Title

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Journal

The Educational and Developmental Psychologist, 38(2)

ISSN

2059-0776

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Publication Date

2021-07-03

DOI

10.1080/20590776.2021.1964071

Peer reviewed

School Belonging Constellations Considering Complete Mental Health in Primary Schools

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Rhea Wagle, Erin Dowdy, Karen Nylund-Gibson, Jill D. Sharkey, Delwin Carter & Michael J. Furlong (2021) School belonging constellations considering complete mental health in primary schools, The Educational and Developmental Psychologist, DOI: 10.1080/20590776.2021.1964071

Pre-Print Copy

Abstract

The investigation of school belonging is crucial due to its established significant associations with mental health, academic achievement, and risky behaviors coupled with the limited research documenting the configurations of children's school belonging experiences. The current study explores school belonging in upper elementary school California students (N = 619). Latent profile analysis revealed the best fit for a three-profile solution: *Low School Belonging*, *Moderate School Belonging*, and *High School Belonging*. The majority of students were classified in the *Low* and *Moderate School Belonging* profiles. Demographic covariates indicated that female and Latinx students were more likely to experience high belonging than males and non-Latinx students. Concerning proximal outcomes, students in the *High School Belonging* profile reported higher psychological strengths and lower psychological distress. Practical implications include assessing and promoting school belonging more effectively in students, given the small percentage of students who perceive high levels of school belonging.

Keywords: school belonging, latent profile analysis, primary school students

School Belonging Constellations Considering Complete Mental Health in Primary Schools

Over the past several decades, research has shown that school belonging influences students' psychological and academic wellbeing. School belonging is associated with increased general adjustment and wellbeing (Frydenberg et al., 2009), increased academic motivation and persistence (Anderman & Anderman, 1999), higher prosocial behavior (Solomon et al., 1996), lower rates of delinquency and dropout (Finn & Rock, 1997), and less frequent negative emotions, such as depression (Millings et al., 2012). Moreover, studies report that students are more likely to be depressed when their school belonging needs are unmet (Millings et al., 2012). Overall, school belonging is fundamental to wellbeing and identity for individuals throughout the lifespan (Allen, 2020).

School belonging has been defined as "…the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment" (Goodenow, 1993, p. 80). Nevertheless, the construct of school belonging is imprecise and has been used interchangeably with various terms, including school membership, school connectedness, student engagement, and school attachment. Regardless of the term used, the meaning relates to students' mindsets about how they fit in and connect to the broader school community. This less-than-uniform terminology has led to differences in measurement and an inconsistent construct consensus. Some scales include items measuring rejection or the negative aspects of belonging (e.g., "It is hard for students like me to be socially accepted at school"). Other scales only measure its positive aspects (e.g., "I feel like a real part of my school;" Goodenow, 1993; Resnick et al., 1997). One measure, the Psychological Sense of School Membership Scale (PSSM; Goodenow, 1993) was designed as a unidimensional, with its membership construct including acceptance and rejection items. However, subsequent studies

found varied factor structures, including a bidimensional factor structure with acceptance items forming one factor and rejection items forming a second factor (e.g., Gaete et al., 2016). Similarly, O'Farrell and Morrison (2003) analyzed school belonging by conducting a factor analysis of students' responses to several measures of school belonging and found evidence for five factors, not including a rejection factor.

School belonging is studied broadly in secondary school settings, yet research is insufficient within primary school contexts. Research in elementary schools has focused on the importance of student-teacher and peer relationships (e.g., Drake et al., 2014). While these are both crucial aspects of school belonging, the overarching school belonging construct has not been studied widely with younger students. One study with younger students found that increased school belonging is related to decreased internalizing and externalizing behaviors in 289 primary school students in one urban school district in the northwestern United States (Murray & Greenberg, 2000). Other studies have theorized about differences in school belonging among younger versus older students. For example, Fredericks et al. (2005) posit that primary school students have higher school belonging due to structural variables such as smaller class sizes and one main classroom teacher. Nevertheless, school belonging and related terms meta-analyses have focused on middle and high school students (e.g., Allen et al., 2016), indicating the need for more research with younger students. This research is crucial because primary schools provide the foundation for all formal education. Students at this age are beginning to view themselves as part of the educational institution within the broader social context, a mindset they carry with them through secondary school and higher education. Concurrently, students in primary schools remain impressionable. Early intervention targeting school belonging could significantly influence school belonging mindsets, suggesting that it is a crucial age to study,

particularly when exploring school belonging, mental health, and psychological outcomes (e.g., Neil & Christensen, 2009).

The current study examines primary students' school belonging constellation mindsets. It further analyzes students' proximal complete mental health outcomes because of their known associations with academic success, feelings of distress, and self-harm or suicidality (Fergusson & Woodward, 2002). The overarching aim of this paper is to examine with primary students school belonging's contributions to complete mental health inclusive of both psychological strengths and distress.

