

## Predictors of school affective engagement during elementary school: A systematic review

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School affective engagement has been extensively studied due to its role in students' adaptation and success. The present systematic review aims to examine the predictors and associated factors of school affective engagement in elementary school-age children (6-12 years old). This review examined empirical studies published between 1997 and 2017 selected on the basis of pre-defined criteria. Only eight studies were included in this review. The majority of the studies are quantitative and longitudinal presenting an adequate methodological quality. The results indicated a positive association between teacher-student support and student's school affective engagement. However, other relational predictors were less studied, specifically, peers and family factors. Concerning individual factors, studies were also limited in scope, but research examining the role of children's gender suggests that girls have higher levels of school positive affective engagement than boys. The scarcity of studies focused on predictors of school affective engagement during elementary school indicate that more studies on this topic are needed. Methodological constraints of the studies included are identified and suggestions for future research are made to further improve this area of research.

**Key words:** School affective engagement, Elementary school, Predictors, School adjustment.

### Introduction

The sense of belonging in school is a crucial positive experience in elementary school students' lives (Tian, Zhang, Huebner, Zheng, & Liu, 2016) and is associated with different educational and social outcomes (e.g., substance use, delinquency, academic success and motivation, and anti-social behaviors). However, despite empirical evidence highlighting the link between school affective engagement and students' positive adjustment, less is known about the predictors of school affective engagement, especially in elementary school, since most studies have been conducted with secondary/adolescent students.

#### *School affective engagement and child and youth outcomes*

Different expressions are used in the literature to describe student's emotional connection to school, such as school belonging, school attachment, school liking, and school bonding. This variability in the terminology has contributed to difficulties in the interpretation and generalization of empirical findings. Thus, some conceptual clarification and systematization is needed in this area of study.

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In the present review, school affective engagement (i.e., the degree to which students are emotionally connected to school) is used as a larger concept encompassing a variety of constructs, including school belonging, school emotional engagement, and school bonding. School belonging has been defined as feelings of connectedness to school or community, or feelings of inclusion and support in the school social environment (Jimerson, Dumas, & Greif, 2003). On the other hand, school liking or school emotional engagement refers to feelings about being in school as well as feelings of connection to school, teachers and peers (Pears, Kim, Fisher, & Yoerger, 2013). Finally, school bonding reflects the degree of closeness or attachment to school and commitment to conventional school goals (Eggert, Thompson, Herting, Nicholas, & Dicker, 1994).

School affective engagement has been related to different child and youth outcomes. In particular, it has been associated with academic success and motivation, playing an important role in achieving higher grades (Eccles, 2009; Neel & Fuligni, 2013). One possible explanation is that positive school affective engagement influences student's internalization of school norms and values and increases academic motivation (Furrer & Skinner, 2003).

Further, students who feel connected to school experience better social and behavioral adjustment in school (Abbott et al., 1998; Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004; Reddy, Rhodes, & Mulhall, 2003). For example, a study by Fernandes, Caldeira and Veiga (2014) conducted with a sample of adolescents (grades 7 and 10) observed a negative correlation between student's engagement in school (including affective engagement) and negative behaviors, suggesting that greater involvement is associated with less disruptive behaviors. In addition, a systematic meta-analysis investigated studies exploring associations between school affective engagement and suicidal thoughts and behaviors in youth (grades 6 to 12) (Marraccini & Brier, 2017). The results of this meta-analysis indicate that higher school connectedness is associated with less incidence of suicidal thoughts and behaviors.

Considering the association between school affective engagement and different dimensions of child's adjustment and school success, it is important to identify and better understand the predictive factors at the earliest ages. This would contribute to prevent situations that may affect children's emotional, cognitive, and behavioral development, through the elaboration of prevention programs that aim to improve school affective engagement, avoiding dropout, risky behavior, and school failure.

#### *Predictors of school affective engagement*

Another line of studies has examined predictors of school affective engagement. In particular, the importance of teacher support for student's engagement was reported by two recent meta-analyses.

Quin (2017) systematically reviewed studies that examined five indicators of adolescent (secondary or middle and high school) students' engagement in school – psychological engagement, academic grades, school attendance, disruptive behaviors/suspension, and dropping out – and their associations with teacher-student relationships (TSRs). The operationalization of psychological engagement in this review includes emotional and cognitive dimensions along the continuum of high and low engagement. From the 46 studies included, 22 cross-sectional studies and three longitudinal studies specifically investigated the associations between TSRs and psychological engagement. The results of 18 cross-sectional studies showed that higher quality TSRs were associated with enhanced psychological engagement in school, specifically teachers' practices (connective instruction, academic rigor, and lively teaching), expectations, and support. However, in what concerns longitudinal studies, two of the three longitudinal studies did not find associations between TSRs and changes in psychological engagement.

