (Study I). The relative independence of social and emotional loneliness across time deepens understanding of previously scarcely mapped longitudinal patterns underlying the two-dimensional loneliness experiences (Mund et al., 2020).

    Boys reported higher emotional loneliness across preadolescence, and girls higher social loneliness at sixth grade. Boys reported higher emotional loneliness compared to girls across fourth through sixth grade (Study I). This aligns with

previous studies that have identified gender differences in loneliness (Junttila & Vauras, 2009; Maes et al., 2017). Moreover, in Study I, preadolescent girls reported higher social loneliness compared to boys in sixth grade, whereas differences were not statistically significant at previous time points (i.e., fourth and fifth grade). Reflecting this with findings of previous studies, it seems that gender differences in social loneliness might emerge at early adolescence (i.e., preadolescents approximately 12 to 13 years of age). More specifically, while Junttila and Vauras (2009) found no gender differences in social loneliness among 10-year-olds, 12–15-year-old girls reported higher relational (i.e., in the broader peer group) loneliness compared to boys in a study by Maes et al. (2017). On average, girls have been suggested to engage in close dyadic friendships, while boys more typically value maintaining larger social networks (Brown & Larson, 2009; Gardner & Gabriel, 2004; Rose & Rudolph, 2006). However, although boys might not as actively, compared to girls, pursue dyadic friendships, they can nevertheless have an equal desire for a close friend to confide to. Higher emotional loneliness, as reported by boys, could therefore reflect cultural and social hurdles that burden the boys, especially in establishing and maintaining meaningful emotionally close attachments with their peers. The emerging higher social loneliness of girls in the sixth grade, compared to boys, could, however, at least partly link with the heightened social pressure for popularity and social awareness that typically increases toward adolescence (LaFontana & Cillessen, 2010). Given that girls are typically presumed to be more engaged in dyadic close friendships, they might face new kinds of social challenges during this age period. Too strict a focus on gendered behaviors can, however, hide the subjective and heterogeneous experiences of preadolescents. Indeed, gender differences might not provide a meaningful basis for guiding intervention efforts to alleviate loneliness; other aspects – such as the quality of loneliness experienced – can provide deeper and richer understanding of the variety of experiences (Maes et al., 2019).

Identifying different configurations through which vulnerability can be reflected may help personalize interventions and tailor support. In Study III, a person-centered approach was adopted to identify preadolescents with needs for more individualized support. Combining understanding of more than one construct enabled the identification of dimensions through which vulnerability was reflected. As examples, socio-motivational profiles identified preadolescents with low prosocial behavior but above average task orientation, as well as those indicating cumulated or strong cumulated vulnerabilities. Further, reading profiles provided an understanding of the specific aspects of reading that the students needed more individualized support in. Discrepant reading profiles (i.e.., low decoding but above average reading comprehension, and vice versa) illustrated that although these constructs are closely related, difficulties can occur in only one dimension (Psyridou

et al., 2020; Spear-Swerling, 2015). Therefore, a student who has difficulties in decoding can nevertheless have a deep understanding of what happens in the story and thus have different needs for support compared to a student who reads fluently but who experiences difficulties in making sense of the storyline (Spear-Swerling, 2015).

For most of the students more closely observed, reading difficulties were further intertwined with cumulated or high cumulated socio-motivational vulnerability. As the accumulation of vulnerabilities can be an even stronger indicator of later difficulties compared to a risk in an individual domain of functioning (Gutman et al., 2003; Hamre & Pianta, 2005; Seifer et al., 1992), providing multi-layered support can be of specific importance. Despite the benefits that the identification of different configurations of vulnerability can have, for pedagogical, prevention, and intervention purposes, specific care should be made to acknowledge dynamically evolving needs and potential errors in evaluations: otherwise, children may be deprived of the additional support that they need, whereas some might carry labels of risk despite the appearance of highly positive development (for measurement error and the identification of reading difficulties, see Psyridou et al., 2020). Moreover, variety within contexts and social microsystems further shapes the interpretations that can be made regarding competence (see also Garte, 2020; Junge et al., 2020).

Preadolescents' needs are best understood as socially embedded and dynamically evolving. The findings of Study III further appear to point to a trend that the interplay of needs and quality of interactions within a context shape how vulnerability is reflected. Even though the intervention students were identified with cumulated (or high cumulated) socio-motivational vulnerability, they mostly shared neutral to positive on-task dyadic peer interactions, even when collaborating on challenging tasks (i.e., tasks related to reading comprehension). Thus, relational aspects can, in fact, be seen as more influential compared to initial skill levels when determining the quality and successfulness of collaboration (Barron, 2003). Students' dynamically evolving needs and the contextual nature of vulnerability suggest that specific attention must be placed in observing needs sensitively and flexibly. Indeed, needs are likely to evolve in complex ways that require adaptive calibration of support; instead of constantly decreasing or increasing, students' needs can temporarily increase, while decreasing again, with qualitative variation along the way (Kajamies, 2017).

5.2 Parents' loneliness and low parental self-efficacy as risks for socio-emotional vulnerability

Loneliness hurts, and it can do so also intergenerationally, through gender- and dimension-specific patterns (Study I). Mothers' loneliness predicted their daughter's (but not son's), and fathers' loneliness their son's (but not daughter's), long-term social loneliness. Gendered proximal processes have been associated with gender-typed behaviors, such as differences in activities preferred and differential socio-emotional behaviors (Endendijk et al., 2018). These might underly mechanisms through which loneliness is reflected differently from mothers and fathers to their sons and daughters. For instance, boys might, on average, be more attentive to behaviors and implicit and direct messages from their fathers, whereas girls may be more prone to internalize subtle messages from their mothers. However, parents' loneliness did not predict their preadolescents' long-term emotional loneliness. Study II provided additional understanding of risks for emotional loneliness, as embedded in the family context, as will be discussed next.

Preadolescents whose parents feel efficacious can be better placed to establish and maintain meaningful relationships (Study II). Preadolescents whose parents experienced confidence in their parenting (i.e., high PSE) were evaluated as exhibiting higher prosocial behaviors (peer, teacher, and parent evaluations) and lower antisocial behavior (parent evaluations) and reported experiencing low social and emotional loneliness. These findings strengthen understanding of PSE as a powerful construct that contributes to and reflects parents' resources in providing their preadolescents with support to meet their needs (Coleman & Karraker, 1998, 2000; Junttila & Vauras, 2014). The finding that PSE family profile is associated with preadolescents' social and emotional loneliness significantly deepens understanding of mechanisms underlying intergenerational vulnerability to loneliness. While previous studies have shown that parents' PSE can, through its impact on children's social competence, be associated with children's loneliness experiences (Junttila et al., 2007), this dissertation contributes by showing that belonging to a low–low PSE family profile is associated with high social and emotional loneliness among preadolescents. Research on mechanisms underlying children's loneliness can therefore benefit from holistic and synergistic approaches that acknowledge the intra- and extra-familial relationship well-being of all family members.

Mothers and fathers in balanced low PSE family profile experience the highest social and emotional loneliness (Study II). Aligning with previous research on the associations between PSE and parent loneliness (Junttila et al., 2007, 2015b; Korja et al., 2015), mothers and fathers in the low–low PSE family profile reported the highest social and emotional loneliness. Parents' social and emotional

loneliness experiences followed the level of their own PSE, rather than that of the other parent (see Junttila et al., 2015b). More specifically, mothers in the low–average profile were likelier to report higher loneliness than fathers, and on the contrary, fathers in the high–average PSE family profile reported higher loneliness compared to mothers. It can be assumed that the associations between loneliness and PSE are likely reciprocal; that is, experiences of loneliness can undermine parents' feelings of efficacy as they might not be able to share their stressors and experiences with someone (Junttila et al., 2007), and parents who feel less efficacious in their parenting may be less satisfied with the quality of their relationships, given the negative consequences to overall well-being that PSE has been linked with (Albanese et al., 2019; Coleman & Karraker, 1998).

Low parental self-efficacy is associated with less open family communication environment (Study II). Overall, belonging to a low–low PSE family profile increased parents' tendency to a family communication type characterized by less open communication (i.e., laissez-faire, or protective) (see Figure 9). The probability of fathers reporting low-conversation-oriented family communication type, combined either with expectance of obedience to parent-set rules (i.e., protective) or with high affordance of autonomy (i.e., laissez-faire), was notably high in the low–low PSE family profile. In the high–high PSE family profile, however, fathers were almost as likely as mothers to report high-conversation-oriented family communication types, combined with either balancing in between family hierarchy and discussing rationale behind decisions (i.e., consensual) or collaborative decision-making and high autonomy for preadolescents (i.e., pluralistic). Mothers' perceptions of family communication type differed between the family profiles, but not as notably as for fathers: in the two low PSE family profiles, mothers were almost equally likely to report a high- or low-conversation-oriented family communication type, while in the high PSE family profiles, mothers' probability of reporting a type other than high conversation-oriented was minimal. The findings align with previous research suggesting that mothers are more likely to evaluate their family communication as high in conversation orientation compared to fathers (Koerner & Fitzpatrick, 2002b).
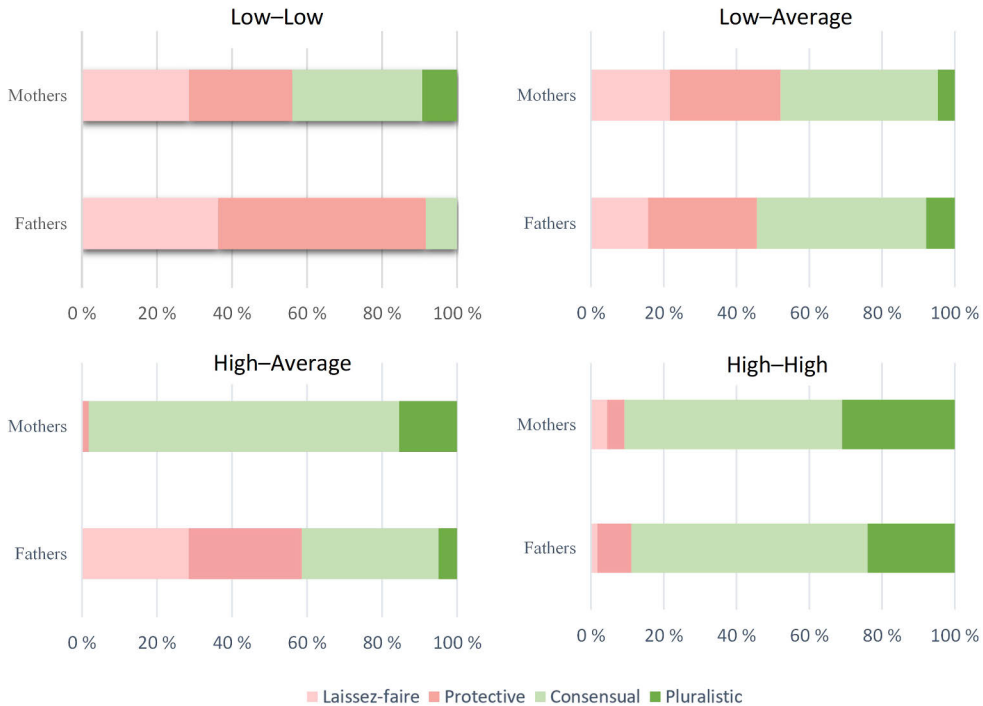
Figure 9. Family communication types as perceived by mothers and fathers across the PSE family profiles in Study II.