Theoretical Underpinnings of School Belonging

The theoretical framework of belonging is rooted in seminal psychological theories, including Maslow's hierarchy of needs (Maslow, 1943) and self-determination theory (Ryan & Deci, 2000), both of which provide a foundation for belonging as a basic human need rather than merely a personal desire. Belonging was noted in Maslow's *hierarchy of needs*, a theory that posits that five basic needs are prerequisites to be met to achieve motivation and other higher needs (Maslow, 1943). For the school context, it is suggested that if a person's social needs are unmet, there is an inability to move on to higher needs, such as academic learning or growth. This assertion is supported by research documenting the importance of school belonging in educational outcomes, such as increased class effort and higher course marks (Goodenow, 1993), and lower dropout rates (Finn & Rock, 1997). Similarly, Ryan and Deci (2000) propose that relatedness to others, or belongingness, is a basic psychological need that must be met to increase motivation and drive. If these needs are unsatisfied in a student's educational setting, the student may experience diminished motivation, impaired development, isolation, and poor academic performance.

Additionally, attachment theory (Bowlby, 1969) provides a conceptual framework for understanding how relationships in the school setting meet core school belonging needs, thereby impacting psychological and academic well-being. Although attachment theory emphasizes infant and caregiver relationships, it can also be seen in early relationships between students and teachers. Hamre and Pianta (2001) researched attachment theory within the school context, specifically student-teacher attachment. According to Hamre and Pianta (2001), student-teacher attachment is an extension of parent-child attachment. Student and teacher relationships greatly influence students' social, emotional, and behavioral regulation at school.

Empirical Models of School Belonging

School belonging models encompass several concepts: teacher support, peer support, sense of affective belonging, general acceptance, and rejection perceptions. Teachers are critical school belonging contributors (Sakiz et al., 2012). For example, Chiu et al. (2015) conducted a large-scale international study with 193,073 15-year-old students from 41 countries. They found that teacher-student relationships had the strongest association with a sense of school belonging (Chiu et al., 2015). Similarly, a study conducted by Sakiz et al. (2012) confirmed that positive teacher affective support significantly influences school belonging. School belonging was related to teachers who "care for, value, and support them [students], whether students feel respected, encouraged, and listened to by their teacher, and whether students feel that their teacher is fair and holds high expectations" (Sakiz et al., 2012, p. 238).

School belonging is also associated with peer acceptance or support. For example, Wallace et al. (2012) conducted a study with students aged 14-20 across the United States. They found that perceptions of fitting in with peers or peer support were influential school belonging factors. When examining the relationship between school belongingness and academic

achievement, Booker (2004) found that perceived peer relationships were among the most significant influences on school belonging. Sociometric and peer nomination research identifies a two-dimensional peer support model that includes social preference (social likability) and social impact (degree to which peers notice children; Newcomb et al., 1993). These findings indicate that rejection and acceptance may form two distinct dimensions within the school belonging construct. Peer support, including acceptance and rejection, is essential to include within the school belonging construct.

An additional factor of school belonging is a general sense of inclusion within the school community, which can be observed as the affective nature of belonging. Belonging can be viewed as a "sense of reciprocity or exchange of feelings or beliefs between the individual and the group of interest…" (Mahar et al., 2012, p. 1029). Measures of school belonging usually include items such as "I feel like a real part of this school" and "I feel proud of belonging to this school" (PSSM; Goodenow, 1993). Sakiz et al. (2012) found that schools' positive affective climate significantly promoted academic enjoyment, self-efficacy, and effort. Feeling a sense of inclusion within a community is critical within the school belonging construct.

School Belonging and its Relation to Complete Mental Health

Due to school belonging's strong associations with mental health (e.g., Pittman & Richmond, 2007), the current study utilizes mental health as a proximal outcome to further understand how students' school belonging experiences impact their well-being and distress. Recent research has shown that mental health is composed of co-occurring positive and negative indicators and that a dual-continua model yields an expansive view of mental health (Huebner et al., 2007). This augmented view termed "complete mental health" (Furlong et al., 2014) is supported by research identifying multiple mental health groups encompassing psychological

strengths and distress (Suldo & Shaffer, 2008). Research findings have shown that school belonging is a protective factor against psychological distress and is significantly associated with psychological strengths or positive psychological outcomes (Pittman & Richmond, 2007). School belonging is linked with youths' increased happiness, self-esteem, social skills and reduced loneliness, depression, and anxiety (Lester et al. 2013). Multiple studies have examined school belonging's longitudinal impacts on youths' psychological distress across time, with findings that school connectedness levels were associated with decreased emotional distress and suicidality across age groups (Resnick et al., 1997).

While research investigating the positive psychological effects of school belonging exists, it is not as robust as research analyzing school belonging and psychological distress. Tian et al.'s (2015) cross-lagged structural equation model explored the longitudinal relationship between school belonging and subjective well-being. Findings indicated a significant bidirectional association between school belonging and subjective well-being. School belonging predicted subjective well-being, which, in turn, enhanced school belonging (Tian et al., 2015). Additionally, Arslan and Allen (2020) examined the associations of complete mental health and school functioning with Turkish students aged 10-14. Results indicated that complete mental health was associated with significantly higher levels of school connectedness. While these studies contributed to the gap in the literature regarding school belonging and complete mental health, further research is needed to explore psychological strengths and distress when considering a holistic understanding of mental health in primary school students.

The Current Study

School belonging is influential in students' complete mental health and wellbeing (Millings et al., 2012) and is considered a basic human need (Maslow, 1943; Ryan & Deci,

2000). Based on current understanding, the school belonging construct encompasses several areas, including acceptance and rejection, teacher relationships, peer relationships, and affective levels of belonging within the school community. Still, students' individual and variable experiences in each of these areas are relatively unknown. Exploring school belonging experience constellations among students will further refine the school belonging construct, including how it is measured and how to target it for intervention.

