

This is an electronic reprint of the original article. This reprint may differ from the original in pagination and typographic detail.

Associations between interpersonal contexts, positive emotions, and related experiences in school students: A systematic review of experience sampling studies

Mölsä, Martina E.; Forsman, Anna K.; Söderberg, Patrik

Published in:
School Psychology

DOI:
[10.1037/spq0000587](https://doi.org/10.1037/spq0000587)

E-pub ahead of print: 30/10/2023

Document Version
Accepted author manuscript

Document License
Publisher rights policy

[Link to publication](#)

Please cite the original version:

Mölsä, M. E., Forsman, A. K., & Söderberg, P. (2023). Associations between interpersonal contexts, positive emotions, and related experiences in school students: A systematic review of experience sampling studies. *School Psychology*. Advance online publication. <https://doi.org/10.1037/spq0000587>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Associations Between Interpersonal Contexts, Positive Emotions and Related Experiences in School Students: A Systematic Review of Experience Sampling Studies

Martina E. Mölsä¹, Anna K. Forsman², Patrik Söderberg¹

¹Department of Developmental Psychology, Faculty of Education and Welfare Studies, Åbo Akademi University, Vaasa, Finland

²Department of Health Sciences, Faculty of Education and Welfare Studies, Åbo Akademi University, Vaasa, Finland

Date of acceptance September 7, 2023

Author note

We have no known conflict of interest to disclose.

The authors wish to express their appreciation to Högskolestiftelsen i Österbotten for funding the project REBOOT and thereby also the implementation of part I of this systematic work. The authors also wish to thank Svenska Kulturfonden who partially funded part I of this systematic review.

Correspondence concerning this article should be addressed to Martina E. Mölsä, Department of Developmental Psychology, Faculty of Education and Welfare Studies, Åbo Akademi University, Rantakatu 2, 65100 Vaasa, Finland. E-mail: martina.molsa@abo.fi

Abstract

Studies investigating students' social interactions and related experiences have mostly relied on retrospective methodologies—techniques known to be subject to recall bias that threaten ecological validity. This article is the second part of a systematic review of experience sampling studies on students' social interactions. This article focuses on exploring associations between interpersonal contexts, positive emotions and related experiences assessed by intensive repeated measurement techniques in naturalistic environments. A systematic literature search was conducted for experience sampling studies between 1996 and 2020. Details of the literature search process and results were reported in the companion (part I) of the study (*Front in Psychol* 2022; 13: 844698). Using a narrative synthesis, the associations of interpersonal contexts and positive emotionality in school students was analyzed. Findings suggest that school students experience higher levels of positive emotions during peer, teacher, and family interactions than when they are not being with someone. The overall findings indicate that positive emotionality in children and adolescents is dependent on the characteristics of the interpersonal contexts, although the multi-level associations vary. This review contributes to experience sampling research on students' social interactions. The systematic review concludes with discussion of the main findings, theoretical implications, and an analysis of limitations.

Keywords: positive emotions, social interactions, school students, experience sampling, review

Impact and implications statement

This review of experience sampling studies addressing students' social interactions suggest that positive emotions and related experiences is dependent on the characteristics of interpersonal contexts. With regard to school-related concerns, our findings highlight the importance of taking a holistic, multi-contextual approach in assessments of psychosocial factors to address students' positive emotions.

The school setting is a key arena for the development of social and emotional skills that influence how well young people adapt to their environments—important aspects in becoming an active citizen (Cefai et al., 2021). However, the existing research on social interactions in educational settings has largely focused on negative mental health variables such as bullying (e.g., Ferrás & Selman, 2014; Söderberg et al., 2017), and school burnout (e.g., Widlund et al., 2021; see Madigan & Curran, 2021 for a meta-analysis). Although extant research reveals important relationships between wellbeing and students' academic outcomes (e.g., academic achievement; Kiuru et al., 2020; see Kaya & Erdem, 2021 for a review), less is known about young people's subjective experience of positive emotionality in everyday social interactions within and outside of classrooms (e.g., Keijsers et al., 2022; Wieczorek et al., 2022). Moreover, previous studies investigating students' psychosocial wellbeing (as defined by Martikainen et al., 2002) have largely relied on retrospective self-reports with its attendant possibilities to introduce recall bias. Consequently, in studies concerning psychological wellbeing in youth, approaches beyond traditional data collection methods has been suggested (e.g., Wang et al., 2020; Wieczorek et al., 2022).

Assessment of students' positive emotions and related experiences

Children's and adolescent's psychosocial development and wellbeing is often examined by using measures concerning positive emotions and other affective experiences at school (e.g., Kiuru et al., 2020; Norwich et al., 2022). Even if the associations between affective well-being and interpersonal relationships in youth have been well established in the developmental psychological literature (e.g., Kiuru et al., 2020; Wang et al., 2020), studies investigating positive emotions and related experiences in school students have mostly been retrospective in nature (e.g., Kiuru et al., 2020). While single self-report measures, that ask respondents to broadly evaluate how they feel, provides valuable information about individual differences (i.e., between-person effects), they obscure potentially important/dynamic intra-

individual variability in subjective emotions across young people's everyday lives.

Consequently, retrospective techniques, such as cross-sectional study designs, are known to be prone to recall bias that threaten ecological validity.