Another meta-analysis by Roorda, Koomen, Spilt and Oort (2011) examined associations between students' school engagement and achievement and affective qualities of TSRs. Although the authors conceptualize school engagement as a multidimensional construct (behavioral, emotional, and cognitive), they do not consider these different dimensions independently in the analysis conducted in the review. In this study, emotional engagement included positive and negative feelings and reactions to teachers, classmates, and school. Ninety-nine studies including students from preschool to high school were analyzed. Regarding the associations between TSRs and engagement, two separate analyses were conducted, one focusing on positive aspects of the TSR (for example, closeness) and another centered on the negative aspects of the TSR (for example, conflict). Sixty-one studies showed positive relationships between positive TSRs and engagement and 18 showed negative relationships between negative TSRs and engagement. Results also indicate that the effects of negative relationships between negative aspects of the TSR and engagement were stronger in primary than in secondary school. This result suggests that it is important to consider different age groups when examining the relationship between TSRs and student engagement.

In conclusion, the two reviews suggest that a higher quality TSR is associated with higher levels of engagement. However, it is important to highlight some limitations. First, only one of the reviews (Quin, 2017) distinguished between different components of school engagement, preventing more definitive conclusions about the specific predictors of school affective engagement. Second, most of the studies reviewed were cross-sectional. Third, an ecological approach considering predictors of different contexts is lacking, given that both reviews only examine teacher-student relationships as a predictor of school affective engagement.

A recent meta-analysis sought to examine the associations between different factors and school belonging as well as moderating variables of these associations (Allen, Kern, Vella-Brodrick, Hattie, & Waters, 2016). Studies included in this review comprised participants between 12 and 18 years of age, data collected in secondary school settings, and quantitative research methodology. Based on the ecological approach, this study considered several factors belonging to different systems (academic motivation, parent support, peer support, teacher support, emotional stability, personal characteristics, gender, race and ethnicity, extracurricular activities, and environmental/school safety variables). The analysis included 51 studies and 114 effects were derived. This review found a statistically significant association between all the predictors (academic motivation, parent support, peer support, teacher support, emotional stability, personal characteristics, and gender and environmental/school safety variables), except extracurricular activities and race/ethnicity, and school belonging. The strongest predictor of school belonging was teacher support ( $r=0.46$ ), followed by personal characteristics ( $r=0.44$ ), such as conscientiousness, optimism, and self-esteem. Students who had positive relationships with their teachers and had teachers who were caring, empathic, and fair tended to feel a greater sense of belonging than students who perceived a negative relationship with teachers. Regarding moderating variables, differences between rural and urban areas were observed, with effects generally stronger in the former (Allen et al., 2016).

This meta-analysis contributes to enlightening the knowledge of school affective engagement, by considering an ecological perspective in the study of its predictors. Nevertheless, the studies reviewed are limited to school affective engagement in adolescence. The present review aims to extend this knowledge by exploring the predictors of school affective engagement in elementary school-age children. Like Maddox and Prinz (2003), we consider that understanding the predictors of school affective engagement in earlier ages is important for prevention. Increasing school affective engagement with younger children may prevent school dropout and increase school adjustment, academic success, and motivation.

This systematic review aims to examine the associated factors and predictors of school affective engagement in elementary school-age children (6-12 years old) related to the different contexts

and relationships in which the child is inserted (teacher-student relationship, classroom, parent-child relationship, and peer relationships). The specific questions addressed were:

- 1) What personal and contextual factors have been studied in the prediction of school affective engagement in school-aged children?
- 2) Which study designs are most used in the investigations included in this review?
- 3) What are the specific characteristics of the samples considered in the studies?
- 4) What are the predictors of school affective engagement in elementary school-age children?

## **Method**

### *Eligibility criteria*

The review included retrieved articles meeting the following criteria: (1) empirical studies examining the predictors of school affective engagement, (2) studies including a sample of elementary school children, (3) studies published between January 1997 and July 2017, (4) studies written in English, and (5) studies that were peer reviewed. The following were exclusion criteria: (1) theoretical articles or editorials, (2) studies on subjects not related to school or education, and (3) articles that did not address predictors of school affective engagement despite being related to school or education.