Families are more than the sum of their parts (Study II). Parents in the low PSE family profile evaluated their preadolescents as the most antisocial, while self, teacher, and peer evaluations of antisocial behavior did not differ between the family profiles. It can be assumed that especially when both parents have low PSE, preadolescents' challengingly experienced behavior (i.e., disruptive or impulsive behaviors; Junttila et al., 2006) can increase parenting stress and thereby further lower parents' confidence in their ability to handle these situations. These kinds of negative feedback loops (Ardelt & Eccles, 2001; Coleman & Karraker, 1998, 2000; Jones & Prinz, 2005) might explain differences in parental evaluations of antisocial behavior across the family profiles. It is also possible that preadolescents' disruptive and impulsive behaviors are reflected differently within different settings. As discussed by Junge et al. (2020), how expectations and support meet preadolescents' individual characteristics and needs within contexts can be reflected in evaluations of their social competence. The findings align with the understanding that preadolescents are not just recipients of influences, and that their characteristics, as well as how parents interpret them, play a role (Sameroff, 2009). Moreover, the two discrepant PSE family profiles enabled a deeper understanding of patterns that could

not be captured through balanced family profiles only. Preadolescents in the high–average profile reported lower emotional loneliness compared to their peers in the low–average profile. This can tentatively imply that one parent's higher PSE buffers the effects that the lower PSE of the other parent might otherwise have on their preadolescent's emotional loneliness. It can also be the case that one parent's low PSE predisposes preadolescents to vulnerability to emotional loneliness. The findings of Study II suggest that for a deeper understanding of the complex processes through which risks and promotive factors within a family contribute to a preadolescent's socio-emotional vulnerability or well-being, it is crucial to acknowledge both parents within the family as well as potential within-family discrepancies (Panula et al., 2020; Sameroff, 2009; Sameroff & MacKenzie, 2003).

5.3 Teacher and peer emotional support promoting resilience

Quality of support, rather than quantity, plays a central role in students' development. The findings of Study III suggest that it is the quality of support, rather than its quantity, that is central to understanding students' development of competences (see also Silinskas et al., 2016). Indeed, although teachers provided higher support time to those dyads identified with cumulated socio-motivational vulnerability, this was not associated with the positive development of prosocial behavior or task orientation. Moreover, although teacher support time did not differ significantly based on students' reading difficulties, the findings suggest that dyads with higher teacher support time had weaker development in reading comprehension compared to their peers. The findings appear to point to a trend in which the support that was realized did not always adaptively meet the needs of students, at least to an extent that would have enabled the promotion of everyday resilience. Thus, although teachers seemed to notice students' difficulties, adaptive calibration of support to meet these needs was, at times, challenging.

 High-quality teacher and peer emotional support interactions promote students' development of competences. Negativity in interactions was rare, but when observed, it was identified as a strong risk factor for student development. This aligns with the understanding that a negative classroom climate is harmful for all students, especially those identified as at risk (Gazelle, 2006). High-quality emotional support interactions were then again associated with positive student development, especially in task orientation but also prosocial behaviors. The development of reading skills, however, followed somewhat more independent pathways. These findings align with those of studies conducted at the classroom level, suggesting associations between emotional support and prosocial behaviors (Pakarinen et al., 2020), motivation (Ruzek et al., 2016), and emotional engagement

(Pöysä et al., 2019). Moreover, previous studies conducted through questionnaires have shown associations between self-perceived peer emotional support, social behaviors, and motivational outcomes (Wentzel et al., 2010, 2016). This dissertation suggests that similar associations may be found between peer emotional support observed and student development. Both task orientation and prosocial behaviors can be seen as highly important for engaging in challenging academic tasks and collaborating with peers, thereby reflecting important everyday resilience (Skinner & Pitzer, 2012).

Variation in emotional support realized across students and lessons. In Study III, variation was observed in the realization of emotional support across the four student dyads and their teachers and lessons observed (see Figure 10). Teachers' interactions with Alisa–Maria and Mikael–Otto were typically characterized by shared joy and respect, and their teachers sensitively responded to their needs, showed flexibility, and allowed choice. However, when comparing this with the other two dyads, emotional support was not realized equally. A downward trajectory in the teacher–dyad positive climate, teacher sensitivity, and teacher regard for student perspectives, combined with an upward trajectory in negative climate, was observed for Niklas–Leo after the teacher change. Niklas and Leo's collaboration was vivid, and the teacher seemed to have a rather static perception of them as disruptive. The teacher's focus was often on correcting their behaviors and firmly reminding them to stay on task, with less focus on noticing successes and thinking and feeling. Ella and Sofia were highly on task and collaborated in a quieter manner. It seemed that the teacher interpreted this as a sign that they did not need help; high-range teacher–dyad emotional support was not realized during any of the observed lessons. This kind of variation in the emotional quality of teaching raises concerns. Although emotional support is realized for some in a good enough manner, others' needs risk becoming unseen, unheard, or misunderstood, and inconsistency in emotional support can influence whether students feel safe to participate. Research on these patterns is still in its infancy, as most studies have focused on within-day consistency in emotional support and its relation to development (e.g., Brock & Curby, 2014; Curby et al., 2013) instead of observations over longer periods.
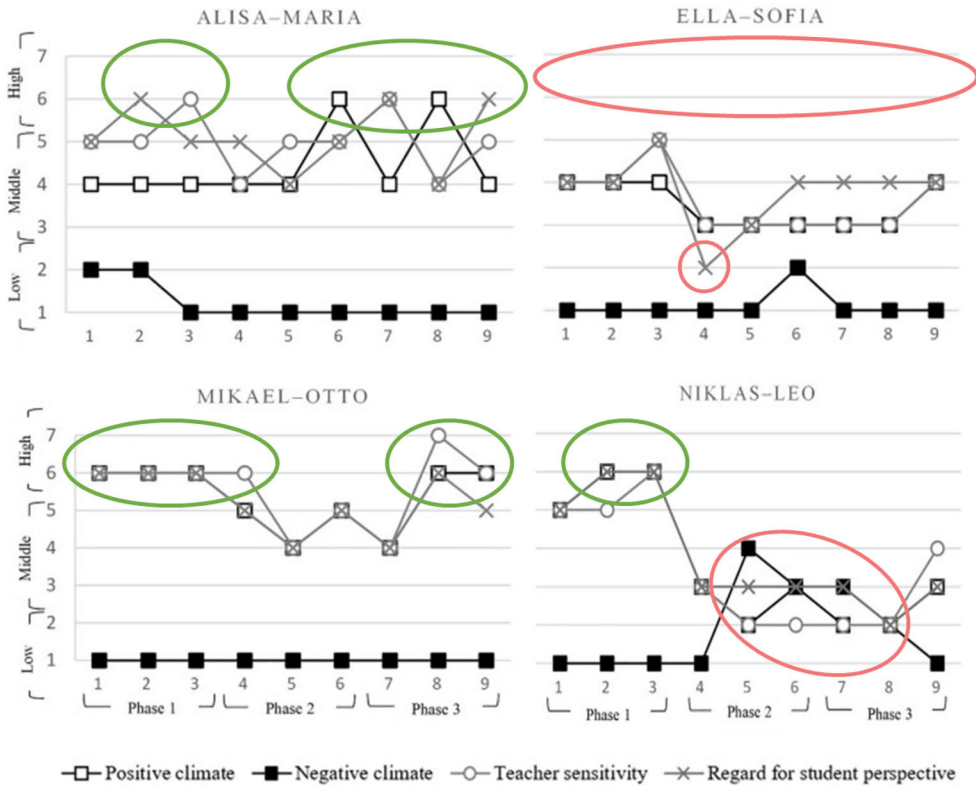
Figure 10. Variation in the realization of teacher–dyad emotional support.

Note. Figure 10 has been modified from Study III (Salo et al., 2022, Fig. 3). Green circles have been added to emphasize the promotive factors and pink ones the risk factors in the interaction trajectories.

Characteristics of emotionally supportive interactions that can promote everyday resilience. Observations in Study III suggest that emotionally supportive interactions, as reflected through the following aspects, especially, promoted students' everyday resilience—(i) mutuality and shared joy, (ii) creating, encouraging, and promoting safe and meaningful opportunities to participate, (iii) focusing on positive behaviors and successes instead of merely reducing problematic ones, and (iv) helping students solve conflicts and practice social skills meaningfully. These kinds of interactions are crucial in order to provide all students with opportunities to be seen, heard, and understood.