Experience sampling methodology (ESM; Csikszentmihalyi & Larson, 1987) is an intensive longitudinal data collection method, represented by recording subjective experiences in daily life of individuals in their natural environments, in real time, and at multiple time points (Conner et al., 2009). Compared to retrospective methodologies, primary advantages of ESM sampling strategies have been argued to include minimization of memory biases, maximization of ecological validity (Dunton et al., 2015; Shiffman et al., 2008), and hypothesis testing at the between- and within-person levels (e.g., Bernstein et al., 2018). Therefore, ESM is argued to be a favorable technique for studying complex social phenomena within the daily lives of educational actors (e.g., Mölsä et al., 2022; Zirkel et al., 2015).

Looking at ESM studies in the education field, the development of/longitudinal change in wellbeing among children and adolescents is often investigated in relation to four major categories: with peers, teachers, family, and alone (e.g., Rathunde & Csikszentmihalyi, 2005; van Roekel et al., 2015). Previous ESM work on well-being shows that youth prefer to spend time with their friends rather than with their families (e.g., Csikszentmihalyi & Larson, 1984), and that youth feel happier during social interactions vs. other activities such as class work and studying at home (Bassi & Delle Fave, 2004). Moreover, in samples of youth, ESM studies have suggested that while being alone rates the lowest levels of happiness, being with peers correlate with the highest (e.g., Hunter & Csikszentmihalyi, 2003).

In sum, since emotions are most often expressed and experienced during ongoing social interactions, exploring the effects of everyday positive interpersonal processes over time (Algoe, 2019) may contribute to the understanding of variation and changes in positive emotions among children and adolescents.

The Current Study

In part I of this systematic review, 52 experience sampling studies reporting on social interactions among a total of 10 317 children and adolescents in and around educational settings were identified by a systematic literature search, covering the period between 1996 and 2020. The materials and method (i.e., the literature search strategy, eligibility criteria, data extraction, and study quality) have been described in detail in the prequel of this study (Mölsä et al., 2022).

Here, in the second part of the review study, we provide a narrative synthesis of previous experience sampling research on the associations between various interpersonal contexts and positive emotionality among school students aged 6–17 years. By looking at positive emotionality variables in relation to social contexts, we aim to explore school students' positive emotions and related experiences. Accordingly, findings from this investigation aims to answer the question: How are various interpersonal contexts (with peers, teachers, family, or not being with someone) associated with positive emotionality among school students aged 6–17 years examined via intensive longitudinal designs?

Method

Study selection

A systematic search was carried out for experience sampling articles published between 1996 and 2020. In part I of our systematic literature review, the content of 52 experience sampling studies were included, with data on positive and negative subjective experiences as well as social contexts. For more details on the search terms, see part I of the study (Mölsä et al., 2022; a full list of the search terms is also provided in the online supplemental materials). Based on a narrative synthesis approach, the present study seeks to summarize findings regarding the link between positive emotionality and social context as experienced by children and adolescents within and in connection to educational settings.

More specifically, in this part 2 of our review, we include ESM studies where the presence of peers/teachers/family/not being with someone is the context at a certain moment. Additionally, since perceptions about situations can provide contextual information (e.g., social support perceptions), we also include such studies in the present review study (for example, perceptions of peer support were construed as peer contexts). However, we did not include studies on negative interactions such as aggressive behavior or bullying, as these were beyond the scope of our aim. For positive emotionality, we included various positive emotional experience variables that were identified in the prequel of this study (Mölsä et al., 2022), and that were associated with at least one of the social contexts of interest, with items such as ‘happiness’, and ‘positive affect’ (see Table 2 for identified positive emotionality variables), whereas negative emotional experiences such as loneliness or sadness were not included.

Moreover, since we are interested in looking at within-person differences in positive emotions from day-to-day (to see if children and adolescents have higher levels of positive emotions when they are together with peers, teachers, or family vs. not being with someone), both positive emotionality and social context factors had to be measured repeatedly by means of experience sampling measures for inclusion in this review study. Individual or contextual factors measured at baseline were only included to assess cross-level interaction effects.

Consequently, a total of 14 out of 52 experience sampling studies were deemed eligible for inclusion in this review. Building on the study identification and search process in the companion paper (Mölsä et al., 2022), Figure 1 shows the PRISMA flowchart for data inclusion/exclusion at each stage of the literature search procedure in the present review study.

Data extraction

Common ways of synthesis include classifying findings into a thematic framework

based on a priori categories, exploration of relationships in the data including analysis of differences between studies in each group, and a synthesis of the findings under each theme (Popay et al., 2006; Thomas et al., 2012). Accordingly, to guide the narrative synthesis, a deductive coding approach was applied whereby we identified experience sampling measures of happiness, positive affect, enjoyment, and positive valence as measures of positive emotionality (i.e., main theme), whereas experience sampling measures of social context were coded into subthemes of interactions with peers, with family, with teacher, and not being with someone. An article could be coded under multiple subthemes (see the online supplemental materials).

Results

Study description and characteristics

The 14 eligible experience sampling studies, reporting on positive social interactions among children and adolescents, were published between 1996 and 2020, including a total of 3450 participants between ages of 6 to 17. While the average number of days for collecting momentary data were 11.4 (range 6–56, median 7, *SD* 12.5), the average number of beeps, i.e., data collection sessions per day, was six for the momentary reports (range 2–8), and one for the daily diary reports. See Table 1 for a summary of key characteristics of included studies, presented by year of publication.

Narrative review of studies

Our deductive approach to data extraction allowed a synthesis with a main theme including four partly interrelated subthemes (see the online supplemental materials). These sub-areas include interactions with peers (14 studies), with teachers (5 studies), with family (10 studies), and not being with someone (7 studies). In the following, we present these thematic sub-areas in a narrative synthesis and a table describing the relationships between the studies (see Table 2).