### *Literature search*

The current review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) procedures and guidelines. The following electronic databases were searched to retrieve potentially relevant studies: PsycINFO, Complementary Index, Education Source, Academic Search Complete, Psychology and Behavioral Sciences Collection, ScienceDirect, PsycARTICLES, Business Source Complete, ERIC, and Emerald Insight. These databases comprise literature from several disciplines, including psychology, education, other social sciences, and health. The following descriptors were used as search terms: “school connectedness” OR “school belonging” OR “school engagement” OR “school attachment” OR “school bonding” OR “school commitment” OR “school involvement” OR “school membership” OR “school affiliation” OR “belonging to school” OR “student likes school” OR “school community” OR “school identification” OR “school belongingness” OR “school relatedness” OR “school bond” OR “school connection” OR “school acceptance” AND “empirical research” OR “empirical study” AND “primary school” OR “elementary school” NOT “secondary school” OR “high school” OR “adolescence” NOT “preschool” OR “kindergarten” and NOT “case study”. The search was expanded to the full text of articles.

### *Study selection*

A total of 423 articles were found from the online database search and independently evaluated by two of the authors. First, repeated references were excluded, reducing the number of articles to 290. Second, the articles were screened by title and abstract. Based on this screening, 96 articles were excluded, either because they were theoretical, editorials, or were not related to school or education. Then, by analyzing the titles and abstracts of the articles and considering the mentioned

inclusion criteria, articles were excluded if they did not cover the subject in question despite being related to school or education. This procedure eliminated 149 articles.

After the first screening, 45 articles were considered to be read in full by two of the authors and some were withdrawn for the following reasons: school affective engagement was included in the study as a predictor variable and not as an outcome; school affective engagement (or related constructs) was not directly measured; only behavioral dimensions of school engagement (and not school affective engagement) were included as outcomes; school affective engagement was measured just to select the sample; the study referred to the construction and validation of instruments/tests; or the study was about the impact of an intervention program on school outcomes (including school affective engagement).

A total of 8 articles were considered eligible and included in the current review being read and classified by two of the authors by consensus.

Figure 1 shows a diagram of the selection of the articles based on the inclusion and exclusion criteria.