Understanding school belonging and its complete mental health associations within upper elementary school students remain unclear. Thus, this study identified school belonging profiles among Grade 4 and 5 students based on their perceived teacher support, peer support, affective sense of belonging, and acceptance and rejection in the school community. Subsequently, the study analyzed proximal complete mental health outcomes for the student profiles using psychological strengths and distress items to understand further the contributions of school belonging to complete mental health.

The current study aims to answer the following research questions: (a) What constellations of school belonging do fourth- and fifth-grade students experience? (b) How do constellations of students' school belonging experiences correspond to their concurrent self-reported psychological strengths and psychological distress (i.e., complete mental health)?

Method

Participants

The sample consisted of 619 fourth- (52.8%) and fifth-grade students (47.2%; $N = 619$) from six public schools in one California school district. Demographics for the sample indicate that gender was split evenly between boys (49.3%) and girls (50.4%). Participant-identified ethnicity was 38.0% Caucasian/White, 20.2% Hispanic/Latino/a/Mexican, 5.5% Asian

American, 8.6% Native American or American Indian, 3.6% Black or African American, 1.3% Pacific Islander, 20.4% Other (including multiracial), and 2.6% declined to respond. For this study, the race/ethnicity was a binary variable (a) White and non-White and (b) Latinx and non-Latinx because they accounted for the largest percentage of students. When comparing the populations within each of the six schools, gender proportions did not exhibit significant differences. Similarly, there were no significant differences in the White and non-White race/ethnicity variable. However, there were significant differences in the Latinx and non-Latinx race/ethnicity variable between the six schools. Some schools reporting higher proportions of Latinx students than other schools, and limitations of this are discussed below.

Measures

School Belonging

Items from a modified version of the *Psychological Sense of School Membership Scale* (PSSM; Goodenow, 1993) measured students' school belonging levels. The original PSSM is an 18-item self-report questionnaire with a five-point response scale (1 = *not at all* and 5 = *completely true*) intended for secondary school students. The original version consists of 13 positively and five negatively worded items. Initially validated on one suburban and two urban populations, items were positively correlated with academic success and motivation (Goodenow, 1993). Other research has found that the PSSM is negatively correlated with emotional distress and behavioral problems (Shochet et al., 2006).

Before data collection for the study, two modifications were made to the scale to be more developmentally appropriate for the younger students. First, the original five-point response scale was modified to a simplified four-point response scale in a yes/no format (1 = *no, never,* 2 = *yes, some of the time*, 3 = *yes, most of the time*, 4 = *yes, all of the time*) to reduce the cognitive

burden for primary school students. Second, the items were modified into question form rather than the original statement form. Questions, as opposed to statements, are considered more developmentally appropriate (Woolfolk, 2004). This format change did not change the content of the original items: (e.g., original item = "People at this school are friendly to me"; modified item = "Are people at this school friendly to you?"). The modifications are consistent with another PSSM study with primary school students and were found to be psychometrically sound (Wagle et al., 2018).

In the current study, average scores were created within each school belonging area (i.e., a general sense of acceptance, a general sense of rejection, a sense of affective belonging, a sense of peer support, and a sense of teacher support). These variables reflect the five fundamental aspects of school belonging identified in this study's theoretical and empirical foundations. The highest correlation between variables was .78, indicating that the items did not display multicollinearity (Berry & Feldman, 1985). This selection of variables is consistent with best practices of conducting latent profile analysis so that the input variables are theoretically meaningful, thus avoiding "garbage in/garbage out" issues (Stanley et al., 2016). Internal consistency for the current sample was Ω = .82; C.I. = .79 to .84.

Psychological Strengths

The cross-sectional outcomes of students' self-reported psychological strengths were measured by the *Social Emotional Health Survey – Primary* (SEHS-P; Furlong et al., 2013). The SEHS-P is a 24-item self-report survey on a four-point response scale: (1 = *no, never*, 2 = *yes, some of the time*, 3 = *yes, most of the time*, 4 = *yes, all of the time*) that measures primary students' self-reported social emotional strengths. The factor structure is comprised of five interrelated factors: *Gratitude*, *Optimism*, *Zest*, *Persistence*, and *Prosocial Behavior* (Furlong et

al., 2013). The first four factors form an overall covitality score. Covitality is the co-occurrence of psychological strengths. Studies assessing psychometric properties report adequate internal consistency and good factor model fit (e.g., Furlong et al., 2013). For this study, a mean covitality score measured overall psychological strengths. As measured by Omega, the current sample's internal consistency is Ω = .91 (C.I. = .90 to .92).

Psychological Distress

The *Me & My School Questionnaire* (M&MS; Deighton et al., 2013) was used as the measure of students' psychological distress. The M&MS is a 16-item self-report distress measure for use with children ages 8-12 years old. It has a 10-item *emotional difficulties* scale (e.g., "I feel lonely") and a six-item *behavioral difficulties* scale (e.g., "I break things on purpose") on a three-item response scale: 1 = *never*, 2 = *sometimes*, and 3 = *always*. Deighton et al. (2013) found good internal consistency and high external validity for emotional difficulties and behavioral difficulties. The measure also had a two-factor solution in England: emotional difficulties and behavioral difficulties (Deighton et al., 2013). We computed a mean emotional difficulties score (Ω = .83; C.I. = .75 to .91) and a mean behavioral difficulties score (Ω = .76; C.I. = .69 to .84) for each participant.