    Mutuality and shared joy. The teachers generally showed genuine joy when interacting with the students. This was observed through gestures and verbal expressions, such as "I had such a good time listening to the story you wrote, a very

compelling story indeed!" and "I'm so happy to see you both. I hope you had a great holiday." A teacher's genuine interest in students' lives and experiences showed them that the teacher cared about how they were doing. In addition to positive outcomes for students, these kinds of genuine, positive interactions can further promote the teacher's well-being and joy in teaching (Hagenauer et al., 2015; Virtanen et al., 2019). As for students' dyadic peer interactions, genuine expressions of curiosity and joy and expressions that highlighted cohesion, such as "We did it! We are so clever!", further emphasized collaborative and joint efforts instead of a competitive approach (Barron, 2003).

Enabling, encouraging, and promoting safe and meaningful opportunities to participate. All students were tolerant and empathetic toward their partner's difficulties with the tasks, at least to some degree. As examples, they helped each other with difficult words, along with verbal encouragement, such as, "I always struggle with that word too, that's a difficult one." This kind of encouraging environment that provided students with safe opportunities to participate was crucial, as students with academic difficulties may avoid being open about their difficulties with their peers (Farmer et al., 2021). Teachers were observed to play an important role in enabling and promoting such interactions. More specifically, teachers' awareness of students' peer difficulties at an early stage and their skillfulness in adapting support to prevent situations from escalating (i.e., teacher sensitivity, Pianta et al., 2008) was observed to be crucial for enabling meaningful and safe opportunities for all students to participate. For example, if students felt overwhelmed with the task at hand, teachers' empathic reactions to their frustration, provision of space, and redirecting attention to another task to collaborate on alleviated tensions. Teachers also communicated to students their efforts to include students' interests and perspectives to show that they valued and embraced them (i.e., regard for student perspective, Pianta et al., 2008). This was reflected through questions such as, "Would that be helpful for you?" or "What would work for you?".

Focusing on positive behaviors and successes instead of merely reducing problematic ones. The findings of Study III further encourage reflection on the standards by which student behaviors and accomplishments are acknowledged and praised. Äärelä et al. (2014), in their study on students at risk for school dropout, described how some students "needed more attention and appreciation of what they did, even though their accomplishments were not as high as "others'" school achievements" (p. 57). The findings of Study III emphasize the need to provide encouragement and appreciation to show students that the teacher does notice small but significant successes. As an example of such teacher–dyad interactions, instead of drawing attention back to disputes that had occurred during the lesson, the teacher embraced the dyad's effort to successfully work together despite initial struggles: "I

know that you are tired, and I'm so happy that you were able to discuss things together, regardless".

Helping students solve conflicts and practice social skills meaningfully. Negativity in dyadic peer interactions was rare, but one dyad expressed it to a higher degree compared to the others. This was mostly observed when they had difficulties recognizing and responding to each other's needs—whether emotional or material (Dirks et al., 2018; Dunfield, 2014). For instance, quarrels often started with disagreements about which one should use the tools or read first, which had the potential to accumulate without the teacher's support. The teacher's skillfulness in redirecting their interactions by reinforcing positive behaviors and interactions, modeling successful and positive emotion regulation, and refraining from negativity was important (Farmer et al., 2021; Jennings & Greenberg, 2009). This dyad exhibited the most prominent overall positive development of competences for the observed dyads. This appears to point to a trend whereby a teacher who acknowledges indicators of vulnerability (especially as reflected through interactions) and provides adaptive and sensitive support can help alleviate socio-motivational vulnerability and promote everyday resilience (Pitzer & Skinner, 2017). More specifically, this can provide students with the resources and tools to successfully solve conflicts and regulate emotions. Indeed, the students' responses to the teacher and to one another were increasingly positive, as the teacher implicitly modeled how to interact in a caring and respectful manner (Farmer et al., 2021; Gest & Rodkin, 2011; Hendrickx et al., 2016).

Observed risks in teacher and peer interactions. The findings of Study III suggest that adapting emotional support according to students' evolving needs can be difficult even for experienced teachers in a small-group learning environment. The following were observed as risks that can (re)produce vulnerability—(i) if students' needs remain unseen, unheard, or be misinterpreted, (ii) if the focus is on performance over effort, and (iii) if the teacher struggles to find positive emotion regulation strategies.

Student needs can remain unseen or unheard or be misinterpreted. In Study III, students' needs sometimes seemed to become invisible, either because (i) the signs and feedback that students provided were not visible enough for the teacher (e.g., the students were quiet and did not ask for help), (ii) the students' visible and audible behaviors were misinterpreted (e.g., the teacher mistakenly perceived on-task collaboration filled with laughter as off-task), or (iii) the teacher was too focused on correcting and targeting the visible or audible behaviors and, therefore, underlying thinking, feeling, and needs were unseen, unheard, or misinterpreted (for different forms of participation, see e.g., Wenger, 1998). An example of the last one is when a student, slightly moving his chair, explained to the teacher what happened in the story book, and the teacher interrupted the student, saying, "Do not move there,

you must stay here." This calls for reflections on when it is necessary to intervene in students' behaviors, especially if they do not endanger anyone (e.g., moving the chair). In these kinds of situations, correcting behaviors seems to be of less (if any) importance compared to the student's experience of being seen, heard, and understood.

Focusing on performance over effort. One dyad's peer interactions were highly on task (neutral to positive) throughout the intervention, but there was no high-range emotional support for them during any of the observed lessons. These students would likely have benefited from high-quality teacher emotional support; this can be presumed because their task orientation declined across the intervention. When taking a closer look at the quality of their interactions with the teacher, the teacher was observed to often focus on performance over effort. The teacher's behavior also reflected low error tolerance (see Jiang et al., 2019): that is, struggling to create and maintain an atmosphere in which errors could be seen as learning opportunities. The teacher's choice of words when the students did not perform in a way that she had expected them to, such as "You got such low scores!" and "You really must check again," can be seen as risking the fulfillment of students' needs for autonomy and competence (Jiang et al., 2019).

Difficulties in finding positive emotion regulation strategies. Negative climate remained low for the observed teacher–dyads with one exception. The teacher who started after the first intervention phase often exhibited signs of frustration and struggled to find positive emotion regulation strategies. In addition to students' misbehavior and lack of engagement (Hagenauer et al., 2015; Koenen et al., 2019), student mistakes, such as pressing the wrong button when working with the computer, sometimes evoked negative reactions from the teacher: "I can't stand that you are doing something other than what you are supposed to be doing." In these situations, the teacher typically overruled the interactions by speaking over the students, which was further likely to add to the teacher's frustration (Jiang et al., 2016, 2019; Koenen et al., 2019). Although these students' peer dyadic on-task interactions were observed to increase from the start, their development of competences was, overall, the weakest of the observed dyads, and their dyadic peer negativity was slightly increased. Negativity in interactions can be especially harmful, as it threatens the fulfillment of needs for autonomy, competence, and relatedness, which are all crucial for engagement and motivated, deeper learning (Silinskas et al., 2016; Turner et al., 2014; Vansteenkiste et al., 2020).

Versatile and messy nature of authentic learning interactions and development as embedded within. Processes through which support is realized are complex, as has been discussed. Indeed, not only teacher behaviors but also those of students' (see also Nurmi, 2012), along with situational and contextual factors (e.g., a teacher change), influenced the course of interactions (Study III). Therefore,

observing how emotional support was realized among these specific student dyads importantly extended the focus from more traditional classroom-level analyses. Combining systematic video observations of teacher–dyad and dyadic peer emotional support interactions (as separately fluctuating yet intertwined) enabled a deeper understanding of the transactional nature of learning interactions and the complexity underlying student development as embedded within. Risks and promotive factors, as reflected through interactions, provided crucial insights into what can contribute to high-quality, effective classroom interactions (Doyle et al., 2022) or impede their realization (as illustrated above). Indeed, the findings of Study III emphasize diving deep into the interplay between the focal preadolescent, the peer, and the teacher to understand vulnerability and resilience (Cantor et al., 2019; Osher et al., 2020). As argued by Li and Julian (2012), "[d]evelopmental relationships should become the focal point for efforts intended to produce meaningful developmental change" (p. 164).

5.4 Methodological considerations and limitations

From a methodological point of view, this dissertation developed innovative ways to capture and illustrate the complexity underlying layered, dynamic, and socially embedded vulnerability. Given the dynamic and reciprocal nature of interactions and relationships, examining these presents a complicated and demanding task (Sameroff, 2010), and methodological solutions related are not simple either (Cadima et al., 2022b; Hennessy et al., 2020). These are next discussed in more detail.

Person- and variable-centered approaches. Both variable- and person-centered approaches were applied to unpack the layered nature of vulnerability constructs. Variable-centered approaches are "predicated on the assumption that the population is homogeneous with respect to how the predictors operate on the outcomes" and suit well for "questions that concern the relative importance of predictor variables in explaining variance in outcome variables" (Laursen & Hoff, 2006, p. 379). The variable-centered approach was therefore well-suited for identifying both gender differences underlying social and emotional loneliness experiences, and longitudinal patterns in the two dimensions (Study I) and, thus, deepening understanding of patterns and dynamics commonly underlying vulnerability. Further, structural equation modeling has been suggested to be a statistical technique that fits bioecological theory well, as it enables comparisons between groups (Tudge et al., 2016). In Study I, gender- and dimension-specific pathways in intergenerational vulnerability to loneliness experiences were investigated. Variable-centered analyses assume homogeneous and universal patterns in development; therefore, when interpreting the findings of Study I, it is

especially crucial to remember that the findings suggest average pathways (Laursen & Hoff, 2006). Therefore, although they importantly contribute to understanding typical patterns in development, individual experiences remain hidden in these analyses.

Person-centered approaches, by contrast, are "predicated on the assumption that the population is heterogeneous with respect to how the predictors operate on the outcomes" and suit well "questions that concern group or individual differences in patterns of development and associations among variables" (Laursen & Hoff, 2006, p. 379). Most studies on PSE have focused on mothers over fathers (Fang et al., 2021) and have been conducted through variable-centered approaches (for exceptions, see Junttila & Vauras, 2014). Thus, a person-centered approach to family introduced a more synergistic and holistic understanding, acknowledging that families are shaped by specific combinations of multiple family characteristics (Häfner et al., 2018). Indeed, person-centered analyses treat variables more as "properties of individuals and their environments" rather than outcomes (Laursen & Hoff, 2006, p. 385).

