School climate: perceptual differences between students, parents, and school staff

Christine M. Ramsey[a], **Adam P. Spira**[b,c], **Jeanine M. Parisi**[b], and **George W. Rebok**[b,c]

[a]Yale School of Public Health, New Haven, CT, USA

[b]Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

[c]Johns Hopkins Center on Aging and Health, Baltimore, MD, USA

Abstract

Research suggests that school climate can have a great impact on student, teacher, and school outcomes. However, it is often assessed as a summary measure, without taking into account multiple perspectives (student, teacher, parent) or examining subdimensions within the broader construct. In this study, we assessed school climate from the perspective of students, staff, and parents within a large, urban school district using multilevel modeling techniques to examine within- and between-school variance. After adjusting for school-level demographic characteristics, students reported worse perceptions of *safety* and *connectedness* compared to both parent and staff ratings (all $p < 0.05$). Parents gave the lowest ratings of *parental involvement*, and staff gave the lowest ratings of *academic emphasis* ($ps < 0.05$). Findings demonstrate the importance of considering the type of informant when evaluating climate ratings within a school. Understanding how perceptions differ between informants can inform interventions to improve perceptions and prevent adverse outcomes.

Keywords

Introduction

Researchers and educators have long recognized the influence of school-level physical, social, cultural, and health factors on student outcomes. The term "school climate" has gained acceptance as the contextual factor encompassing the "total environmental quality

[*]Corresponding author. jparisi1@jhu.edu.

Notes on contributors

Christine M. Ramsey, PhD, is an Associate Research Scientist at the Yale School of Medicine in New Haven, Connecticut.

Adam P. Spira, PhD, is an Associate Professor in the Department of Mental Health at the Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland.

Jeanine M. Parisi, PhD, is an Associate Scientist in the Department of Mental Health at the Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland.

George W. Rebok, PhD, is a Professor in the Department of Mental Health at the Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland.

within a school building" (Anderson, 1982; Zullig, Koopman, Patton, & Ubbes, 2010). In general, school climate describes the physical features of the school building, social and demographic characteristics of students and staff, rules and social interactions between individuals, and beliefs and values of individuals within the school (e.g., Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Despite nearly universal agreement that school climate is important for academic success, tremendous variation in how this term is defined and measured challenges our ability to accumulate empirical evidence about its causes and outcomes.

Over the past 30 years, several literature reviews have attempted to identify overlapping themes across studies of school climate (Anderson, 1982; Cohen, McCabe, Michelli, & Pickeral, 2009; Thapa et al., 2013). Based on these reviews, five common themes have emerged in the literature: (a) order, safety, and discipline; (b) academic outcomes; (c) social relationships; (d) school facilities (the physical environment within a school); and (e) school connectedness (engagement in and enthusiasm for school activities). Applying factor analytic techniques to a number of items from widely cited scales in the literature, Zullig and colleagues (2010) confirmed these five distinct constructs within school climate, but found that the "social relationships" domain could be more appropriately divided into three more nuanced constructs: social environment, positive student–teacher relationships, and perceived exclusion/privilege (equality of opportunity and attention given to students). Although there is some agreement on which dimensions should be measured and reported, many studies have also included additional dimensions such as parental involvement, knowledge and fairness of disciplinary policies, and student–peer relationships (Brand, Felner, Shim, Seitsinger, & Dumas, 2003; Haynes, Emmons, & Ben-Avie, 1997).

Student, teacher, and parent perceptions and measures of school climate

In addition to the challenges of measuring a broad, multidimensional construct, most school climate studies report data from a single perspective (student, staff, or parent) as opposed to having multiple informants, further complicating the task of understanding school climate as it relates to student, teacher, and school outcomes. Given that personal beliefs and behaviors are often motivated by individual perceptions of situations and environments rather than by the objective reality of a given environment (Bandura, 2001), obtaining measures of school climate from the perspective of multiple informants can provide a more complete and accurate account of the school environment (Haynes et al., 1997). For instance, students experience schools as recipients of services; they are expected to follow the academic schedule and adhere to the rules of conduct within their school building. Conversely, teachers experience schools as providers of services; their role is to give academic instruction, guidance, and discipline within their classrooms and schools. Whereas students and teachers experience their school environment on a regular basis, the experience of parents of students is more intermittent and less structured. Parents experience schools through parent–teacher conferences, volunteer opportunities, special events, and parent associations involved with the schools, and indirectly through their children's statements about their schools and relevant behavior. Especially among early elementary age students, developmental stage and levels of maturity influence perceptions of experience resulting in

differential reporting on the same aspects of the school environment between students of different ages within schools, and the interactions between students and adults.