Procedure

In the fall of 2017 and 2019, data were collected from four elementary schools in a California school district as part of a partnership emerging from a longitudinal grant investigating a social-emotional health survey. All students in Grades 4 and 5 were selected for participation. The schools employed the use of active parental consent and student assent. Surveys were completed via computers or tablets. Consent, assent, and the student survey were offered in English and Spanish. Classroom teachers proctored the survey administration and

were provided with a script to read, explaining the nature of the survey to all students. Teachers were available to answer questions. Students were asked: "I am a ____," with response options: "boy" and "girl," and "What is your cultural group or ethnicity?" to measure gender and race/ethnicity.

Statistical Analyses

Data quality review procedures included removing students who did not provide assent (n = 65), provided invalid student IDs or had duplicate survey submissions (n = 114), or missed several items, such that they appeared to stop taking the survey (n = 16). Latent profile analysis (LPA) with Full Information Maximum Likelihood (FIML; Enders, 2001) using Mplus version 7.4 (Muthén & Muthén, 1998-2015) explored the underlying school belonging latent profiles. One advantage of LPA with FIML is that it includes participants with missing responses (Masyn, 2013), assuming missing at random (MAR). The model building process is iterative. A series of LPAs with different numbers of estimated profiles evaluate the best fitting model by comparing the model fit information and substantive interpretation of each model (Nylund et al., 2007). Finally, the proximal outcomes of psychological strengths and psychological distress were estimated after controlling for the direct effects of self-reported gender and race/ethnicity variables.

Since LPA profiles can vary in indicator means, variances, and covariances (Masyn, 2013), different variance-covariance model structures were considered. Whether the indicator variances and covariances are held equal or are allowed to be freely estimated might impact class enumeration and interpretability (Masyn, 2013). Thus, two model structures were examined. In Model 1, indicator variances are constrained to be equal across profiles with covariances between indicators fixed to zero (i.e., *class-invariant, diagonal*). In Model 2, indicator variances

are allowed to be freely estimated and are not constrained to be equal with covariances between indicators fixed to zero (*class-varying, diagonal*). We assume that the underlying profiles account for all of the shared variance between indicators; both structures hold covariances between indicators to zero.

The LPA models were analyzed by systematically increasing the number of latent profiles by examining the fit statistics for one through six profiles. This process identifies the model that best describes the heterogeneity in the indicators (Masyn, 2013; Nylund et al., 2007). Model fit was determined by examining fit statistics and substantive meaning. The estimated models were compared using the Bayesian Information Criterion (BIC), Adjusted BIC (ABIC), Bayes Factor (BF), correct model probability (cmP), Lo-Mendell-Rubin likelihood ratio test (LMR-LRT) and Bootstrap Likelihood Ratio Test (BLRT). Lower values of BIC and AIC indicate better model fit; significant *p*-values for LMR-LRT and BLRT indicate better model fit for the *K-1* model rather than the *K-class* model, and the model with the largest cmP value indicates the best fitting model. In addition to the fit statistics, the final model should support the theoretical framework of school belonging and holds substantive meaning and clarity regarding the construct of school belonging (Muthén, 2003).

After the final model was selected, covariates (gender and race/ethnicity) and proximal complete mental health outcomes (psychological strengths and psychological distress) were added to the model using the manual three-step approach (Nylund-Gibson & Masyn, 2016). This approach controls the direct effects of the demographic variables on the proximal outcomes. It allows the model to remain stable so that the covariates and proximal outcomes do not change the latent profiles (Nylund-Gibson et al., 2014).

Results

Constellations of School Belonging

LPA models ran iteratively, starting with a one-profile model and ending with a six-profile model using the school belonging items as indicators. The class-invariant, diagonal (Model 1) and class-varying, diagonal (Model 2) model structures were estimated. Table 1 presents information on the average responses on the school belonging indicators, covariates, and proximal outcomes of complete mental health. Table 2 presents the fit statistics used to evaluate the best fitting model. After examining the results, we determined that the three-profile class-varying diagonal model (Model 2) fits best based on the values of BIC (4914.35), cmP (.99), and BF (407.48). While the five-profile class-invariant diagonal model had a minimally lower BIC value (4912.13) and support for the BF (37.34) and cmP (1.00) values, an examination of the profile prevalence proportions suggested that the additional two profiles explained variance in a small percentage of students (6%, n = 38 and 9%, n = 58). Additionally, class-invariant, diagonal models are highly restrictive, forcing more profiles than necessary to explain the indictors' variation. In this instance, the two additional profiles did not appear to be meaningful. Thus, the three-profile class-varying diagonal model appeared to be the most parsimonious. Additionally, the model showed good classification with an overall entropy value of .82, suggesting high precision of participants' classification (Clark & Muthén, 2009) and average posterior probability values for each of the three profiles (.91 to .95; Masyn, 2013).