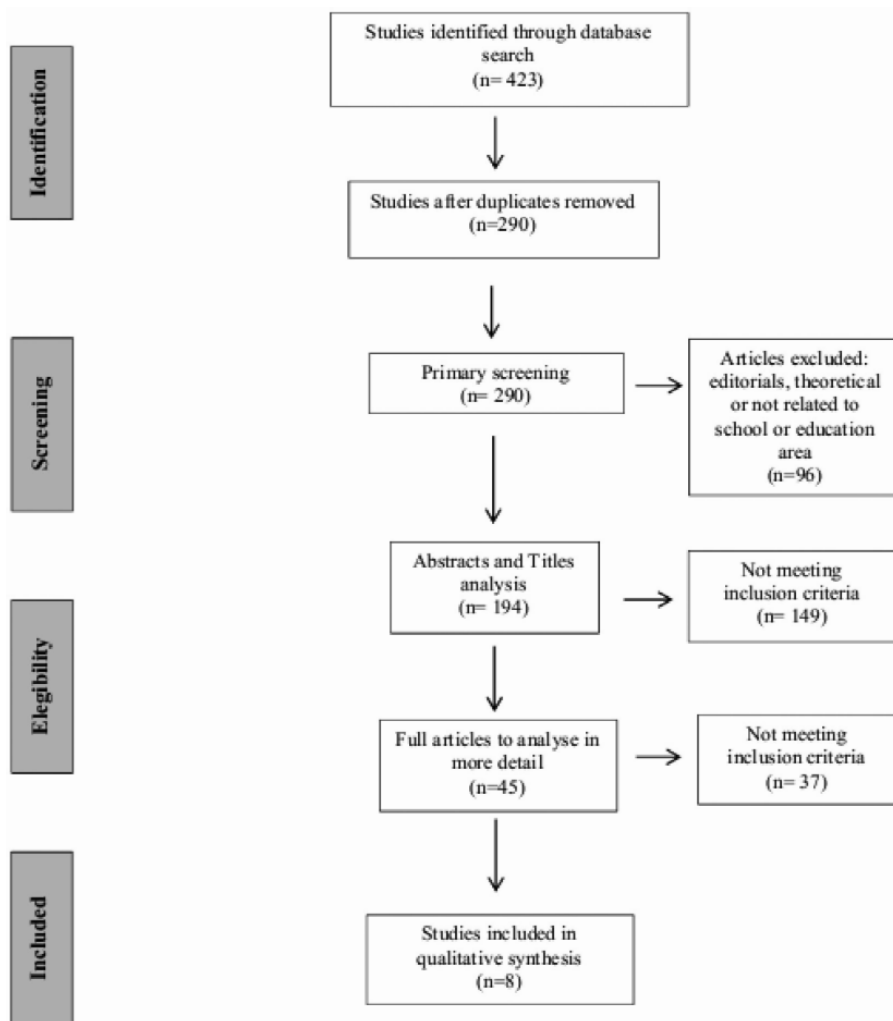


Figure 1. PRISMA diagram of the article search and selection process

### *Risk of bias analysis*

To assess the methodological quality of each study and the risk of bias in the studies we resorted to a group of selected criteria employed in a previous review (Owen, Parker, Van Zanden, MacMillan, Astell-Burt, & Lonsdale, 2016) based on the Strengthening the Reporting of Observational Studies in Epidemiology guide and the CONSolidated Standards of Reporting Trials, or CONSORT. Accordingly, the criteria employed were: (a) description of participant and eligibility criteria, (b) selection of schools and/or participants (sampling procedures appropriate and adequately described), (c) reliable assessment of the predictors of school affective engagement ( $\alpha$  of the measures equal or superior to .7 or detailed description in case of objective predictors, e.g., retention status), (d), reliable assessment of participant school engagement ( $\alpha$  of the measures equal or superior to .7), (e) power calculation reported and study adequately powered to detect hypothesized relations and (f) confounders adjusted for in analyzes (e.g., gender, age). Two researchers classified each criteria with a 1 (present and explicitly described) or 0 (absent or inadequately described), being the discrepancies discussed and resolved with the help of the third author. In this evaluation it was considered that studies had low risk of bias if they met at least 50% of the criteria.

## **Results**

The information from the selected studies is presented in Table 1.

In order to answer the study questions, the results of this review are presented in four main sub-sections: Individual and contextual predictors, Study design and population characteristics, Risk of Bias and Main results concerning the predictors of school affective engagement.

### *Personal and contextual factors studied*

In this section we describe the individual and contextual factors (school-related factors, family factors, peer relationships and individual factors) included as predictors in the studies. Six studies addressed school and teacher-student relationships as predictors of school affective engagement. Four studies (Gest, Madill, Zadzora, Miller, & Rodkin, 2014; Gruman, Harachi, Abbott, Catalano, & Fleming, 2008; Hughes, 2011; Hughes, Zhang, & Hill, 2006) included dimensions related to teacher-student relationships, such as teacher-student interaction quality (Gest et al., 2014), teacher support (Gruman et al., 2008), teacher perceived support (Hughes, 2011; Hughes et al., 2006), and teacher-student conflict (Hughes, 2011). Two studies explored other school-related factors, school mobility (Gruman et al., 2008) and retention (Im, Hughes, Kwok, Puckett, & Cerda, 2013). Only one study (Gruman et al., 2008) examined peer factors, specifically peer acceptance, as predictor variables of school affective engagement.

Regarding the family dimension, only Gruman et al.'s study (2008) included family factors as predictors, specifically family stress and low income.

At the individual level, the relationship between school affective engagement and gender was examined by three studies (Gest et al., 2014; Gruman et al., 2008; Hughes et al., 2006). Other individual predictors included in the studies were teacher ratings of antisocial behavior (Gruman et al., 2008), peer self-concepts, and student behavior (Morrison, Cosden, O'Farrell, & Campos, 2003). One study explored the influence of special educational needs status (Nepi et al., 2013) and adverse situations such as childhood maltreatment or foster care (Pears et al., 2013), in students' school affective engagement.