In Study II, the Mplus auxiliary variable approach was adopted, as it enabled us to consider the intra- and extra-familial relationship characteristics of mothers, fathers, and preadolescents within the identified PSE family profiles separately (Asparouhov & Muthén, 2014; Marsh et al., 2009). It must be noted that the auxiliary variable approach did not include the variables into the cluster solution (i.e., family configurations) but provided an understanding of the equality of means of each continuous variable (e.g., social loneliness) across the identified family profiles and for the probability of a particular family communication type (e.g., consensual) falling into a particular PSE family profile separately for each variable. It therefore differs from approaches that fit multiple variables into the same model (Asparouhov & Muthén, 2014; Marsh et al., 2009). Thus, the results should be interpreted accounting for the fact that differences across the family profiles were separately tested for each relationship characteristic rather than in combination.

Adapting a classroom-level observational CLASS tool for observing teacher–dyad emotional support. This dissertation provided more individualized understanding of emotional support interactions, compared to classroom-level observations. In Study III, the classroom-level observational tool CLASS (K-3, Pianta et al., 2008) was adapted for more targeted observations of emotional support as realized among specific teacher–dyads (i.e., teacher with two students). This kind of targeted observation provides an important understanding of how interactions evolve across time among specific teacher–dyads. Indeed, previous studies have shown variety in emotional support based on the type of activity observed and the group size (i.e., small vs. large groups) (Cadima et al., 2022a; Slot et al., 2016). Moreover, research conducted using questionnaires has shown that student

perceptions of emotional support differ and established heterogeneity in how student perceptions of emotional support evolve over time (e.g., Schenke et al., 2017; Tvedt et al., 2021).

It must be noted that the fact that CLASS was adapted for more individualized observations meant that the instructions in the manual were not stringently followed. As examples, the observation periods consisted of several episodes across the lesson instead of continuous non-stop observation for the given time (because only teacher–dyad social microsystem episodes were observed). However, the coding manual (Pianta et al., 2008) was carefully applied to keep the 'CLASS lenses' on in order to ensure that the observations made were based on the indicators presented and to follow recommended procedures for applying CLASS whenever possible, such as refraining from the tendency to develop initial impressions of teachers. Substantial to perfect inter-coder agreement between observers in Study III provides additional support for the applicability of the approach, as two researchers independently highly agreed on the observations made.

Study III was based on in-depth case studies of four student dyads and their teachers. Therefore, future studies with larger data sets are required, to generalize the findings. It should further be noted that the interactions observed are embedded in the larger sociocultural context, and therefore the findings should be interpreted through a culturally sensitive perspective (Salminen et al., 2021; Virtanen et al., 2018). In addition, given that emotional support has been shown to differ based on the activity being observed (Cadima et al., 2022a), future studies in different educational contexts and across school subjects are needed, concerning both teacher and peer interaction quality.

Toward a more nuanced understanding of teacher–dyad emotional support. As compared to global ratings that can hide underlying variability (see Cadima et al., 2022a, 2022b), this dissertation provides a more nuanced understanding of emotional support interactions. In Study III, emotional support interactions were illustrated separately across all four dimensions. This differs from more traditional reporting of global mean scores for emotional support, derived based on a combination of its four dimensions (i.e., positive climate, negative climate, teacher sensitivity, and regard for student perspective; CLASS K-3, Pianta et al., 2008). To further deepen understanding of dynamically evolving patterns in the emotional support interactions, illustrative figures were applied to present emotional interaction trajectories across nine observed lessons for all four dyads as these longitudinally evolved across the four dimensions. A traditional application of average scores for emotional support would have led to a situation in which Ella–Sofia's and Niklas–Leo's realized support would have appeared similar (4.42 vs. 4.22 global scores for the domain of emotional support). The trajectory figures, then, revealed qualitative differences, such as notable downward trajectories for positive climate, sensitivity,

and regard for student perspective and the upward trajectory of negative climate for Niklas–Leo (see Figure 10).

Longitudinal approaches to emotional support trajectories are still in their infancy. However, research on within-day consistency has importantly deepened understanding of how emotional support consistency contributes to student development and well-being (e.g., Brock & Curby, 2014; Curby et al., 2013). Moreover, in a study by Tvedt et al. (2021), emotional support trajectories were identified through a person-centered approach by applying student self-perceptions. Adopting a longitudinal and multi-dimensional approach to illustrating emotional support, as in Study III, allows understanding of how teachers and students calibrate their emotional support interactions dynamically (Kajamies, 2017). In addition to summary figures and illustrations, interaction excerpts and descriptions were provided in Study III to illustrate how emotional support was reflected in the interactions for each of the observed teacher–dyads. Such qualitative approaches to reporting observed emotional support interactions provide important in-depth understanding to concretize both the complexity underlying interactions and the role that each participant has in these processes.

Developing a separate coding framework to observe peer dyadic emotional support interactions. Observational tools tend to focus strongly on adult–child relationships thereby placing less emphasis on peer collaboration, as discussed by Slot et al. (2016). As an example of existing individualistic observations, Downer et al. (2010) developed the Individualized Classroom Assessment Scoring System (inCLASS) to observe young children's competence during everyday interactions with teachers, peers, and tasks in preschool and kindergarten classroom environments. Researchers have, however, increasingly called for targeting how interactions are shaped reciprocally (Cadima et al., 2022b; Nurmi, 2012), and emphasized the collaborative competence that is shaped through interactions (Garte, 2020).

In Study III, interactions were approached as shaped by the two students: that is, the amount of time that the dyad was mutually on-task and the proportions of positive and negative expressions in all on-task interactions that they shared. Thereby, emotional support interactions were captured at the dyadic level rather than as individual measures of interaction competence or tendencies. This deepened understanding of how peer interactions were shaped by the two students dyadically. Combining understanding of these with the teacher–dyad emotional support trajectories enabled us to examine how teacher and peer emotional support trajectories intertwined across time. Peer emotional support trajectories were (as with teacher–dyads) illustrated through longitudinal trajectory figures and interaction excerpts. This provided a rich, in-depth understanding of how peer interaction quality evolved over time and of what characterized positive and negative expression

for each dyad. However, peer dyadic emotional support interactions were observed only during on-task episodes. Off-task interactions, although often seen as dysfunctional, can have important social functions regarding social dynamics and student well-being. On the other hand, negative interactions during off-task episodes, such as teasing, can severely risk collaboration. Future research could investigate the emotional quality of interactions during off-task episodes.

Considerations for interpreting results on student development of competences and resilience through interactions. In Study III, the students' development of competences (i.e., task orientation, prosocial behavior, decoding, reading comprehension) was examined through magnitude in change and relative position before and after the intervention. This enabled extending understanding beyond the intervention context, as these evaluations were completed by classroom teachers during regular and typical classroom learning situations. It must, however, be noted that interventions are unlikely to have long-term effects if the provision of support is not ongoing. As students' development is embedded in their teacher and peer interactions, decreased vulnerability and increased resilience that was identified among some dyads (e.g., positive development in task orientation, prosocial behavior and reading comprehension, and observed increasing dyadic peer positivity for Alisa–Maria) should be accompanied by ensuring that regular learning contexts continue to meet students' needs adaptively and sensitively and thus promote longer-term well-being and resilience (Farmer et al., 2021).

Finally, given that the development of reading skills followed more individual pathways in Study III (compared to socio-motivational competencies), future research might complement understanding through observations of teacher and peer instructional support, such as how teachers and peers promote higher-order thinking skills and whether they provide feedback that extends understanding. Indeed, in their recent study, Salminen et al. (2022) discussed that addressing reciprocity, communication, and conversations – that is, educational support in addition to emotional support – importantly contributes to a more holistic understanding of interaction quality and how it relates to student development. It is likely that high emotional support, when combined with pedagogy that is demanding yet accessible (i.e., calibrated to students' dynamic individual needs; see Kajamies, 2017) best harnesses the potential of diverse students and unravels vulnerabilities (Walker & Graham, 2021).

Considerations related to the data collected. The data for this dissertation were collected over a decade ago. Although the prevalence of measured constructs has changed across time in Finland, inequality has, overall, increased rather than decreased, with accumulating vulnerability situations. Therefore, these themes and discussions are perhaps timelier than ever. Moreover, the focus in the dissertation was not on prevalence but rather on unpacking the layered nature of vulnerability

and deepening understanding of its social embeddedness in the interactions and relationships in family and school contexts. Thus, the longitudinal data on which the dissertation is based, with the vast and rich video footage, are considered high-quality for the purposes and premises of the three studies that the dissertation comprises.

It must also be noted that at the time of data collection, it was typical that participants reported either 'boy' or 'girl,' and parents' questionnaires were divided into mother and father sections. Since then, positive progress has occurred in a way that researchers have begun to abandon binary expectations on reporting gender, and non-binary options have been increasingly included. However, the proportions of non-binary respondents are often small, which sets challenges especially regarding more complex quantitative statistical analyses (Pihlajamaa, 2021). In the School Health Promotion Study, gender minorities accounted for three percent of young respondents (grade 8 to second year in upper secondary school) (Jokela et al., 2020). In the future, it is crucial to make every effort to capture the experiences of those whose voices have typically remained unheard. Indeed, minority groups can perhaps more easily be rendered 'vulnerable' without hearing their underlying needs and the social embeddedness of their vulnerabilities.

5.5   Practical implications: How can support meet needs in family and school contexts?

The practical implications presented here (see Figure 11) rely on "a systemic, resource-focused perspective - - - with a concerted focus on the well-being of key stakeholders including parents and caregivers, as well as teachers" (Matsopoulos & Luthar, 2020, p. 76). Thus, the question posed in the title of the dissertation, "How can support meet needs in family and school contexts?" concerns the needs of not only preadolescents but also those of their parents and teachers. This is because the (multi-layered) resources that parents and teachers have available and accessible (see Ungar, 2012) ultimately influence how adaptively and sensitively they can respond to preadolescents' evolving needs. The realization of equal, meaningful, and accessible opportunities requires critical reflections at all system levels (Bronfenbrenner & Morris, 2006), including societal structures and allocation of resources. It follows that the practical implications here concern not only what kinds of interactions and relationships would best promote well-being and everyday resilience in preadolescence but especially how these could be ensured for all.