Interactions with peers

Fourteen studies examined the relationship between positive emotionality and interactions with peers at school. The majority of these studies indicated that students' interactions with peers was positively associated with higher levels of positive emotionality (e.g., Sandstrom & Cillessen, 2003; Steca et al., 2011). In terms of companionship, school students experienced highest levels of positive emotions when they were interacting with peers, and lowest when they were not being with someone (e.g., Csikszentmihalyi & Hunter, 2014), i.e., illuminating within-person effects. Weinstein and Mermelstein (2007) reported that students who spend more time interacting with peers (compared to not interacting with anyone) tend to have higher levels of positive affect/are in general happier. That is, in situations where students had interactions with peers, they reported more positive experiences than when they were not being with someone, regardless of their mean level of positive emotions.

Interactions with teachers

Five studies addressed the relationship between positive emotionality and interactions with teachers; four of these studies reported statistically significant associations (see Table 2). In one study (Shernoff & Vandell, 2007), students reported higher levels of enjoyment in after-school activities when they were socializing with both peers and teachers than with peers only. Similarly, in another study (Herres et al., 2018), students reported day-to-day variation in positive affect, but also that students with more positive teacher events reported more positive affect. In samples of youth, Csikszentmihalyi and Hunter (2014) demonstrated lower levels of happiness when they were with teachers than when they were with classmates or peers. However, Griffin et al. (2019) reported a statistically non-significant association between early-day teacher support and later-day positive affect among students.

Interactions with family

A total of ten studies focused on the relationship between positive emotionality and interactions with family, revealing statistically significant findings in these studies (see Table 2). For example, in three studies (Alarcón et al., 2020; Tavares et al., 2020; Weinstein & Mermelstein, 2007) it was demonstrated that adolescents had higher levels of positive emotions when they were spending time with their family than when they were not being with someone. Moneta and Csikszentmihalyi (1996) examined the effects that perceived challenges and skills in activities have between happiness and dimensions of social contexts; statistically significant effects were found between happiness and family life. In another study, Csikszentmihalyi and Hunter (2014) reported that youth had higher levels of happiness when they were with family than when they were alone (or with teachers).

Not being with someone

A total of seven studies reported on the relationship between positive emotionality and not being with someone. A few of these studies analyzed the associations of peer interactions and positive emotionality with the context of being with no one (e.g., Alarcón et al., 2020; Uink et al., 2016; see Table 2). Overall findings showed that not being with someone was significantly associated with positive emotionality variables (e.g., Moneta & Csikszentmihalyi, 1996). Compared to being in someone's company, not being with someone was associated with lower positive emotionality in children and adolescents, both at the between-person (Alarcón et al., 2020; Weinstein & Mermelstein, 2007) and the within-person (e.g., Csikszentmihalyi & Hunter, 2014; Perez, 2011) level.

Discussion

Previous investigations on students' wellbeing and enjoyment have largely relied on traditional retrospective self-reports—techniques that are known to be subject to recall bias. Consequently, further studies using alternative approaches to study positive social interactions processes, such as the link between positive emotionality and social contexts, and how these

processes develop over time, has been suggested (e.g., Algoe, 2019; Wieczorek et al., 2022). Therefore, the purpose of the present review was to summarize experience sampling content on positive social interactions, more specifically the association between positive emotionality and social contexts as experienced by children and adolescents within and in connection to educational settings. Accordingly, by exploring these multi-level associations, we aimed to gain a deeper and a more nuanced understanding of school students' positive emotions and related experiences.

Associations between social contexts, positive emotions and related experiences

In the narrative synthesis, between- and/or within-person associations between interpersonal contexts and positive emotionality, as well as cross-level interactions, were observed. While we, at the within-person level, looked at whether the positive emotions are specifically higher at times when children and adolescents are in the company of others, we, at the between-person level, looked at whether children and adolescents who generally had more interactions during the data collection periods also had more positive emotions. Additionally, we observed that what more generally distinguishes young people who report higher happiness/positive emotions in connection with social contexts can more be entered as cross-level interactions.

Overall findings on the associations between positive emotionality and the four subgroups of social contexts (i.e., interactions with peers, teachers, family, or not being with someone) suggest that children and adolescents experience higher levels of positive emotionality during peer, teacher, and family interactions than when they are not being with someone. For example, several studies (e.g., Alarcón et al., 2020; Perez, 2011; Uink et al., 2016) showed that adolescents feel less happy when they are with no one than when they are with other people. Whereas one study indicated lower levels of positive affect when adolescents were with family than when they were with their peers (Alarcón et al., 2020),

another study suggested higher levels of happiness in adolescents when they were with their family than when they were at school (Perez, 2011). Two studies differed by reporting non-significant effects; these studies concerned interactions with peers (Csikszentmihalyi & Hunter, 2014) and teachers (Griffin et al., 2019).

Even if the multi-level associations vary, our findings indicate that positive emotionality in children and adolescents is dependent on the characteristics of the interpersonal contexts. More specifically, our findings indicate that not only seem children and adolescents who are in the moment socializing/interacting with others experience more positive emotions, but also that young people who generally have more interactions with someone have higher levels of positive emotions during interactions with others. Additionally, children and adolescents who reported being generally happier also seem to experience higher levels of positive emotions during interactions with others. Taken together, overall findings indicate that interacting/socializing with peers, teachers, and/or family is associated with higher levels of positive emotions in children and adolescents, compared to when they are not being with someone. Findings from the narrative synthesis thus agrees with findings published in related ESM studies, such as that being in company (compared to not being with someone) has a positive influence on wellbeing in youth (e.g., Hunter & Csikszentmihalyi, 2003).