Results from the best fitting model produced ordered profiles. After examining the profile plots of the estimated mean values for each school belonging indicator (see Figure 1), labels were created for the three emerging profiles. The *High School Belonging* (16.1%) profile had the highest mean values on affective sense of belonging, general acceptance, peer support, and teacher support; and the lowest mean value on the general sense of rejection. The *Moderate*

School Belonging (50.3%) profile exhibited moderate mean values of each positive belonging indicator and a low mean value of the general sense of rejection. The *Low School Belonging* (33.6%) profile exhibited the lowest levels of each positive indicator of belonging and a moderate general sense of rejection. The largest percentage of students (50.3%) were in the *Moderate School Belonging* profile, while a substantial number of students fit in the *Low School Belonging* profile (33.6%). Interestingly, the lowest percentage of students fit in the *High School Belonging* profile (16.1%).

Inclusion of Covariates: Gender and Ethnic Differences in Constellations of School Belonging

The manual three-step approach examined gender and ethnicity as covariates using the optimal three-profile class-varying, diagonal model. The latent profile variable was regressed onto the dichotomous covariates of gender and ethnicity using the *High School Belonging* profile as the normative comparison group. Specifically, two covariate comparisons were analyzed: (a) the likelihood of being in the *Moderate School Belonging* profile versus the *High School Belonging* profile and (b) the likelihood of being in the *Low School Belonging* profile versus the *High School Belonging* profile for each covariate. Table 3 includes the logits, standard errors (SEs), *p*-values, and odds ratios for each gender and ethnicity covariate included in the model.

Compared to the *High School Belonging* profile, female students were significantly less likely to be in the *Low School Belonging* profile than male students (logit = -.63; $p = .02$). Similarly, compared to the *High School Belonging* profile, female students were significantly less likely to be in the *Moderate School Belonging* profile than male students (logit = -.52 $p = .06$); this difference was nonsignificant. No significant differences were seen for White students and non-White students when comparing all profiles. However, for the Latinx vs. non-Latinx

variable, Latinx students were significantly less likely to belong to the *Moderate School Belonging* profile than non-Latinx students, compared to the *High School Belonging* profile (logit = -.88, $p = .01$). No other significant differences were found for gender or ethnicity.

Constellations of School Belonging and Complete Mental Health Differences

The final step of the analysis included examining the associations between latent profiles and mental health outcomes. Specifically, class-specific means of psychological strengths and psychological distress were estimated for each of the latent profiles, at the average of the gender and ethnicity covariates.

First, an omnibus test of association was conducted between the latent profile variable and the three proximal outcomes and found to be significant indicating significant relations between the profiles and psychological strengths, $\chi^2 = 314.21$, $df = 2$, $p < .01$, and both aspects of psychological distress: emotional, $\chi^2 = 132.33$, $df = 2$, $p < .01$, and behavioral difficulties, $\chi^2 = 72.39$, $df = 2$, $p < .01$.

To understand where class differences occurred, pairwise tests were examined. Results indicated that all pairwise comparisons were significantly different for all three distal outcomes. Precisely, students in the *High School Belonging* profile had significantly higher psychological strengths than students in the *Moderate School Belonging* and *Low School Belonging* profiles. Students in the *Moderate School Belonging* profile reported significantly higher psychological strengths than students in the *Low School Belonging* profile. Concerning psychological distress, students in the *High School Belonging* profile reported significantly lower emotional and behavioral difficulties than students in the *Moderate* and *Low School Belonging* profiles. Students in the *Moderate School Belonging* profile reported significantly lower emotional and behavioral difficulties than students in the *Low School Belonging* profile. For students in all

profiles, emotional difficulties were slightly higher than behavioral difficulties.

Differences in mental health were also based on the covariates of gender and ethnic identification. Female students reported higher psychological strengths ($p = .01$) and emotional difficulties ($p < .001$) than males. Gender differences for behavioral difficulties were nonsignificant ($p = .165$). White students reported lower emotional difficulties than non-White students, though this difference was nonsignificant ($p = .069$). Latinx students did not significantly differ on self-reported mental health indicators from non-Latinx students. Table 4 presents the class-specific means, standard errors, and *p*-values for each latent profile with demographic covariates held constant.

Discussion

Previous school belonging research has showcased school belonging's fuzzy boundaries, including its factors, such as teacher or peer support (Gaete et al., 2016). Similarly, much of the school belonging literature has focused on secondary school students and used deficit-focused assessments to test mental health associations (Allen et al., 2016). The current study (a) examined the constellations of school belonging in primary school students and (b) analyzed how the emerging constellations correspond to concurrent self-reported psychological strengths and psychological distress.

Constellations of School Belonging

Concerning the first study question, results indicated support for a three-profile solution for students' constellations of school belonging: *High, Moderate,* and *Low School Belonging.* The smallest number of students (16%) were classified into the *High School Belonging* profile, indicating that most students tended to experience *Moderate School Belonging* (51%) and *Low School Belonging* (33%). Regrettably, a third of students experienced low school

belonging levels, a finding inconsistent with previous literature that primary school students tend to experience high levels of school belonging due to increased perceived teacher support (Fredericks et al., 2005). This finding indicated that a substantial minority of primary school students reported feeling a lack of acceptance (low to moderate) and moderate rejection.