The layered approach, as adopted in the dissertation, emphasizes ensuring that preventive and intervention efforts (i) recognize the individual's evolving needs instead of relying on one-size-fits-all types of solutions and (ii) embrace the multi-layered microsystem contexts along with the different system levels that they are

embedded in (Bronfenrenner & Morris, 2006) instead of narrow solutions (e.g., fixing an individual). To this end, in addition to the micro- (e.g., how teachers and parents interact with the preadolescent), meso- (e.g., interactions between families and schools), exo- (e.g., low-threshold support for parents and teachers' professional development), and macro- (e.g., ensuring sufficient resources and combating inequality) system levels are recognized here. Moreover, future orientation is encouraged amid the uncertainty of many kinds and the changes that it can bring along (i.e., chronosystem) (e.g., how to ensure that teacher education, and support and legal systems, as examples, proactively meet the challenges of the future). It is also important to remember that changes on one level can lead to cascade effects on others (Ungar, 2012). Thus, the different aspects presented in Figure 11 partially overlap and are intertwined. The practical implications are targeted toward teachers, parents, teacher educators, professionals working with families, policy makers, and ultimately for us all.

Figure 11. How can support meet needs in family and school contexts?

5.5.1   What does the preadolescent need?

This dissertation suggests that targeting the quality of interactions and relationships, rather than fixing individual preadolescents, can be especially effective in promoting well-being and resilience. Owing to the deeply socially embedded nature of vulnerability, well-being, and resilience, **each preadolescent should be heard, seen, and understood without any fixed labels attached**. It is through this that the support can sensitively and adaptively meet the needs of the evolving individual. Indeed, the findings of Study III appear to point to a trend that high-quality teacher and peer emotional support interactions that are well calibrated to students' needs can promote everyday resilience among students with vulnerabilities. Here, it seems important that the teacher can approach students openly and without strict presumptions when interacting with them.

It must be ensured that all preadolescents can **form and maintain meaningful relationships**. The findings of Study I and II suggest that parents who feel efficacious and who do not experience loneliness are likely better placed to promote their preadolescents' well-being. Lonely parents may not have equal access to (social) resources outside the family context, compared to non-lonely parents, due to a more isolated family environment (Solomon, 2000). This can, in turn, lead to fewer social opportunities to help their preadolescents form and maintain meaningful relationships. Preadolescents can also model their parents' social behaviors and be influenced by their parents' (unintentional) subtle messages related to interacting with others, which can influence how they perceive and approach social interaction, as well as the skills to do this successfully (Junttila, 2010). Indeed, social loneliness has been referred to as the loneliness of social isolation stemming from the absence of social relationships and networks (Junttila, 2010; Weiss, 1973). Therefore, the provision of meaningful opportunities, along with the support to benefit from these, can be especially crucial for preadolescents with lonely parents. It is important to ensure that preadolescents' opportunities for meaningful social activities do not depend on a family's resources (e.g., social networks, financial situations), as this is likely to further reinforce (intergenerational) well-being gaps between families.

This dissertation further suggests that it is important to ensure that all preadolescents have **accessible opportunities to practice social skills and participate in emotionally supportive interactions**. In the family context, the findings of Study II show that low parental self-efficacy is a risk factor that can lead to a less open family communication environment and a higher expectancy for uniformity of beliefs in the family. The protective family communication type (i.e., low conversation–high conformity) can be seen as especially problematic given that preadolescents' needs for autonomy increase (Blakemore & Mills, 2014). Indeed, it has been shown that preadolescents who are encouraged in age-appropriate independent thinking and are included in family decision-making tend to have fewer behavioral problems (Kunz & Grych, 2013). Thereby, a strict focus on obedience and low autonomy, especially when combined with few opportunities for shared and open discussions, risk leading to a poor fit between preadolescents' needs and the family communication environment. It seems reasonable to assume that this can be negatively reflected in parent–preadolescent relationships and that potential negative feedback loops can further undermine parents' confidence in their parenting.

Study III, then again, encourages emotionally supportive and sensitive teacher and peer interactions because they can provide students with meaningful opportunities to participate and to experience success and joy in learning, thereby further promoting their positive development. Moreover, Study III emphasizes the importance of being provided with a safe environment to practice solving conflicts. Positive and sensitive teacher and peer interactions that provided students with

meaningful opportunities to become seen, heard, and understood were associated with increased task orientation and prosocial behavior. It can be assumed that positive feedback loops, through successes and positive affect in interactions across time, promoted the students' motivational resilience (Pitzer & Skinner, 2017; Skinner & Pitzer, 2012) and their preparedness to create and maintain meaningful relationships (Salminen et al., 2022).

Study II suggests that vulnerabilities can be reflected across microsystem contexts (i.e., mesosystem level). More specifically, preadolescents from low PSE family profiles were evaluated as the least prosocial (in teacher, peer, and parent evaluations). Moreover, preadolescents from low PSE family profiles reported the highest social and emotional loneliness. Thus, it is crucial to ensure that for each preadolescent, **long-term support that is carefully and sensitively calibrated to evolving individual needs** is realized. Preadolescents' needs can differ based on the opportunities provided by their contexts, and the quality of interactions within. Thus, students' needs are also embedded in their experiences, opportunities, and interactions within the family context, thereby reflecting their behaviors and interactions in the school context as well. Here, teachers play an important role in being aware of this and adapting their support sensitively.

These findings encourage implementing preventive efforts to promote social competence and tackle loneliness experiences in the school context (see Eccles & Qualter, 2021). Overall, loneliness has been shown to intertwine with problems at school, such as a dislike for school, and Rönkä et al. (2017) encouraged schools to "pay attention to creating safe and supporting social and learning environment so that everyone can thrive at school" (p. 93). Indeed, in a study by Galanaki (2004), elementary students were asked what teachers should do to help students not feel lonely, and many responded that they wished teachers were warm and supportive and to facilitate friendships and reinforce belongingness with others. These wishes align with the indicators of emotionally supportive interactions (Study III). It is important to continue to find the most effective ways to prevent and alleviate loneliness across all system levels, including the school context.

The findings of Study I further suggest that the efforts that acknowledge the specific dimension through which loneliness is experienced may be especially effective, given the independence of social and emotional loneliness over time. To put it another way, the needs of a preadolescent who has a strong desire for a close friend to confide in (i.e., emotional loneliness) can indeed differ from those of a preadolescent who has a close best friend but who does not have a peer group to belong to and spend time with (i.e., social loneliness). While both share painful experiences of unfulfilled needs, different types of loneliness can be related to problems in different domains (Maes et al., 2017). Therefore, acknowledging the characteristics and nature of loneliness experienced can help personalize

interventions and make them sensitive to diverse needs. As Eccles and Qualter (2021) concluded, any intervention to reduce loneliness among youth "should be matched to an individual's current needs: we should not expect a 'one size fits all' intervention" (p. 29).

Moreover, when implementing any interventions, as in Study III, it is important to ensure that students' needs continue to be adaptively and sensitively met in whole-classroom situations outside the intervention context (Farmer et al., 2021). This dissertation suggests that vulnerability, well-being, and resilience are deeply embedded in the relationships and interactions that preadolescents share with their significant others. Thus, it is crucial that the solutions to alleviate vulnerability and promote well-being and resilience recognize the role that interactions and relationships (embedded in other system levels) play and then target them rather than waiting only for the preadolescent to change and become more resilient (Armstrong-Carter et al., 2021; Bronfenbrenner & Morris, 2006; Cantor et al., 2019; Ungar, 2012).

5.5.2   What do parents need to support the preadolescent?

The findings of Study II suggest that parents who feel efficacious are likely better placed to promote their preadolescents' well-being and everyday resilience. When aiming to promote well-being and everyday resilience in preadolescence, we must find ways to help parents overcome challenges and hurdles that undermine their own well-being and resources. This aligns with the systemic resource-focused perspective by Matsopoulos and Luthar (2020) that emphasizes placing a specific focus on what caregiving adults need, not just what they must do. Promoting parents' well-being and resources can further **help parents experience themselves as efficacious in parenting** and strengthening not only parents' well-being and everyday resilience but also their preadolescents. Indeed, PSE has been suggested to present a potentially powerful target for interventions aimed at promoting well-being among parents and their children (Albanese et al., 2019; Junttila et al., 2007; Korja et al., 2015).

Targeting parents, along with preadolescents, is important when designing interventions to tackle loneliness (Eccles & Qualter, 2021; Junttila & Vauras, 2009). This emphasizes the need to ensure that all parents have **meaningful social networks and emotionally close attachments**. The findings of Study II show that PSE is associated with parents' relationship well-being, in a way that those parents with meaningful and supportive interpersonal relationships (i.e., low social and emotional loneliness experiences and an open family communication environment) also feel themselves more efficacious as parents. It seems reasonable to presume that ensuring that parents have someone to share their experiences with, and

opportunities to fulfill the need to belong, will also help promote PSE (Junttila et al., 2007).

Since all parents do not have people around them with whom they can share their concerns and experiences, we must also ensure that there is **low threshold support** accessible for all parents and that no parent feels left alone. When designing support for families, specific attention must be paid to ensuring **that it is not stigmatizing by nature** (Wittkowski et al., 2016). This kind of low-threshold support that is not stigmatizing by nature can be seen as important to help parents overcome daily stressors and challenges that are not necessarily due to significant adversity. Third-sector organizations are doing important work in Finland by providing this kind of low-threshold service, free of charge, to families of preadolescents. Importantly, these do not require being labeled at risk, as parents (and preadolescents) can voluntarily partake based on their own experiences of needs for support. For example, Varsinais-Suomen Lastensuojelujärjestöt (https://vslj.fi/) organizes peer groups for parents of 10–18-year-old adolescents that comprise shared, confidential group discussions guided by professionals. Such parent peer support groups, when optimally designed and implemented, have the potential to help alleviate parents' concerns and worries regarding parenting through providing opportunities to share experiences with other parents, discuss worries and joys, and provide and receive mutual support (for a master's thesis, see Salo, 2015). This kind of mutuality in support is important to experience social inclusion, and it is also closely related to the relational nature of resilience (see Jordan, 2005; Leemann et al., 2022).