Table 1

*Information on selected articles (n=8)*

		Protocols/instruments				
Authors, year of publication and origin of the study	Study design	Participants	Study aims	Predictors	Outcomes	Main results
1. Morrison et al., 2003, USA	Longitudinal Moment 1: Fall sixth grade Moment 2: Spring fourth grade Moment 3: Fall sixth grade Moment 4: Spring sixth grade	n=57 Latino youth, 26 of whom were English-language learners and the rest of whom were English proficient. Grades 4 and 6	This study examined factors related to perceptions of school belonging in a sample of Latino elementary school students. Of particular interest was the issue of second language learners who experienced a cultural and language mismatch within many English-dominated schools.	Academic and peer self-concept School Functioning Student's behavior Problems/Acting-Out English proficient vs. English as a second language status	School belonging evaluated by the Psychological Sense of School Membership Scale.	In fourth grade, English language learners had a decrease in school belonging from fall to spring while their English-proficient classmates did not. This difference between English-language learners and their English-proficient classmates was not observed in sixth grade.  Peer self-concept and school functioning predicted fourth graders' sense of belonging while only peer self-concept predicted sixth graders' perceptions of school belonging.
2. Hughes et al., 2006, USA	Longitudinal sample recruited across two sequential cohorts in first grade during fall 2001 and fall 2002. Data for the study were collected in spring 2002.	n=509 Grades 1 and 2	The purpose of this study was to examine the joint and unique contributions of normative and individual teacher-student support on different outcomes, including children's sense of school belonging.	Individual teacher support Normative teacher support Majority or minority status	School belonging evaluated by a five item scale administered through interview	After controlling for gender and majority-minority status (ethnicity variable), neither individual teacher support nor normative teacher support appeared to be significant predictors of students' school belonging. Both gender and majority or minority status made unique contributions to predict the students' school belonging. Girls reported a higher sense of school belonging than boys. Majority status children (Caucasians) reported lower levels of school belonging than minority status children.
3. Gruman et al., 2008, USA	Longitudinal	n=1,003 Grades 2 to 5	Examined the effects of mobility during the elementary school period and how it may contribute to the process of disengagement with school.	Sex Low income Student's anti-social behavior Student's shy/withdrawn School changes Family stress Teacher's support Peer acceptance	Positive attitudes toward school evaluated by a four-item scale	Child's sex and initial anti-social behavior were significant predictors of fifth-grade positive attitudes toward school in the different models. Being male and having higher initial levels of anti-social behavior predicted declines in affective dimensions of school engagement. School changes did not predict declines in positive attitudes toward school. Peer support and teacher support were significant predictors of positive attitudes toward school. Teacher support had a particularly strong influence on positive attitudes toward school among children who had more school changes.

Table 1 (cont.)

		Protocols/instruments				
Authors, year of publication and origin of the study	Study design	Participants	Study aims	Predictors	Outcomes	Main results
4. Hughes, 2011, US	Longitudinal	$n=714$ At-risk third-grade students	Investigated the contributions of teacher and student perceptions of teacher-student relationship support and conflict to student academic self-views (school belonging and academic self-efficacy), behavioral engagement, and achievement controlling for the prior levels of these outcomes.	Gender Free lunch IQ Previous retentions Teacher-student relationship reported by the child and the teacher.	School belonging evaluated by the Psychological Sense of School Membership Scale.	Only child reports of the teacher-student relationship (but not the teacher reports) predicted significant school belonging. Teacher support was positively associated with a sense of school belonging, and teacher-reported conflict was negatively associated with a sense of belonging.
5. Im et al., 2013, USA	Longitudinal	$n=561$ Retained students ( $n=177$ ) Promoted students ( $n=384$ ) Grades 1 to 5	Investigated the effects of retention in grades 1 to 5 on different outcomes, including student-reported school belonging in middle school.	Grade retention	School belonging evaluated by the Psychological Sense of School Membership Scale.	There was no statistically significant difference between the retained and continuously promoted students regarding school belonging.
6. Pears et al., 2013, USA	Longitudinal	Maltreated children in foster care ( $n=95$ ) and a community group of low-socioeconomic status of non-maltreated children ( $n=54$ ) Grades 3 to 5	Examined group differences in early school engagement (behavioral, affective, and cognitive) between children in foster care and their non-maltreated, low-SES peers.	Foster care and maltreatment	Affective engagement evaluated by the Nine-item School Dislike Scale of the Seattle Personality Questionnaire.	Children in the foster care group had lower levels of affective and cognitive school engagement than non-maltreated children.
7. Nepi et al., 2013, Italy	Cross-sectional	$n=418$ Primary school students, aged 8-11 (special education needs students, $n=122$ ; typically developing students, $n=296$ ) $n=102$ special education needs students who filled the Belonging Scale	Examined the social position and the sense of belonging to school of special education needs students, included full time in ordinary school, compared to the social position and the sense of belonging of their typically developing classmates.	Student status: Special education needs students and typically developing students.	School belonging evaluated by the Belonging Scale, a simplified version of the Psychological Sense of School Membership Scale.	The special education needs students reported lower sense of belonging compared to typically developing classmates.
8. Gest et al., 2014, USA	Longitudinal	Teachers ( $n=54$ ) and students ( $n=1,063$ ) from first, third, and fifth grade	Examined the effects of teachers' management of the classroom peer social-interactions to student's adjustment/school belonging.	Time Gender Classroom level (grade level, gender composition, and classroom size) Teacher-student interaction quality Social dynamics management strategies	School bonding evaluated by the School Bonding Scale.	School bonding was significantly predicted by the interaction between time and gender. The normative decline in school bonding was attenuated when teachers provided high levels of responsive teaching or when teachers reported high efforts to mitigate status extremes. The interaction between responsive teaching and teacher attunement to friendship moderated changes in school bonding. In addition, the interaction between responsive teaching and attunement to victimization moderated changes in school bonding.