Examining the profiles in more detail (see Figure 1), students in all profiles presented a relatively higher experience of affective belonging and teacher support than other positive indicators (i.e., a general sense of acceptance and peer support). Sense of affective belonging is conceptualized as a general sense of inclusion within the school community, or a "sense of reciprocity or exchange of feelings or beliefs between the individual and the group of interest…" (Mahar et al., 2012, p. 1029). It is particularly noteworthy that the sense of affective belonging indicator was reported higher across all profiles than was the general sense of acceptance indicator, which focuses less on affect and emotion. However, these differences are subtle and warrant additional research to understand whether students can feel a significantly higher affective sense of belonging than other school belonging indicators. Students across all profiles reported high levels of teacher belonging as compared to other indicators. This teacher support finding is consistent with previous research indicating that primary school students tend to experience high levels of teacher belonging associated with interacting with the same teacher throughout the school day and engaging in experiential learning (Fredericks et al., 2005). Peer belonging was notably lower for the *Low School Belonging* profile, indicating that they felt less support from their peers than their teachers. For these students, teacher support may act as a buffer, leading to less detrimental effects for the proximal outcomes than would have been seen if teacher support had been lower. This is consistent with previous teacher support findings—it can buffer against adverse outcomes (Sakiz et al., 2012).

The general sense of rejection was low for students in the *High* and *Moderate School Belonging* profiles. The averages for the indicator in each of these profiles (M = 1.53 and M = 1.64, respectively) were similar to the *Low School Belonging* profile, which reported higher rejection (M = 2.22). These findings are similar to the sociometric literature—students experiencing rejection are often not liked or noticed by peers (i.e., do not feel a sense of belonging; Newcomb et al., 1993). It is unclear whether this is a causal relation (i.e., students feel rejected *because* they feel a low sense of belonging). The literature would benefit from further analysis of rejection as a critical factor within school belonging.

In general, these school belonging profiles suggest that students classified in a particular profile tend to experience relatively comparable levels of each positive indicator of school belonging and a corresponding opposite level of rejection. There was less variation in each profile than expected, particularly for the positive school belonging indicators. Students who perceived low levels of peer belonging tended to experience low levels of sense of affective belonging, general acceptance, and teacher belonging. Further research is needed to replicate these findings with larger samples to evaluate whether school belonging profiles are generally ordered with similar experiences of each factor across each profile.

Gender and Ethnic Differences in Constellations of School Belonging

Demographic dichotomous covariates of gender (i.e., female vs. male) and race/ethnicity (i.e., White vs. non-White and Latinx vs. non-Latinx) were included to explore their association with the latent profiles. Using the *High School Belonging* class as a reference group, the gender and race/ethnicity effects were analyzed for each profile. Results indicated that female students had a greater likelihood of being in the *High School Belonging* profile than males. This finding replicates other studies that found girls consistently reported higher school belonging than boys

in middle and high school (e.g., Hughes et al., 2015).

Concerning racial/ethnic differences, in reference to the *High School Belonging* profile, Latinx students were less likely to be in the *Moderate School Belonging* profile than non-Latinx students. Compared to the *Moderate* profile, Latinx students had a greater likelihood of being in the *High School Belonging* profile. However, there were no significant differences for Latinx students in the *Low* and *Moderate School Belonging* profiles or the *Low* and *High School Belonging* profiles. This finding indicates that Latinx students may have experienced polarization, where they fell disproportionately into either the *Low* or *High School Belonging* profiles relative to non-Latinx students. Previous studies found that Latinx students can experience perceived discrimination from peers and teachers, contributing to a lower sense of school belonging (Brown & Tam, 2019), explaining why Latinx students were classified into the *Low School Belonging* profiles. Other research has found that teachers can contribute to Latinx students' increased school belonging by presenting a sense of authentic caring (Newcomer, 2017). Perhaps the Latinx students classified into the *High School Belonging* profile perceived authentic caring from their teachers. Latinx students' polarization may also have been due to other individual factors, such as socioeconomic circumstances and English Language Learner status (Shi & Watkinson, 2019). It would be beneficial for future studies to consider multiple, nonbinary gender and ethnic groups to refine information about the associations between personal and cultural identification and school belonging. Another explanation for the difference in experiences amongst Latinx students may be related to school-level experiences. For example, school resources, segregation within schools, having certified and credentialed teachers and having teachers from the same racial/ethnic and cultural backgrounds as the students could impact their school belonging (Taggart, 2018). Future research should scale up the study of

school belonging to include enough schools to study school-level variables using techniques such as hierarchical linear modeling, particularly considering differences across schools in the current study.

Constellations of School Belonging and Complete Mental Health Differences

In answering the second study question, complete mental health outcomes were included in the model to understand better its association with school belonging profiles. As expected, the *High School Belonging* profile corresponded to the highest level of psychological strengths and the lowest level of psychological distress (both emotional and behavioral). Similarly, the *Low School Belonging* profiles corresponded to the lowest psychological strengths and the highest distress levels. However, the range for psychological strengths and psychological distress was limited, indicating that students in all profiles experienced moderate to high levels of psychological strengths and moderate to low levels of distress. Students in this sample did not tend to experience extremely high levels of distress or deficient levels of strengths regardless of their school belonging profile.

Analyses also examined the association of demographics with psychological strengths and distress. Female students tended to report higher psychological strengths and emotional difficulties across all profiles than male students. These findings are consistent with previous studies, which indicated that females reported higher levels of morbidity, particularly more mental health difficulties than males (Hibbard & Pope, 1986). However, it is interesting that female students reported both higher distress and strengths. Results may be due to female students experiencing the expectations of gender roles, including being more emotional and perceiving more acceptance in disclosing emotions (Toussignant et al., 2009). Future studies can analyze gender effects on mental health symptoms, particularly positive mental health indicators.