Overall, it is important to seek ways to make life less burdensome for parents and to **remove any hurdles to seeking support**. According to Ungar (2012), we must be careful when reflecting on what can pose as a resilience resource; this not only depends on the risks experienced but also on the individual and family in question. This is because paths to resilience are always unique to some extent. Thus, in addition to making support available, we must ensure that it is accessible and meaningful. For support to be accessible, it is important to increase awareness of different forms of support and services that are available in ways that would also reach families that are perhaps more isolated or less active in search of support. Moreover, parents' diverse needs and situations must be recognized when designing support. As an example, those parents for whom multiple risks accumulate (e.g., low PSE, high loneliness), and for whom loneliness has become chronic, potentially intertwining with negative cognitive biases (Eccles & Qualter, 2021; Qualter et al., 2015), attending group activities might even cause discomfort or anxiety. Confidential one-on-one discussions with, e.g., professionals, family meetings (e.g., Varsinais-Suomen Lastensuojelujärjestöt), or family mentoring services (e.g., HelsinkiMissio, https://www.helsinkimissio.fi/), might therefore be better suited. In

the end, it is important that every parent be provided with accessible and safe opportunities to alleviate feelings of inadequacy and helplessness in parenting.

Compared to mothers, fathers reported higher social and emotional loneliness, lower overall PSE, and a less open family communication environment, with higher expectancy for conformity, especially when combined with low PSE (Study II). Therefore, more understanding is needed to shed light on potential (gendered) cultural, social, and other hurdles. In a survey by MIELI (2022), Finnish men were found to be less likely to seek help for concerns related to mental health and loneliness experiences compared to women. Targeting any limiting social norms, stigmas, and expectations that can impede seeking help, such as finding it less socially acceptable (MIELI, 2022), is crucial. Fathers with parental burnout have reported dissatisfaction with the norms and demands of society but also insufficient support, indicating a need for peer support and safe spaces for fathers to be heard and seen (Sorkkila & Aunola, 2021). Whether these apply to loneliness experiences and low PSE requires further understanding.

5.5.3   What do teachers need to support their students?

Finnish students are, overall, satisfied at school, with about three quarters of fourth and fifth graders reporting enjoying school (Helakorpi & Kivimäki, 2021). However, adapting support to meet students' needs is not an easy task, as suggested by the findings of Study III (see also Kajamies, 2017). Classroom processes, such as providing emotional support, are amenable to change and can therefore be targeted and enhanced (Hamre & Pianta, 2005). Therefore, it is important to **help teachers build their emotional support expertise**. By emotional support expertise, the dissertation refers to teachers' skillfulness to observe and meet their students' diverse needs sensitively and flexibly. To do this, we need to ensure that teachers' emotional and interactional competences are at the center of learning aims in curricula and that these can be meaningfully practiced and developed throughout teachers' professional development and across their careers (e.g., sufficient resources and accessible opportunities, effective ways that help transfer these into practice).

Applying observational reflections of own teaching in their professional development can be especially effective in helping teachers develop their skills to meet their students' diverse and evolving needs sensitively, because it helps create a direct link to actual teaching and, thereby, transfer knowledge to practice (Allen et al., 2013; Sheridan et al., 2009). Sabol and Pianta (2012) suggested that such efforts can be especially powerful when implemented during studies, but their role should not be downplayed in professional development later either. To enable effective application of video observations (and reflections based on them) in teacher training as well as in professional development, it is important to provide tools that enable

observation of the crucial elements of interactions, which can also help teacher educators guide future teachers in their interactions in the classrooms. Making these tools easily available by translating them and providing clear instructions on their applications is important. In Finland, the VOPA observational model, which is based on a teaching-through-interactions framework (Hamre et al., 2013), is an example of such a tool (Pöysä et al., 2021).

It is of high importance that (future) teachers can further be helped in reflecting on their interactions beyond the average interactions in the classrooms—more specifically, if they can notice that their interactions with some students differ and how. If these more individualized patterns in interactions are hidden from the teacher, the patterns of interactions can be overlooked, and the student can be perceived as difficult or resistant. Reflective observations and discussions can, for instance, help future teachers see potential differences in how sensitively they can observe and respond to students' diverse needs in their moment-to-moment interactions (Kajamies, 2017). However, most existing observational tools (e.g., CLASS K-3, Pianta et al., 2008) encourage observing typical interactions in the classroom (Pianta et al., 2008). Therefore, further work on developing tools that could be applied to promote these kinds of more individualized observations and reflections is encouraged. It is further important that these kinds of tools be accessible in translated versions, free of charge, to make them easily accessible to teachers and teacher educators.

In our ongoing research (Salo & Kajamies, in preparation), future teachers have described a need for concrete tools and good practices in different kinds of challenging situations. Providing concrete example cases may be helpful in encouraging discussions on what might work and in which kinds of circumstances and in enhancing reflections regarding. In Study III, interactions were illustrated through trajectory figures. These kinds of illustrations will not only enable discussions and reflections on how emotional support can evolve through different kinds of trajectories but will also provide a closer look at its different dimensions (i.e., positive climate, negative climate, teacher sensitivity, and regard for student perspectives). Qualitative interaction excerpts, as presented in Study III, then again, can be especially helpful in providing concrete examples of what these interactions might look like in real life (i.e., beyond the level of support observed; that is, low, middle, or high range).

Moreover, the findings of Study III appear to point to a trend whereby a teacher's **skillfulness in cultivating positive peer interactions** is an important aspect for promoting everyday resilience. For teachers to possess the skills and confidence to promote positive peer relations and interactions, it is important to ensure that they receive sufficient training for this demanding task, both during teacher education and throughout their careers (Ryan et al., 2015). The findings of Study III suggest that

emotional support is a crucial aspect through which the teacher can enable and encourage safe opportunities for all students to participate and engage in peer collaboration (for teacher attunement to classroom dynamics, see Farmer et al., 2021). More specifically, teachers' support in helping students find meaningful ways to become visible through opportunities that are matched with their individual needs, desires, and interests (Darling-Hammond, 2020; Farmer et al., 2021) is related to the dimension of regard for student perspectives (CLASS K-3, Pianta et al., 2008). Moreover, teacher sensitivity and a positive climate (Pianta et al., 2008) were found to be important in helping students find more positive ways of collaborating and solving conflicts. These led to increasingly positive peer interactions, as observed by researchers, but were also reflected as positive development in students' prosocial behaviors in regular classroom situations (as evaluated by their classroom teachers, who were not involved in carrying out the intervention). This suggests that finding sensitive and emotionally supportive ways to encourage the participation of all students can be especially crucial in situations in which a student experiences difficulties in learning or collaborating with others. Thereby, the relational quality of the learning environment, including the teacher's skillfulness in promoting positive peer interaction, appeared to be especially crucial for explaining the success of peer collaboration as opposed to the students' initial competency level (Barron, 2003).

Applying video observations complemented by reflective discussions might also be beneficial in helping teachers become more aware of patterns in peer interactions in the classroom (Barron, 2003). Observational tools have mostly focused on teacher–student (or adult–child in early education) interactions; the opportunities (or risks) that peer collaboration presents for high-quality support may not be as easily captured through these kinds of lenses (Slot et al., 2016). The coding framework developed in the dissertation provides one such opportunity to reflect on the emotional quality of interactions during peer collaboration (Study III).

In Study III, the teacher–dyad negative climate reached the middle range during several lessons for one teacher and student pair, for instance, through the teacher's irritability and sarcastic statements. This dissertation suggests that in order to promote students' well-being and everyday resilience, we need to **ensure that all teachers can develop a reflective stance toward their own emotions and interpretations in different situations**. As discussed by Darling-Hammond et al. (2020), if a student perceives that they are considered difficult or problematic, it can affect the development of their competence (even above their initial skill levels) by triggering a vicious cycle in which the student engages in increasingly challenging behaviors because of the stigmatizing effect and stress that being perceived as difficult can cause. In Study III, the student pair with this kind of negative climate was identified with the overall weakest development of competences out of all other

observed dyads. In addition to teachers being aware of their own emotions and interpretations, it is important to help them acquire more positive ways to regulate their emotions in challenging, stressful, or conflicting situations (see Aldrup et al., 2020; Jiang et al., 2016; Rodriguez et al., 2020).

Indeed, emotion-regulation skills are crucial components of teachers' socio-emotional competence (Aldrup et al., 2020), which is a competence like any other and can, therefore, be enhanced (Jennings & Greenberg, 2009). Reflective discussion on emotions and perceptions that certain situations and students can raise in teachers can be helpful from this perspective. As Aldrup et al. (2020) noted, such reflections can help "make teachers more conscious of their behavior in emotionally and socially challenging situations and may help to discover alternative approaches they would not have considered before" (p. 17). Enhancing the understanding of the complex and transactional process underlying student development and behavior, as embedded in interactions, can further help recognize patterns that are, in fact, far more complex than a student's resistance or difficulty. This might help teachers regulate their negative emotions in challenging and conflicting situations and encourage deeper awareness of the student needs underlying the behavior (see Rodriguez et al., 2020).

Teaching presents a socially and emotionally demanding profession, and teachers often balance the resources available, students' multifaceted needs, and their own well-being (Darling-Hammond et al., 2020; Rodriguez et al., 2020). It is important to **ensure support and accessible resources to sustain and enhance teachers' own well-being**. In previous studies, the quality of emotional support has been associated with teacher stress (Penttinen et al., 2020) and job satisfaction (Virtanen et al., 2019). Positive teacher–student interactions hold promise for enhancing teacher well-being, along with that of students, whereas negativity in interactions can increase teacher stress and negative affect (Hoglund et al., 2015). Indeed, emotionally close and warm relationships with students are assumed to form an important basis for teachers' coping in their work and for their resilience (Day & Gu, 2013). Overall, teachers who have sufficient resources and support from colleagues and who feel competent and enthusiastic are likely better placed to face different kinds of challenges in constructive and positive ways.