### *Study design and population characteristics*

With respect to the methods used, all studies were quantitative. Seven studies were longitudinal (Gest et al., 2014; Gruman et al., 2008; Hughes, 2011; Hughes et al., 2006; Im et al., 2013; Morrison et al., 2003; Pears et al., 2013) and only one was a cross-sectional study (Nepi et al., 2013). In one study, students were the only participants (Nepi et al., 2013), and two studies involved students, parents, and teachers (Gruman et al., 2008; Pears et al., 2013). Both students and teachers participated in the five remaining studies (Gest et al., 2014; Hughes, 2011; Hughes et al., 2006; Im et al., 2013; Morrison et al., 2003).

Some studies considered specific characteristics of their samples such as at-risk students (Hughes, 2011), maltreated children (Pears et al., 2013), Latino students (Morrison et al., 2003), and students with special educational needs (Nepi et al., 2013). All studies were conducted in the United States, with one exception (Nepi et al., 2013) that was conducted in Italy.

### *Risk of bias*

There was a high inter-rater agreement between the two raters (89.6%). In the cases where there was no agreement the discrepancies were resolved by consensus consulting the third author. According to criteria employed in this review, only two of the eight articles were rated as having a high risk of bias (see Supplementary Material). Also, five studies did not include a reliable measure of participant school affective engagement (alpha coefficient is  $<.7$  or not reported) and that seven studies did not include power calculation report. Only one article met all the criteria considered for this analysis.

### *Main results*

Only the main results of the studies related to school affective engagement will be mentioned. For easier reading and understanding, they will be grouped by types of predictors (school-related factors, family factors, and individual factors).

### *School-related factors*

Four studies examined the role of the teacher-student relationship/support (Gest et al., 2014; Gruman et al., 2008; Hughes, 2011; Hughes et al., 2006). Three studies showed significant effects of teacher-student relationship/support on school affective engagement. Hughes (2011) verified that teacher-student support was positively associated with sense of belonging and that a relationship of conflict between the teacher and the student was negatively associated with school belonging. Two studies found that teacher-student relationship/support seems to play a protective role on the decline of school bonding over the years and the negative effects of school mobility. Specifically, Gest et al. (2014) observed that the normative decline in school bonding/motivation diminished when teachers provided high levels of responsive teaching or when teachers reported high levels of efforts to mitigate status extremes, that is, to attenuate social status patterns (popular, well-liked, and influential vs. unpopular, disliked, and lacking influence) in their classrooms. In the study regarding longitudinal effects of student mobility (Gruman et al., 2008) results showed that teacher-student support exerts a strong influence on positive attitudes toward school among children who had more school changes. Contrary to these results, the study of Hughes et al. found that neither individual teacher support nor normative teacher support appeared to be significant predictors of students' school belonging.

Regarding other school-related predictors, Gruman et al.'s (2008) indicated that school changes did not predict declines in positive attitudes toward school. Regarding retention, no statistically difference was found between retained and continuously promoted students in what concerns school belonging. This finding may suggest that both groups shared similar patterns of student-reported school belonging in the transition year as well as before and after transition to middle school (Im et al., 2013). In addition, Morrison et al. (2003) showed that school functioning (adherence to school rules and tasks assessed by the teacher) predicted fourth graders' sense of belonging.

Finally, Gruman et al.'s study (2008) observed that peer acceptance was a significant predictor of positive change in the trajectories of positive attitudes toward school.

### *Family factors*

Gruman et al.'s study (2008) included family factors as predictors, such as family stress and income. No significant results were found regarding the influence of family stress on positive attitudes toward school. However, a study model that included child-level variables showed that low-income status was a significant predictor of declines in fifth-graders' positive attitudes toward school.