Assessment of students' positive emotions: From retrospective to experience sampling measures

As ESM data enables analysis of how specific psychological experiences fluctuates over time as well as the contextual factors that influence that change (Hektner et al., 2007), use of established instruments for measuring positive psychological outcomes at the day-to-day level may expand our knowledge on the role of social factors (as predictors or facilitators) in various psychosocial processes such as stability and change in positive emotionality.

Furthermore, advantages of using ESM instruments in studies on school wellbeing and enjoyment include the possibility to assess how students interact over time, and to link the variations in positive emotionality to specific contexts.

Additionally, only three out of 14 studies reported between- or within-person variance for the positive emotionality variables (see Table 2). Nonetheless, with ICC (intraclass correlation coefficients) values at the within-person level ranging from 0.47 to 0.71 ($M = 0.56$, median = 0.51, $SD = 0.11$), substantial within-person variability in positive emotionality was indicated (i.e., on average 56% of the variance in positive emotionality variables was attributed to within-person change over time).

Limitations and Strengths

A few limitations are worth noting. Since the search terms for part I in our review study were focused on capturing social interactions (using search terms such as ‘social’, and ‘interpersonal’; see the online supplemental materials) thus not specifically/explicitly including positive emotionality variables in our search strategy, we may have missed relevant studies. However, as primary advantages of ESM include recording subjective experiences in specific contexts, we would like to argue that we, in the prequel of this study (see Mölsä et al., 2022), captured a broad range of expressions of emotional states that include various positive emotionality variables reflecting students' positive emotions and related experiences. Thus, the identified daily social interaction variables consisted of various positive emotionality outcomes and social contexts of peers, teachers, and family as well as lack of social company (i.e., not being with someone), that can explain variations and changes in positive emotionality.

The fact that all studies included in the present review are of intensive longitudinal designs allowed us to look at the association between positive emotionality outcomes and interpersonal contexts as experienced in the moment by children and adolescents in their

natural environments. Indeed, analyzing ESM data provides more information on individual differences and long-term variability, i.e., variation that occurs within individuals across time. However, only a fraction of studies provided between- or within-person variance, or ICC scores, for the positive emotionality variables (see Table 2). Therefore, we recommend that future ESM studies include such information, as it may provide valuable information on psychological and behavioral processes over time.

For example, higher ICCs states that more variance in a measure is due to stable factors, i.e., indicating that the phenomenon under study doesn't fluctuate much within an individual. Consequently, a high ICC value could raise additional/theoretical questions, possibly suggesting that frequent measurements are redundant. Lower ICCs, on the other hand, suggest that cross-sectional or non-intensive longitudinal designs might lose sight of intrapersonal processes or situational factors that influence the phenomenon. Hence, it's important to confirm that the variable of interest changes within persons, to check the suitability of frequent assessments (see Eisele et al., 2022).

This review focusing on positive emotions and related experiences in school students contributes to the research field of social interactions (in educational contexts) by not only confirming between stable differences in positive emotions but also by providing valuable insights into within-individual dynamics of positive emotions. While most studies in this review reported that students experience higher levels of positive emotions during momentary interactions (with peers, teachers, family), one study reported conflicting results (concerning teacher interactions). However, it's important to note that this review is based on only a handful of ESM studies on positive emotions and related experiences in school students. We expect that, as the ESM field continues to evolve, there will be room for more thorough reviews of the literature, such as a comprehensive systematic review, to, for example, examine moderator effects.

In sum, this review provides one of the first attempts to systematically analyze and evaluate ESM literature on school students' momentary experiences of positive emotionality in relation to various social contexts. Given our summarization and interpretation of this body of research papers, we recognize that the potential of designing an ESM study on (elements related to) students' social interactions lie in incorporating measures of both the context and the individual to, for example, investigate to what extent the effects of the surroundings are equal to all participants or if there are participant profiles reacting differently on the same surroundings.

Conclusion

Our review provides a qualitative synthesis of experience sampling studies addressing children's and adolescent's momentary experiences of interpersonal contexts and positive emotionality within and in connection to school settings. The overall findings indicate that positive emotionality is dependent on the characteristics of the social contexts (interactions with peers, with teachers, with family, not being with someone), although the multi-level associations vary. By exploring experience sampling data, nuances regarding change and stability in the link between positive emotionality and various social contexts among children and adolescents were observed. This review contributes to experience sampling research on/related to students' social interactions.