Meeting the diverse needs of students cannot be the responsibility of one teacher alone, and it is important that multi-professional teams are accessible and that this collaboration functions well (Darling-Hammond et al., 2020). As discussed, small-group learning has the potential to promote high-quality emotional support (Cadima et al., 2022a; Slot et al., 2016) and encourage meaningful opportunities for all students, especially those who do not necessarily participate in whole-classroom discussions (Darling-Hammond et al., 2020; Farmer et al., 2021). Thus, it would be important that all teachers have frequent opportunities to provide students with

small-group learning activities, for instance, by teaching teams (Darling-Hammond et al., 2020). To enhance teachers' well-being, it is further important to pay attention to teachers' sense of community and ensure that all teachers have someone to turn to for advice and support, and that this is encouraged instead of an ethos (or a forced situation) of having to survive alone.

In Study III, a teacher change was observed to be a risk factor for the consistency of emotional support. This raises concerns for not only the students' but also the teacher's well-being. Only tentative suggestions of potential underlying reasons for the new teacher's frustration and struggles in emotion regulation can be presented, as Study III did not apply interviews and relied on observations made based on the video footage. However, the new teacher often appeared stressed and frustrated, especially with the other dyad. Teachers' stress over student behaviors has been associated with their sense of teaching efficacy (Collie et al., 2012), and low self-efficacy has been assumed to impair a teacher's empathic behaviors (Aldrup et al., 2022). As the teacher started after the first intervention phase, one potential reason might be that she lacked efficacy, which was reflected in her behaviors and interactions. Therefore, it is important to ensure that all teachers are provided with sufficient resources so that they can experience themselves as efficacious. Ensuring that information (on students and practices in general) is shared in an effective and meaningful way, both between teachers and between teachers and researchers in the case of interventions and shared efforts, is important. Moreover, as Penttinen et al. (2020) argued, the provision of professional support to promote teacher well-being and positive teacher–student interactions must be intertwined with opportunities for autonomy to be effective. This emphasizes that researchers and educators must work with teachers instead of on them.

Understanding the hurdles that teachers face and the burdens they experience is important for recognizing the kinds of resources that would best support teachers amid the challenges they face. Such hurdles can include low self-efficacy, burnout, stress, difficulties in emotion regulation, insufficient resources, overall uncertainty, and challenges placed by unpredictable situations (e.g., Darling-Hammond et al., 2020; Day & Gu, 2013; Jennings & Greenberg, 2009; Rodriguez et al., 2020). As can be seen, these are not only limited to factors at the individual level but rather extend across the system levels, thereby also requiring systemic solutions. The role of teachers' well-being in promoting students' well-being and resilience cannot be overlooked. Indeed, as discussed by Hascher et al. (2021, p. 429), enhancing teachers' well-being "will contribute to the profession as a whole because it can lead to an empowering of teachers to care for their students, create positive learning environments, commit to the role of education, and support a learning society".

5.5.4   What is the role of communities and society at large?

Tackling situations of vulnerability is a universal responsibility because vulnerability is highly socially embedded in interactions and relationships that we share with one another—within and across contexts—and in communities, values, and society and its structures (see, Virokannas et al., 2020). Families and schools are increasingly facing multiple kinds of challenges and risks (e.g., financial insecurity and various global crises). This dissertation did not examine intra- and extra-familial relationships in the face of adversity. However, it can be assumed that strengthening PSE, along with positive, meaningful, and satisfactory intra- and extra-familial relationships among parents and preadolescents, is an important preventive effort that will likely equip parents and their preadolescent children with better odds of facing difficult times successfully (e.g., Benzies & Mychasiuk, 2009). Parenting challenges evolve according to the surrounding world, and parenting a preadolescent amid uncertainties is certainly not an easy task (see, e.g., Eltnamly et al., 2022).

Teachers in Finland, by global comparison, have broad pedagogical freedom and responsibility, and teacher education is of high quality (Darling-Hammond, 2017; Toom & Husu, 2016). However, schools do not operate in isolation from society either. This indicates that teachers face challenges stemming from increasing uncertainty, inequality, and exclusion in society, at large, when encountering their students. Here, **we need a future orientation to ensure that no one is left behind**, which is among the top targets of the United Nations' sustainability goals 2030. Education is not just an important human right but also "the bedrock of just, equal, and inclusive societies" (United Nations, 2020, 21). It is therefore important that teacher education keep up with the evolving demands and needs in the world and in our society. That is, teacher education must be dynamically and sensitively evaluated and adapted to proactively meet future uncertainties and challenges. This dissertation especially emphasizes the need to ensure that the following aspects are at the core of teachers' professional development—observing and meeting students' diverse needs; promoting positive peer relations and interactions; being aware of their own behaviors, interactions, and emotions in different situations; and transferring skills into practice (i.e., the role of video observations and reflective discussions). Although the data were not collected during the recent crises, these aspects seem to be even more topical now.

Furthermore, it is crucial for us all to **re-evaluate how we encounter one another**: What can each one of us do to ensure that no one feels lonely and that no one is left behind? Being concerned about the well-being of preadolescents requires being concerned about the well-being of their parents and teachers. Recognizing the power of seemingly small everyday actions in our communities is important. Indeed, these actions, such as smiling at one another and asking how the neighbor is doing and listening to what they tell us, can aid in tackling loneliness. The findings of this

dissertation encourage us to make every effort to ensure that neither preadolescents nor their parents experience loneliness.

Moreover, combating any confrontations between parents and teachers is vital to ensure that mutual trust and aims can be reinforced. From this point of view, meaningful interactions can take place between family and school contexts (i.e., at the mesosystem level; see Bronfenbrenner & Morris, 2006). For example, these might include encouragement and positive feedback for parents, such as a message from the teacher telling them about positive things that have happened at school instead of contacting them only when problems occur. This can seem small but can be quite significant from the parent's perspective. Encouragement and positive feedback can be especially crucial to counterbalance frequently received negative feedback, such as messages informing of altercations or disruptive behavior by preadolescents at school that can threaten experiences of efficacy in parenting. The same applies the other way around as well—telling teacher(s) what we appreciate in their daily efforts toward their students instead of contacting them only when there is a problem of some kind.

At the macrosystem level, it is also crucial to **target dysfunctional and harmful values, beliefs, and discourses in our society**. Social pressure to be a perfect parent can stress parents as driven by cultural expectations and social norms in the environment (Meeussen & Van Laar, 2018). It can be especially harmful for parents who are struggling to experience confidence in their parenting as it is and who do not have effective support to deal with these pressures, for instance, due to loneliness. The same can be presumed to apply to teachers. Emotionally supportive interactions at school take place in the complex and dynamic interplay between teacher and students; as such, consistent high-quality emotional support without exception may not be a realistic expectation (Study III). Tackling discourses that call for perfect parenting or teaching can therefore be important.

Given the gender differences in preadolescents' loneliness experiences (Study I), it is further important to be sensitive to any gendered social and cultural barriers that boys and girls might face when seeking to meet their needs to belong. It is important to be sensitive not to strengthen such hurdles but to reduce them. Adults can, through their behavior and talk, avoid strengthening gender-typical expectations and encourage all preadolescents to identify and express their needs freely (Endendijk et al., 2018).

We also need courage and a willingness to critically reflect on structures in our society that can generate and (re)produce vulnerability (Virokannas et al., 2020). As discussed by Qualter et al. (2021, p. 1), loneliness is "consistently related to social inequalities, suggesting that targeted interventions that include whole systems changes are needed." Indeed, social inequality and loneliness often intertwine (Madsen et al., 2019; Schinka et al., 2013; Varga et al., 2014). It does not seem far-

fetched to presume that increasing inequality and widening well-being gaps endanger the very basis of an inclusive society in which we can all find meaningful and accessible opportunities to belong to, feel competent in, and have autonomy over our own lives. To that end, it is important to **ensure that families and schools are provided with sufficient resources to combat inequality**.

As discussed, it is vital that there are a variety of low-threshold support options accessible for parents. Ensuring the continuity and availability of such services promptly through the provision of sufficient resources, including financing, is of great importance. Moreover, ensuring sufficient and sensitive support to meet the needs of all parents requires targeting any inequalities that families are facing (e.g., financial distress). When discussing how to improve teachers' interactions with students, resources cannot be overlooked (Darling-Hammond et al., 2020). To ensure teachers' well-being and their opportunities to meet their students' diverse needs sensitively and adaptively, it is crucial that schools are provided with sufficient resources, including enough adults in schools and accessibility of multi-professional support. Thus, when thinking of effective and sustainable ways to promote everyday resilience in family and school contexts, the important role that we all play in tackling inequalities and social exclusion in our communities and society at large cannot be overlooked. This emphasizes that changes and actions must take place at all system levels to ensure effectiveness and sustainability (Bronfenbrenner & Morris, 2006; Ungar, 2012).

5.6   Future directions

In the future, it is important to target different system levels and their interactions for a richer recognition of the "temporal, situational, relational, and structural nature of vulnerability" (Virokannas et al., 2020, p. 327). It is further important to combine this with an understanding of the different ways in which vulnerability can be reflected (i.e., its multidimensional nature). As an example, Study I and Study II showed that vulnerability to loneliness is deeply embedded in the family context. However, the role of the school context needs to be further explored, as supportive teacher and peer interactions might provide an important protective factor in this regard. Moreover, as studies show the intertwining of social inequality and loneliness (Madsen et al., 2019; Qualter et al., 2021; Schinka et al., 2013; Varga et al., 2014), there is a need to extend research on system levels extending above micro- and meso-systems to better understand which kinds of structural changes would best tackle loneliness and how they could be implemented. Clearly, **multisystemic understanding** is needed of those **mechanisms that can generate and (re)produce vulnerability**, and especially **how these could best be combated**.