Implications for Research and Practice

This study contributes to a growing body of research to understand school belonging and its associations for all students. Results indicate that students experience school belonging across three different ordered profiles. The resulting profile sizes indicate that the largest number of students fall into the *Moderate* and *Low School Belonging* profiles. These important findings indicate that only a small percentage of primary school students experience high school belonging levels. This supports the need for effective school belonging interventions in elementary school and the need for additional work to understand how primary schools can increase their students' perceived school belonging.

The current study also sought to understand whether specific school belonging indicators were more critical or variable than others. The ordered profiles relatively constant across indicators suggested that all may be equally important. This finding means that school belonging interventions might fruitfully focus on several aspects of school belonging— teacher support, peer support, or a general sense of acceptance. Researchers and educators may utilize these findings to design school belonging interventions that focus on several aspects of school belonging simultaneously. Furthermore, researchers may utilize the findings to design school belonging measures that assess these indicators. Measures must assess for school belonging holistically, rather than only evaluating students' perceptions of peer or teacher support. To ensure effective assessment and treatment of school belonging levels, researchers and practitioners must attend to each indicator of school belonging, given that all positive indicators of school belonging were perceived at a similar level. Additionally, it may be important for educators and researchers to focus on peer rejection. This indicator showed a significant increase from the *High* and *Moderate* profiles compared to the *Low School Belonging* profile, suggesting

that peer rejection contributes to students' low perceived levels of school belonging and might be causing a downward spiraling effect.

Limitations and Future Directions

It is essential to acknowledge the limitations of this study. The sample size was limited geographically, with differences in racial/ethnic composition across some schools. Future studies should examine a larger sample of students from varying geographic regions, attending to greater diversity in gender and racial/ethnic backgrounds. Due to many racial/ethnic categories, two majority categories were chosen and used to create dichotomous variables. Future studies should examine multiple racial categories and include a "multiple identity" option. Future studies might also consider socioeconomic circumstances given the inverse relationship between socioeconomics and mental health (e.g., Yu & Williams, 1999).

Data were collected through self-report, which may have contributed to a mono-method bias (i.e., self-report). Younger students may not always be ideal informants as self-report tends to be more accurate for older students (Sturgess et al., 2002). Future research with elementary school students may benefit from using adult informants to understand students' experiences better.

Selecting items from one unidimensional measure in an LPA can create statistical limitations and lead to ordered profiles due to the indicators being designed to measure one construct. Future research may consider gathering items from different measures that were not created to assess for one construct.

As optimal models for LPAs are based on theory and several different fit criteria, it is often impossible to determine an objective optimal profile solution. As such, the three-profile solution determined to be the best fitting model might not have been chosen by other researchers.

The five-profile class-invariant diagonal model showed adequate fit and may have been an alternate solution in this study. Researchers should conduct replication studies to provide further support for the constellation of school belonging experiences.

Conclusion

School belonging is a critical educational matter that has several significant associations, including mental health. The current study's findings highlight that students' experiences of high, moderate, or low school belonging relate to different mental health functioning levels. Students with higher levels of school belonging reported higher levels of psychological strengths and lower levels of distress. In comparison, students with low school belonging reported lower psychological strengths and moderate levels of distress. Continuing to study belonging in primary school students to better understand its developmental effects will further benefit students' emotional and academic well-being across their educational careers.

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Table 1

Means and Standard Deviations of Mental Health Indicators and Outcomes

	M	*SD*	Min	Max
PSSM				
Affective belonging	2.52	8.22	1	4
General acceptance	2.11	9.15	1	4
Peer belonging	2.07	9.15	1	4
Teacher belonging	1.82	10.81	1	4
General rejection	0.83	9.90	1	4
SEHS-P				
Covitality	3.06	0.44	1	4
M&MS				
Emotional difficulties	1.69	0.34	1	3
Behavioral difficulties	1.38	0.29	1	3

Note. PSSM = Psychological Sense of School Membership. SEHS-P = Social Emotional Health Survey – Primary. M&MS = Me & My School Questionnaire.

Table 2

Fit Criteria Used to Evaluate Tested LPA Models

Model	K	LL	BIC	BLRT *p*	LMRT *p*	BF	cmP	Entropy	Profile Prevalence
Class-Invariant, Diagonal	1	-3003.77	6071.75	—	—	<.001	<.001	—	1
	2	-2594.49	5291.72	<.001	<.001	<.001	<.001	.80	.37, .63
	3	-2434.84	5010.95	<.001	**.004**	<.001	<.001	**.82**	.12, .41, .47
	4	-2387.49	4954.79	<.001	.018	<.001	<.001	.80	.06, .18, .34, .41
	5	-2346.90	4912.13	<.001	.025	**37.34**	**1.00**	.80	.06, .09, .17, .30, .37
	6	-2331.25	4919.37	**<.001**	.380	<.001	<.001	**.82**	.02, .05, .09, .18, .30, .36
Class-Varying, Diagonal	1	-3003.77	6071.75	—	—	<.001	<.001	—	1
	2	-2535.50	5205.86	<.001	<.001	<.001	<.001	.80	.46, .54
	3	-2353.43	**4914.35**	<.001	**<.001**	**407.48**	**.998**	.82	.16, .33, .51
	4	-2325.12	4926.37	<.001	.228	<.001	.002	.87	.01, .16, .33, .50
	5	-2354.43	5055.63	**<.001**	.240	<.001	<.001	**.89**	.00, .00, .16, .33, .51
	6*	NC	NC	NC	NC	NC	NC	NC	NC

Note. **Bolded** values indicate best fit for that criteria. Shaded rows indicate best fitting solution for each model. K – number of profiles. LL = model log likelihood. BIC = Bayesian information criterion. BLRT = bootstrapped likelihood ratio test. LMRT = Lo-Mendell-Rubin adjusted likelihood ratio test. *p* = *p* value. BF = Bayes Factor. cmP = Correct Model Probability.