References

- Ainley, M., & Hidi, S. (2014). Interest and enjoyment. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *International handbook of emotions in education* (pp. 205–227). Routledge/Taylor & Francis Group.
- Alarcón, G., Morgan, J. K., Allen, N. B., Sheeber, L., Silk, J. S., & Forbes, E. E. (2020). Adolescent gender differences in neural reactivity to a friend's positive affect and real-world positive experiences in social contexts. *Developmental Cognitive Neuroscience*, 43, 100779. <http://dx.doi.org/10.1016/j.dcn.2020.100779>
- Algoe, S. B. (2019). Positive interpersonal processes. *Current Directions in Psychological Science*, 28, 183–188. <http://dx.doi.org/10.1177/0963721419827272>
- Bassi, M., & Fave, A. D. (2004). Adolescence and the changing context of optimal experience in time: Italy 1986-2000. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 5, 155–179. <http://dx.doi.org/10.1023/B:JOHS.0000035914.66037.b5>
- Bernstein, M. J., Zawadzki, M. J., Juth, V., Benfield, J. A., & Smyth, J. M. (2018). Social interactions in daily life: Within-person associations between momentary social experiences and psychological and physical health indicators. *Journal of Social and Personal Relationships*, 35, 372–394. <http://dx.doi.org/10.1177/0265407517691366>
- Cefai, C., Simões, C., & Caravita, S. (2021) A systemic, whole-school approach to mental health and well-being in schools in the EU. NESET report Luxembourg: Publications Office of the European Union. <http://dx.doi.org/10.2766/50546>
- Conner, T. S., Tennen, H., Fleeson, W., & Barrett, L. F. (2009). Experience sampling methods: A modern idiographic approach to personality research. *Social and Personality Psychology Compass*, 3, 292–313. <http://dx.doi.org/10.1111/j.1751-9004.2009.00170.x>

- Csikszentmihalyi, M., & Hunter, J. (2003). Happiness in everyday life: The uses of experience sampling. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 4, 185–199. <http://dx.doi.org/10.1023/A:1024409732742>
- Csikszentmihalyi, M., & Hunter, J. (2014). Happiness in everyday life: The uses of experience sampling. In: *Flow and the Foundations of Positive Psychology*. Springer, Dordrecht. http://dx.doi.org/10.1007/978-94-017-9088-8_6
- Csikszentmihalyi, M. & Larson, R. (1984). *Being adolescent: Conflict and growth in the teenage years*. Basic Books, New York.
- Csikszentmihalyi, M., & Larson, R. (1987). Validity and reliability of the experience-sampling method. *Journal of Nervous and Mental Disease*, 175, 526–536. <http://dx.doi.org/10.1097/00005053-198709000-00004>
- Ducharme, J., Doyle, A. B., & Markiewicz, D. (2002). Attachment security with mother and father: Associations with adolescents' reports of interpersonal behavior with parents and peers. *Journal of Social and Personal Relationships*, 19, 203–231. <http://dx.doi.org/10.1177/0265407502192003>
- Dunton, G. F., Liao, Y., Intille, S., Huh, J., & Leventhal, A. (2015). Momentary assessment of contextual influences on affective response during physical activity. *Health Psychology*, 34, 1145–1153. <http://dx.doi.org/10.1037/hea0000223>
- Eisele, G., Kasanova, Z., & Houben, M. (2022). Questionnaire design and evaluation: Intra-Class Correlation. In I. Myin-Germeys, & P. Kuppens (Eds.), *The Open Handbook of Experience Sampling Methodology: A step-by-step guide to designing, conducting, and analyzing ESM studies* (2 ed., p. 85). Leuven: Center for Research on Experience Sampling and Ambulatory Methods Leuven. <https://ppw.kuleuven.be/okp/esmhandbook.php>

- Ferráns, S. D., & Selman, R. L. (2014). How students' perceptions of the school climate influence their choice to upstand, bystand, or join perpetrators of bullying. *Harvard Educational Review, 84*, 162–187.
<http://dx.doi.org/10.17763/haer.84.2.h4883134101651mm>
- Griffin, A. M., Sulkowski, M. L., Bámaca-Colbert, M. Y., & Cleveland, H. H. (2019). Daily social and affective lives of homeless youth: What is the role of teacher and peer social support?. *Journal of School Psychology, 77*, 110–123.
<http://dx.doi.org/10.1016/j.jsp.2019.09.004>
- Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). *Experience sampling method: Measuring the quality of everyday life*. Sage, Thousand Oaks, CA.
- Herres, J., Caporino, N. E., Cummings, C. M., & Kendall, P. C. (2018). Emotional reactivity to daily events in youth with anxiety disorders. *Anxiety, Stress, and Coping, 31*, 387–401. <http://dx.doi.org/10.1080/10615806.2018.1472492>
- Jessup, G., Bundy, A. C., Broom, A., & Hancock, N. (2017). The social experiences of high school students with visual impairments. *Journal of Visual Impairment & Blindness, 111*, 5–19. <http://dx.doi.org/10.1177/0145482x17111100102>
- Jirout, J. J., Ruzek, E., Vitiello, V. E., Whittaker, J., & Pianta, R. C. (2023). The association between and development of school enjoyment and general knowledge. *Child Development, 94*, e119–e127. <http://dx.doi.org/10.1111/cdev.13878>
- Kaya, M., & Erdem, C. (2021). Students' Well-Being and Academic Achievement: A Meta-Analysis Study. *Child Indicators Research, 14*, 1743–1767.
<http://dx.doi.org/10.1007/s12187-021-09821-4>
- Keijsers, L., Boele, S., & Bülow, A. (2022). Measuring parent-adolescent interactions in natural habitats. The potential, status, and challenges of ecological momentary