As discussed, conceptual choices are not straightforward, as they have the potential for misunderstandings and static interpretations. Thus, conceptual discussions are needed in the future. An example is **what we mean by being at risk**. In journal articles, brief expressions are often adopted, as was done in Study III when applying the concept of at-risk students for those identified with different combinations of socio-motivational vulnerability and reading difficulties. Examples of how risks have been defined (and alternative concepts) are students' learning difficulties or low competence compared to grade level (also low achievers, e.g., Kajamies, 2017), special educational needs (also vulnerable, see Farmer et al., 2021) and high needs (see Bourke et al., 2011), ethnic minority background, and low socio-economic status (also at-promise, see e.g., Bettencourt et al., 2022). In some studies, the risks have been attached to the area or school, for instance, based on poverty and the percentage of students with special education needs (also high-needs schools, e.g., Doyle et al., 2022). Moreover, some have already acknowledged the relational aspect of risks in those concepts applied (e.g., teacher–student dyads at-risk, see Koenen et al., 2019, p. 45). As discussed by Gershon (2012, p. 370), being labeled at risk can –sometimes pose an: "insurmountable category of risk that requires students' differences to be counted as deficits before they can be addressed in daily classroom lessons". Therefore, it is important to be sensitive to the categorizing effect that the concept can have and to be explicit about what we mean by being at risk and for what purposes it is used.

Approaching resilience through a goodness-of-fit between student needs and the support realized (through teacher and peer interactions) allowed embracing it as dynamic and emerging through social interactions rather than an innate possession of someone. As discussed, the concept of well-being was applied in the family context, as the whole sample of families examined was not identified with specific risks. However, it is likely that the entanglement of relationship vulnerabilities within a family would pose a serious risk in the face of adversity (Prime et al., 2020), whereas overall relationship well-being would likely promote resilience at the family level. Indeed, Masten (2001) stated that "[r]esilience does not come from rare and special qualities, but from the everyday magic of ordinary, normative human resources in the minds, brains, and bodies of children, in their families and relationships, and in their communities" (p. 235). It is important to continue to **approach resilience in ways that enable capturing its layered nature** (multidimensional, influenced by multiple system levels). This can enhance an understanding of ways to effectively promote resilience in different kinds of situations and contexts and to recognize the availability and accessibility of resources at multiple levels (Hascher et al., 2021; Ungar, 2012). These contribute to the calls for a more dynamic, contextual, and situational understanding of resilience (e.g., Cantor et al., 2019; Mansfield et al., 2016; Ungar, 2012).

When aiming toward a more inclusive future, **listening to preadolescents is of high importance**. This is especially important to bring out the diversity of experiences, but also to ensure that children's rights are fulfilled to a greater degree in all areas of society, including the right to be heard and to participate. To this end, cooperation between researchers and stakeholders, such as third sector organizations, can provide opportunities to understand the experiences of children and young people and their families and to collaborate on developing innovative solutions to meet their needs. For example, in the Resilient Schools and Education System (EduRESCUE, https://edurescue.fi/en) project funded by the Strategic Research Council and established within the Academy of Finland, silent voices are heard in close cooperation with third sector organizations to bring out the diversity in children's and young people's experiences and to ensure that support is realized based on their needs, including amid uncertainty.

The analyses in the family context were conducted using quantitative methods. To inform the design and implementation of effective preventive and intervention efforts to tackle parents' loneliness and enhance their PSE, qualitative studies are encouraged. This means **hearing the voices of parents, which is important because the paths toward well-being and resilience are always somewhat unique** (Ungar, 2012). Thus, we need to be sensitive to parents' needs and understand what would best help them sustain their well-being amid the risks that they face in different kinds of situations and contexts and with different kinds of (multi-layered) resources available and accessible. We have already begun to seek a multidimensional approach to resilience by examining how Finnish mothers and fathers who were identified with low or high resilience described their emotional experiences, resources, and demands during the COVID-19 pandemic (Salo, Sorkkila et al., in preparation). This will deepen an understanding of those resources (e.g., secure and good financial situations, flexible work, supportive interpersonal relationships) and of the unequally distributed demands that parents face (e.g., financial insecurity, increasing burden of work, mental health problems) that easily become hidden if resilience is approached through individual-level resources only.

Moreover, it is important to **strive toward a richer understanding of parental self-efficacy beliefs through qualitative approaches**. In Study II, PSE was evaluated through four dimensions (emotional nurturance, discipline, recreation, and participation; Junttila et al., 2007). However, it might be that parents' descriptions of their experiences raise some additional dimensions or deepen the understanding of those established. Study II shows that PSE is closely linked with parents' loneliness experiences, suggesting that having supportive and meaningful relationships can help parents feel more efficacious. Moreover, according to Eltanamly et al. (2022), different kinds of crises or major changes in life (i.e., chronosystem level) can make parents re-evaluate their self-efficacy in parenting.

These further add to the importance of approaching PSE through a systemic approach (Bronfenbrenner & Morris, 2006), which acknowledges the many system levels through which it can become influenced (i.e., resources, e.g., spousal support, and demands, e.g., school closure). This could also help us identify more effective ways to promote parental self-efficacy beliefs, which can be seen as highly important because PSE significantly contributes to preadolescents' intra- and extra-familial relationship well-being, along with the well-being of their parents (Study II).

In addition to parents and preadolescents, it is important **to hear the voices of teachers and what they would need to be able to promote their students' well-being and resilience**. The Trade Union of Education in Finland (https://www.oaj.fi/en/) have, as examples, emphasized the need to ensure sufficient resources for teachers and schools (e.g., the number of teachers and other school professionals), for teachers to be able to encounter their students individually, and to ensure high-quality teacher education and meaningful and accessible professional development opportunities across careers. Aligning with bioecological systems theory (Bronfenbrenner & Morris, 2006) and calls for multisystemic solutions (Ungar, 2012), we see that systemic solutions call for multidisciplinary research, along with stakeholder engagement as described above (e.g., teachers, parents, preadolescents). Therefore, in our ongoing research, we combine educational and legal perspectives to examine how teacher education should be developed to more effectively prepare future teachers to adopt and cultivate inclusive practices (Salo, Valtonen et al., in preparation).

The findings of Study III suggest that emotional support can be differently realized for students, which encourages even more individualized observations of emotional support (i.e., between teacher and one student). As discussed, observational instruments applied in the school context have typically focused on average interaction quality, thereby placing less emphasis on how emotional support is realized for different students. In Study III, qualitative interaction excerpts were provided along with summary figures of emotional support trajectories to illustrate the richness and even messy nature of authentic teacher–dyad and peer dyadic learning interactions. Future research with such approaches and larger datasets is encouraged, as interaction excerpts enable capturing the quality of these interactions in greater detail, as well as the diversity through which teacher–student and peer interactions are reciprocally shaped. Moreover, developing observation instruments to better capture **how teachers (and students) embrace inclusive practices and acceptance of diversity through their interactions** is important (Slot et al., 2016). To encounter their students on a deep level, teachers need to carefully observe what is and is not being said or done and be sensitive in their interpretations regarding the same.

Schools do not operate in isolation from society, which means that teachers face challenges stemming from increasing uncertainty, inequality, and exclusion in society, at large, when encountering their students. Amid uncertainty of many kinds, students' individual situations have become increasingly diverse, and an accumulation of vulnerabilities raises concerns, which call for courage and willingness in teacher education as well to combat inequalities and situations of exclusion. In the Teacher Education Development Programme 2022–2026 (Ministry of Education and Culture, 2022, p. 3), "knowledge about learners and how to support different learners" and "expertise in values, culture, emotions, interaction and cooperation" are raised among the key aspects to be promoted during teacher education and throughout teachers' careers. These are at the heart of this dissertation and in our ongoing research. We have developed a questionnaire to encourage future teachers' reflections on their preparedness to observe their students' diverse individual situations (e.g., threat and crises-related anxiety, school stress and burnout, loneliness, difficult family circumstances), to provide support or activate support chains and how they see the teacher's importance in these situations (Salo & Kajamies, in preparation). The questionnaire further encourages future teachers to describe their own strengths and needs for support when working with students in challenging situations and the ways in which they strive to enhance each student's participation. Thereby, we aim to **encourage future teachers' awareness of and reflective interpretations regarding diverse aspects that can impact students' well-being, learning, and participation and their own role in supporting students** (for awareness of the learner and oneself as a teacher, see Rodriguez et al., 2020). The understanding that can be acquired through the questionnaire is expected to benefit teacher education development.

Overall, understanding the layered nature of vulnerability instead of seeing it through labels (Luna, 2009, 2019) encourages us to seek **a rich understanding instead of settling with narrow explanations that rely only on one factor or level**. For example, when a preadolescent's behavior is experienced as disruptive in the classroom, the label of being a disruptive student would easily lead to overlooking underlying needs and risks (embedded in many system levels) and (multi-layered) resources that could be made available and accessible. Another example of a narrow approach would be to blame the parents (e.g., do-not-care attitude). A layered approach encourages diving deeper, for example, through the following kinds of questions: What kinds of (multidimensional) needs can become hidden behind disruptive behaviors? How could we meet the students' needs more adaptively and sensitively in family and school contexts (i.e., the microsystem level)? What kind of collaboration between family and school, including the teacher and other professionals at schools, would best support the student (i.e., mesosystem level)? How can teachers and parents themselves get the support that they need in order to

ensure their well-being and resources in supporting the student (i.e., exosystem level)? Finally, what kind of structural and societal actions are needed to tackle structural inequalities and social exclusion that can generate and (re)produce (intergenerational) situations of vulnerability (i.e., macrosystem level)? Are there some major changes that could influence the student's behaviors (i.e., chronosystem level)?

Thus, at best, the layered approach embraces all system levels to recognize the embedded risks and ways to promote well-being and everyday resilience. This is perhaps more topical than ever, as we are facing many crises, uncertainty, polarization of well-being, and an accumulation of situations of vulnerability. These set challenges for striving toward a fair, just, and sustainable society that leaves no one behind, and emphasize the need for **multidisciplinary research** and **systemic solutions**.

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