### *Individual factors*

The three studies examining the impact of student's gender in school affective engagement found significant mixed effects. Results indicated that girls perceive a higher sense of school belonging than boys during the first and second grades (Hughes et al., 2006) and boys suffer declines in positive attitudes toward school from second through fifth grades (Gruman et al., 2008). Additionally, Gest et al.'s results (2014) showed that levels of school bonding/motivation declined more for girls than for boys in the elementary school.

Concerning the other variables the effect of child's ethnicity variable was also examined in Hughes et al.'s study (2006). In their study, when gender and teacher support at the individual and classroom level were controlled the results showed that majority status children (Caucasians) reported lower levels of school belonging than minority children. Nepi et al.'s study (2013) observed that special education needs students perceived the lowest sense of belonging when compared to typically developing classmates; seemed less accepted and more peripheral within the class; and felt more distant from their school than their peers. Regarding the role of peer self-concept, the results of one study (Morrison et al., 2003) showed that a positive peer self-concept (student positive perceptions of their peer relations) significantly predicted a stronger sense of belonging in fourth and six graders.

Two studies analyzing children's behavior as a predictor of school affective engagement showed mixed results. In Gruman et al.'s study (2008) antisocial behavior was a significant predictor of less positive attitudes toward school, but in Morrison et al.'s study (2003) acting out (rated by teachers) was not a significant predictor of school belonging.

Finally, Pears et al.'s study (2013) observed that the experiences of early adversity in the form of maltreatment and foster care were negatively associated with affective engagement.

## **Discussion**

The present systematic review aimed to identify predictive factors contributing to school affective engagement in elementary school-age children (from 6 to 12 years old). Since most of

the studies were carried out with older children and other school grades, little is known about the predictors of school affective engagement at earlier ages. Considering the inclusion/exclusion criteria established for the current review, only eight studies were included.

In this review, school affective engagement included a variety of constructs related to student's emotional connection to school, being the construct of school belonging the most used in the studies reviewed. Nevertheless, other terms were also considered, such as school bonding and positive attitudes toward school. The variability of the terminology or the lack of a consistent operationalization of the constructs made it difficult to search for related articles and analyze and draw conclusions from the existing studies. Thus, clarification and systematization in this area of study is crucial.

In general, although studies analyzed different individual and relational predictors (class, teacher, peers, and child characteristics), the majority of studies examined the role of teacher-student relationship/support in school affective engagement. Other predictors, such as child's gender and peer's factors, were seen in fewer studies and there were no studies analyzing the impact of family relationships or family-school relationships. Given the importance and the positive impact of high-quality relationships between school and family in children's adaptation to school, academic performance, social competencies (Fantuzzo, Mcwayne, Perry, & Childs., 2004; Kohl, Lengua, & McMahon, 2000), and school affective engagement in adolescents (Uslu & Gizir, 2016), it was expected that the role of family would be more explored in elementary school children. Also, in Allen et al.'s meta-analysis (2016), positive significant associations between parental support and school belonging were found in adolescent students. Therefore, we consider that in the future, the impact of the parent-child relationship on school affective engagement during elementary school should be further examined.

Regarding the methodological quality of the studies included in the review, the analysis of risk of bias showed that the majority of the studies presented a low risk for bias. However, it was observed an important limitation in the majority of the studies, given that most of them did not include the power calculation report. In the future, studies on the predictors of school affective engagement should include the sample size calculation because this information is vital to assess if the study is sufficiently powered to detect significant associations between the study variables.

The fact that studies are mostly prospective and longitudinal allows us to analyze trajectories of children's school affective engagement over the years and to form a deeper understanding of the effect of school affective engagement predictors throughout the elementary school years. The results show that school affective engagement changes over time. Morrison et al.'s study (2003) found a decline in school belonging from fourth to six grades. Studies at other levels of education demonstrated this trend after sixth grade (Hernández, Robins, Widaman, & Conger, 2016), but this decline seems to stabilize during high school (Neel & Fuligni, 2013). Therefore, these results highlight the pertinence of studying specific predictors of school affective engagement for each developmental period.

In relation to the characteristics of the samples, many studies were conducted with special populations, including at-risk students, maltreated children, or students with special educational needs. The examination of school affective engagement in these populations is important since the bond with school can function as a protective factor for students exposed to adverse circumstances related to their status (Marraccini & Brier, 2017).