- assessment. *Current Opinion in Psychology*, 44, 264–269.
<http://dx.doi.org/10.1016/j.copsyc.2021.10.002>
- Kiuru, N., Wang, M.-T., Salmela-Aro, K., Kannas, L., Ahonen, T., & Hirvonen, R. (2020). Associations between adolescents' interpersonal relationships, school well-being, and academic achievement during educational transitions. *Journal of Youth and Adolescence*, 49, 1057–1072. <http://dx.doi.org/10.1007/s10964-019-01184-y>
- Liao, Y., Skelton, K., Dunton, G., & Bruening, M. (2016). A systematic review of methods and procedures used in ecological momentary assessments of diet and physical activity research in youth: An adapted STROBE checklist for reporting EMA studies (CREMAS). *Journal of Medical Internet Research*, 18, e151.
<http://dx.doi.org/10.2196/jmir.4954>
- Madigan, D. J., & Curran, T. (2021). Does burnout affect academic achievement? A meta-analysis of over 100,000 students. *Educational Psychology Review*, 33, 387–405.
<http://dx.doi.org/10.1007/s10648-020-09533-1>
- Martikainen, P., Bartley, M., & Lahelma, E. (2002). Psychosocial determinants of health in social epidemiology. *International Journal of Epidemiology*, 31, 1091–1093.
<http://dx.doi.org/10.1093/ije/31.6.1091>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Medicine*, 6: e1000097. <http://dx.doi.org/10.1371/journal.pmed.1000097>
- Moneta, G. B., & Csikszentmihalyi, M. (1996). The effect of perceived challenges and skills on the quality of subjective experience. *Journal of Personality*, 64, 275–310.
<http://dx.doi.org/10.1111/j.1467-6494.1996.tb00512.x>
- Mölsä, M. E., Lax, M., Korhonen, J., Gumpel, T. P., & Söderberg, P. (2022). The experience sampling method in monitoring social interactions among children and adolescents in

- school: a systematic literature review. *Frontiers in Psychology*, 13, 844698.
<http://dx.doi.org/10.3389/fpsyg.2022.844698>
- Norwich, B., Moore, D., Stentiford, L., & Hall, D. (2022). A critical consideration of ‘mental health and wellbeing’ in education: Thinking about school aims in terms of wellbeing. *British Educational Research Journal*, 48, 803–820.
<http://dx.doi.org/10.1002/berj.3795>
- Papini, N. M., Yang, C.-H., Do, B., Mason, T. B., & Lopez, N. V. (2020). External contexts and movement behaviors in ecological momentary assessment studies: a systematic review and future directions. *International Review of Sport Exercise Psychology*, 1–31. <http://dx.doi.org/10.1080/1750984X.2020.1858439>
- Perez, R. M. (2011). Linguistic acculturation and emotional well-being in U.S. schools. *Journal of Human Behavior in the Social Environment*, 21, 888–908.
<http://dx.doi.org/10.1080/10911359.2011.588532>
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K., & Duffy, S. (2006). Guidance on the conduct of narrative synthesis in systematic reviews: Final report. Swindon: ESRC Methods Programme.
- Rathunde, K., & Csikszentmihalyi, M. (2005). The social context of middle school: Teachers, friends, and activities in Montessori and traditional school environments. *The Elementary School Journal*, 106, 59–79. <http://dx.doi.org/10.1086/496907>
- Ruzek, E., Jirout, J., Schenke, K., Vitiello, V., Whittaker, J. V., & Pianta, R. (2020). Using self report surveys to measure PreK children’s academic orientations: A psychometric evaluation. *Early Childhood Research Quarterly*, 50(Part 2), 55–66.
<http://dx.doi.org/10.1016/j.ecresq.2018.10.012>

- Sandstrom, M. J., & Cillessen, A. H. (2003). Sociometric status and children's peer experiences: Use of the daily diary method. *Merrill-Palmer Quarterly*, 49, 427–452. <http://dx.doi.org/10.1353/mpq.2003.0025>
- Shermoff, D. J., & Vandell, D. L. (2007). Engagement in after-school program activities: quality of experience from the perspective of participants. *Journal of Youth Adolescence*, 36, 891–903. <http://dx.doi.org/10.1007/s10964-007-9183-5>
- Shiffman, S., Stone, A. A., & Hufford, M. R. (2008). Ecological momentary assessment. *Annual Review of Clinical Psychology*, 4, 1–32. <http://dx.doi.org/10.1146/annurev.clinpsy.3.022806.091415>
- Steca, P., Bassi, M., Caprara, G. V., & Delle Fave, A. (2011). Parents' self-efficacy beliefs and their children's psychosocial adaptation during adolescence. *Journal of Youth and Adolescence*, 40, 320–331. <http://dx.doi.org/10.1007/s10964-010-9514-9>
- Söderberg, P., Korhonen, J., & Björkqvist, K. (2017). Psychosocial maladjustment at student and classroom level as indicators of peer victimization. *Violence and Victims*, 32, 842–857. <http://dx.doi.org/10.1891/0886-6708.VV-D-15-00166>
- Tavares, D., Freire, T., & Faria, S. (2020). Internal and external factors underlying variations in adolescents' daily optimal experiences. *Journal of Research on Adolescence : the Official Journal of the Society for Research on Adolescence*, 30, 266–284. <http://dx.doi.org/10.1111/jora.12522>
- Thomas, J., Harden, A., & Newman, M. (2012). Synthesis: combining results systematically and appropriately. In D. Gough, S. Oliver, and J. Thomas, eds. *An introduction to systematic reviews* (pp. 179–226). London: Sage.
- Uink, B. N., Modecki, K. L., & Barber, B. L. (2016). Disadvantaged youth report less negative emotion to minor stressors when with peers. *International Journal of Behavioral Development*, 41, 41–51. <http://dx.doi.org/10.1177/0165025415626516>

van Roekel, E., Ha, T., Verhagen, M., Kuntsche, E., Scholte, R. H., & Engels, R. C. (2015).

Social stress in early adolescents' daily lives: Associations with affect and loneliness.

Journal of Adolescence, 45, 274–283.