* Model did not converge.

Table 3

Log Odds Coefficients and Odds Ratios for the Three-Profile Model with Gender and Ethnicity as Covariates Using the High School Belonging Profile as a Reference Group

School Belonging Profile	Effect	Logit	*SE*	*t*	Odds Ratio	*p*-value
Low school belonging						
	Female	-.63	.28	-2.25	.53	**.02**
	Latinx	-.46	.34	-1.35	.63	.17
	White	-.10	.32	-0.29	.91	.77
Moderate school belonging						
	Female	-.52	.28	-1.88	.60	.06
	Latinx	-.88	.35	-2.57	.41	**.01**
	White	.28	.31	0.89	1.32	.37

Note. Bolded values denote statistical significance, $p < .05$.

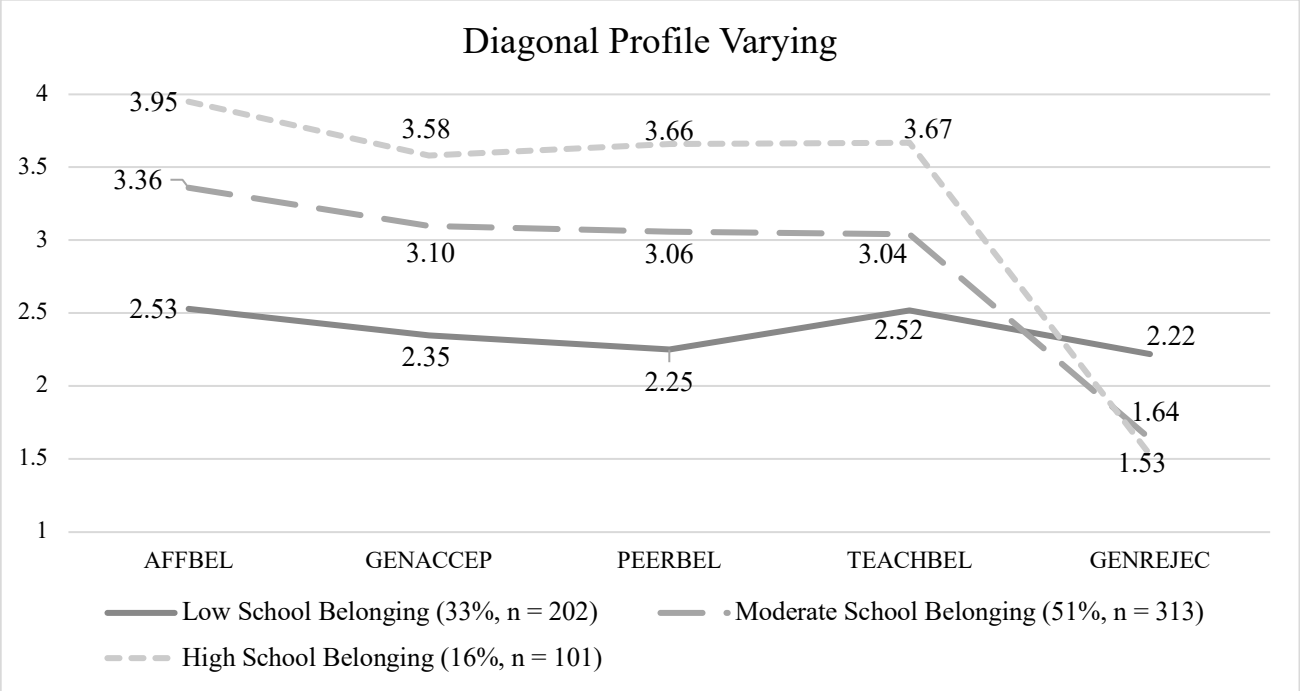
Table 4

Model Results for Mean Proximal Outcome Values Within Each Latent School Belonging Profile

Outcome	Latent Profile	Estimate	S.E.
Psychological Strengths	*Low School Belonging* Class	2.66	.04
	Moderate School Belonging Class	3.11	.03
	High School Belonging Class	3.51	.05
Emotional Difficulties	*Low School Belonging* Class	1.85	.03
	Moderate School Belonging Class	1.61	.03
	High School Belonging Class	1.38	.04
Behavioral Difficulties	*Low School Belonging* Class	1.56	.03
	Moderate School Belonging Class	1.35	.03
	High School Belonging Class	1.24	.04

Note. All pairwise comparisons of distal outcomes are significantly different when comparing with class, $p < .001$.

Figure 1. School belonging profile plots for the three-profile class-varying, diagonal solution. Profile size information is presented in the legend.



Note. AFFBEL = sense of affective belonging, GENACCEP = general sense of belonging, PEERBEL = peer support, TEACHBEL = teacher support, GENREJEC = general sense of rejection.