Consistent with previous literature examining school affective engagement in older youth (Allen et al., 2016; Quin, 2017; Roorda et al., 2011), a positive teacher-student relationship acted as a significant predictor in most of the studies and was positively associated with a student's school affective engagement. On the other hand, a conflicting relationship with the student was negatively related to the student's school affective engagement. In addition, in specific risk situations like

school mobility, for example, teacher support had a particularly strong influence on school affective engagement among children who had more school changes.

In this review, only one study examined the effect of peer relationships in school affective engagement, namely, peer acceptance. Considering that peer acceptance was predictive of school affective engagement (Uslu & Gizir, 2016), the influence of peer relationships on how the student feels about school should be emphasized and further investigated.

In the studies included in this review, few individual variables were examined. Studies focused on the role of gender suggest that girls have higher levels of school positive affective engagement than boys. These findings are consistent with studies conducted with adolescent samples (e.g., Goodenow & Grady, 1993; Hughes, Im, & Allee, 2015). A possible explanation for these differences may be related to the fact that adolescent girls feel a greater pressure to adopt stereotyped female and passive behaviors, given the social norms of the feminine role (Goodenow & Grady, 1993). However, results of a more recent study (Babakhani, 2014) indicated that girls and boys have different senses of school belonging, with boys ranking higher in the membership dimension and girls ranking higher in the acceptance dimension. The author explains these differences by noting that girls' higher acceptance scores are related to their commitment to school rules and norms, while boys use more self-regulated strategies (learning control belief, self-efficacy, meta-cognitive self-regulation, and seeking help) than girls.

Finally, the role of child behavior was explored in two studies. We only found one study demonstrating that the anti-social behavior in children predicted declines in positive attitudes toward school. We believe that in the future it is necessary to study the impact of behavior disorders and other types of behavior problems on school affective engagement. We also consider that other individual student variables such as self-efficacy and academic success should be accounted for in future studies of elementary school as possible predictors of school affective engagement. For example, Sari's study (2012) found that students who have higher academic achievement tend to have a higher sense of belonging compared to students with lower academic achievement.

## Conclusions

It should be emphasized that this literature review reveals the scarcity of studies examining the predictor of school affective engagement in children between the ages of 6 and 12 years. Only eight studies were analyzed in the final selection. These results demonstrate the need for further studies on this topic. However, it should be noted that the descriptors and databases used in the search may have restricted the number of articles found on the topic. Thus, the use of other databases is recommended in future studies.

Previous studies conducted with children and adolescents samples have shown that the involvement of teachers, parents, peers, and students themselves are essential for positive school affective engagement. In this review part of the studies examined the role of student's characteristics and relationships with teachers, but few focused on parents and peers' factors. It will be important in the future to conduct further research that includes parents and peers as potential predictors.

Recognizing the positive impact that school has on various educational and social outcomes (such as school success and lower aggressive behaviors) and knowing the predictive factors that promote positive school affective engagement is essential for guiding future approaches to promote the general welfare of students, prevent school dropout, and increase school adjustment, academic success, and motivation.

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### **Preditores do envolvimento escolar afetivo na infância: Uma revisão sistemática**

O envolvimento escolar dos alunos tem sido extensivamente estudado devido ao seu papel na adaptação e sucesso escolares. A presente revisão sistemática tem como objetivos analisar os preditores e fatores associados ao envolvimento escolar, no domínio afetivo, na infância (6-12 anos). Esta revisão analisa estudos empíricos publicados entre 1997 e 2017, os quais foram selecionados a partir de critérios pré-definidos. Somente oito estudos foram incluídos nesta revisão. A maioria são estudos quantitativos e longitudinais que apresentam uma qualidade metodológica adequada. Os resultados indicam uma associação positiva entre o apoio do professor e o envolvimento escolar afetivo. Verificou-se ainda a existência de outras variáveis relacionais menos estudadas como preditoras do envolvimento escolar afetivo, tais como fatores relacionados com a família e com os pais. Poucos estudos averiguaram o papel de fatores individuais, embora a investigação encontrada sugira que as raparigas têm níveis mais elevados de envolvimento escolar afetivo que os rapazes. A escassez de estudos focados nos preditores do envolvimento escolar afetivo durante a infância indica que é necessária mais investigação nesta área. São identificadas as limitações metodológicas dos estudos, sendo indicadas algumas sugestões para investigação futura.

**Palavras-chave:** Envolvimento escolar afetivo, Infância, Preditores, Adaptação escolar.

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