<http://dx.doi.org/10.1016/j.adolescence.2015.10.012>

Wang, M.-T., L. Degol, J., Amemiya, J., Parr, A., & Guo, J. (2020). Classroom climate and

children's academic and psychological wellbeing: A systematic review and meta-

analysis. *Developmental Review*, 57, Article 100912.

<http://dx.doi.org/10.1016/j.dr.2020.100912>

Weinstein, S. M., Mermelstein, R. J., Hedeker, D., Hankin, B. L., & Flay, B. R. (2006). The

time-varying influences of peer and family support on adolescent daily positive and

negative affect. *Journal of Clinical Child and Adolescent Psychology : the Official*

Journal for the Society of Clinical Child and Adolescent Psychology, American

Psychological Association, Division 53, 35, 420–430.

http://dx.doi.org/10.1207/s15374424jccp3503_7

Widlund, A., Tuominen, H., & Korhonen, J. (2021). Development of school engagement and

burnout across lower and upper secondary education: Trajectory profiles and

educational outcomes. *Contemporary Educational Psychology*, 66, 101997.

<http://dx.doi.org/10.1016/j.cedpsych.2021.101997>

Wieczorek, L. L., Mueller, S., Lüdtke, O., & Wagner, J. (2022). What makes for a pleasant

social experience in adolescence? The role of perceived social interaction behavior in

associations between personality traits and momentary social satisfaction. *European*

Journal of Personality, 36, 787–808. <http://dx.doi.org/10.1177/08902070211017745>

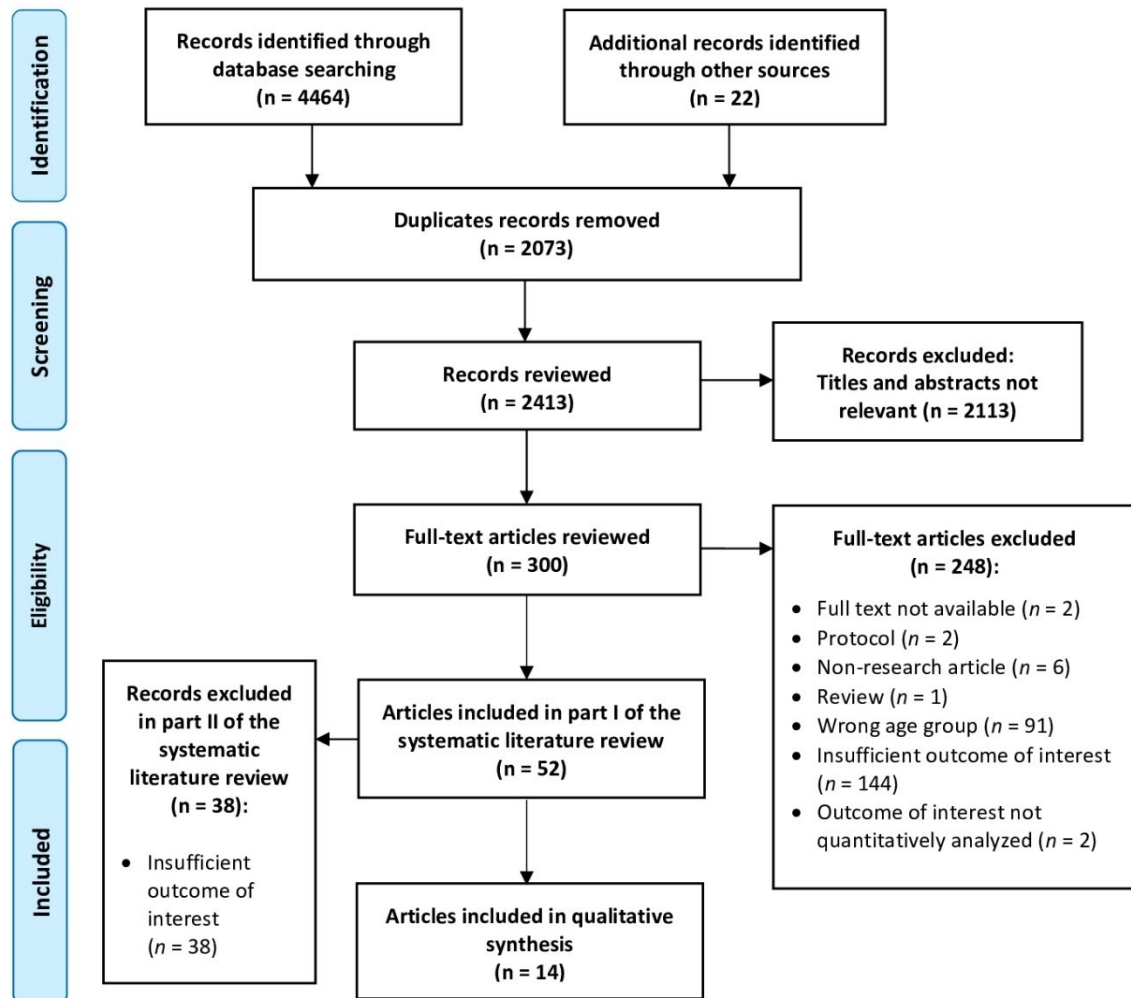
Zirkel, S., Garcia, J. A., & Murphy, M. C. (2015). Experience-sampling research methods and

their potential for education research. *Educational Researcher*, 44, 7–16.

<http://dx.doi.org/10.3102/0013189x14566879>

Figure 1

PRISMA flowchart indicating data inclusion/exclusion at each stage of the literature search procedure



Note. Source: (Moher et al., 2009).

Table 1*Characteristics of included studies (N = 14)*

Author(s), year	Study quality	Sample size	Mean age /Range	% Males	Format	Sampling scheme	Days	Compliance
Alarcón et al. (2020)	High	52	M = 16.2; R = N/A	45 %	Phone call	Time	10	86.5%
Tavares et al. (2020)	Medium	245	M = 16.6; R = 14–16	57 %	Electronic device + paper	Signal	7	On average: 61%
Griffin et al. (2019)	Medium	98	M = 17; R = 14–20	29 %	Smartphone	Time	10	93.5%
Herres et al. (2018)	High	68	M = 11.2; R = 6–17	50 %	Electronic survey	Time	8	On average: 53.5%
Jessup et al. (2017)	Medium	12	M = N/A; R = 13–17	50 %	Smartphone app	Signal	7	On average: 69%
Uink et al. (2016)	Medium	108	M = 14.7; R = 13–16	43 %	Smartphone	Signal	6	On average: 56.7%
Csikszentmihalyi & Hunter (2014)	Low	828	M = N/A; R = N/A (6 th , 8 th , 10 th , 12 th graders)	52 %	Wristwatch + paper	Signal	56	68.1%
Perez (2011)	Medium	796	M = N/A; R = N/A (6 th to 12 th graders)	42 %	Beeper + paper	Signal	7	83.3%
Steca et al. (2011)	Low	T2: 130	M = 17.2; R = N/A	50 %	Electronic device + paper	Signal	7	N/S
Shernoff & Vandell (2007)	Medium	165	M = N/A; R = N/A (8 th graders)	50 %	Beeper + paper	Signal	14	On average: 94%
Weinstein & Mermelstein (2007)	High	517	8 th grade: M = 13.9; R = N/A 10 th grade:	N/A	Palm pilot	Signal	7	85 %

M = 16; R = N/A								
Sandstrom & Cillessen (2003)	Medium	118	M = 10.7; R = 10–13	55 %	Paper	Time	7	73–89%
Ducharme et al. (2002)	High	105	M = N/A; R = 15–16	40 %	Paper	Time	7	70 %
Moneta & Csikszentmihalyi (1996)	Medium	208	M = N/A; R = 14–17	40 %	Beeper + paper	Signal	7	On average: 59%

Note. N/A = Not available. N/S = Not specified. Study quality was assessed using a modified version of the Checklist for Reporting of EMA Studies (CREMAS; Liao et al., 2016); studies with less than 6 out of 11 points were categorized as low quality, studies with 6.5–8.5 points as medium quality, and studies with more than 9 points as high quality. For a full description and discussion of the criteria used for the study quality assessment, see Mölsä et al. (2022).

Table 2

Between- and/or within-person associations between interpersonal contexts and positive emotionality (N = 14), as well as cross-level interactions

Reference	Positive emotionality variables	Within-person variability (ICC)	Association with interpersonal contexts				Cross-level interaction effects
			Peers	Teachers	Family	Not being with someone	
Alarcón et al. (2020)	Positive social experiences (happiness)	N/A	(B+)		(B+)	(B-)	
Tavares et al. (2020)	Positive affect	0.51	(CL+)		(CL+)		
Griffin et al. (2019)	Later-day positive affect	0.47	(B+) (CL+)	(B0) (CL0)			The predictor baseline peer support moderated the effect of early-day peer support on positive affect, indicating that students with high baseline peer support showed higher positive affect after early-day peer support. The interaction between baseline teacher support and early-day teacher support was statistically non-significant.
Herres et al. (2018)	Positive affect	N/A	(B+W+)	(B+W+)	(B+W+)		
Jessup et al. (2017)	Enjoying	N/A	(W)	(W)		(W)	
Uink et al. (2016)	Happiness	0.71	(T+)		(T+)	(T-)	
Csikszentmihalyi & Hunter (2014)	Happiness	N/A	(B0W+)	(W-)	(B+W+)	(B-W-)	

Perez (2011)	Mood (a composite of “happy,” “strong,” “active,” “sociable,” and “proud”)	N/A	(W+)	(W+) (CL+)	(W-)	The predictor language acculturation moderated the effect of social context on mood, so that low-acculturated adolescents had lower levels of emotional well-being when they are at school than when they are with family.
Steca et al. (2011)	Happiness	N/A	(T+)	(T+)		
Shernoff & Vandell (2007)	Engagement (a composite of “concentration,” “enjoyment,” and “interest”)	N/A	(W+)	(W+)		
Weinstein & Mermelstein (2007)	Positive affect	N/A	(B+)	(B+)	(B-)	
Sandstrom & Cillessen (2003)	Positive interactions (positive peer experiences)	N/A	(T+)			
Ducharme et al. (2002)	Positive valence	N/A	(W+) (CL)	(W) (CL+)		Attachment security to parents moderated the effect of social context on positive valence, so that adolescents who were securely attached to at least one parent reported higher positive valence in interactions with parents; however, there was no significant cross-level interaction on the effect of peer interactions on positive valence.
Moneta & Csikszentmihalyi (1996)	Happiness	N/A	(W+)	(W+)	(W-)	

Note. N/A = not available. ICC = intraclass correlation coefficient, 1-ICC represents the proportion of within-person variability. B = between-person level. W = within-person level. BW = between- and within-person level. T = total (unspecified) level. CL = cross-level interaction. + = statistically significant increase. - = statistically significant decrease. 0 = statistically non-significant effect.