Prior school-based studies have demonstrated the importance of obtaining measurements from multiple informants. For instance, Achenbach, McConaughy, and Howell (1987) conducted a meta-analysis of 116 studies examining concordance between multiple raters including children, teachers, and parents on perceptions of children's behavioral and emotional problems. Mean correlations between parents and teachers, parents and children, and children and teachers were 0.27, 0.25, and 0.20, respectively, suggesting that parents' and teachers' perceptions of behavioral and emotional problems are very different from those of students. Additional research has more closely examined the perceptual differences in bullying, victimization, and general safety, also suggesting much variation between students, parents, and school staff (Bradshaw, Sawyer, & O'Brennan, 2007; Stockdale, Hangaduambo, Duys, Larson, & Sarvela, 2002). For instance, Wienke Totura, Green, Karver, and Gesten (2009) found low levels of agreement between student and teacher perceptions of bullying (kappa = 0.13) and victimization (kappa = 0.12) within the school environment. Likewise, Waasdorp, Pas, O'Brennan, and Bradshaw (2011) reported worse perceptions of school safety among students compared to school staff, and that parent perceptions of safety were not associated with student or staff perceptions on this measure.

In addition to work on school safety (i.e., bullying, victimization), only a handful of studies have examined other domains of school climate, including academic emphasis, parental involvement, student–teacher relationships, and connectedness. Among the few available studies, findings suggest that the perspectives of students, staff, and parents differ on these dimensions as well. For instance, Brand and colleagues (2003) compared middle-school student and teacher ratings of school climate and reported correlations of 0.44 for ratings of safety problems, 0.37 for student measures of commitment to teacher measures of achievement orientation, and 0.29 for student measures of teacher support with teachers' measures of teacher–student interactions; however, they did not examine school climate from the perspective of parents.

School climate mechanisms and outcomes

As the school environment undoubtedly influences behavior, attitudes, and performance of students and staff in schools, numerous studies have linked ratings of school climate from the perspective of a single informant to important student and school outcomes. Hoy and Hannum (1997) identified six dimensions (academic emphasis, teacher affiliation, resource support, collegial leadership, principal influence, and institutional integrity) with which to evaluate student academic achievement. Not surprisingly, students in schools in which students are motivated to learn (academic emphasis), teachers are enthusiastic about teaching (teacher affiliation), and in which the physical resources to teach effectively exist (resource support) exhibited higher achievement in math, reading, and writing. Other studies have demonstrated the beneficial effects of a positive climate on student victimization by peers, delinquent behavior, crime, and incivility toward teachers (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005). In addition, a greater sense of community, defined as the presence of networks of caring adults who interact regularly with students (i.e., positive

student–teacher relationships and parental involvement), has been associated with lower levels of problem behavior and better academic performance among students (Bryk & Driscoll, 1988; Coker & Borders, 2001; Osher et al., 2008). Conversely, schools discouraging involvement from the community and parents appear to have a negative impact on student academic achievement (Grayson & Alvarez, 2008; Hoy & Hannum, 1997).

Evidence also supports the impact of school climate on teacher outcomes. In a systematic review, Cohen and colleagues (2009) found that in addition to predicting academic achievement, violence, and social-emotional development of students, positive school climate was predictive of teacher retention. Grayson and Alvarez (2008) found worse student–peer relationships and less parent and community involvement were associated with more emotional exhaustion (i.e., burnout) among teachers. Additionally, teacher perceptions of lower academic orientation of the schools, poorer teacher–student relationships, and lower satisfaction with school administration were predictive of cynicism and negative attitudes towards students by teachers.

In addition to type of informant, several studies have found that both individual-level (e.g., race, gender) and school-level (e.g., school size, % free and reduced-price lunch) factors significantly impact perceptions of school climate (Griffith, 1997a, 1997b, 2000). Griffith (1997b) found that the majority of variance in school climate as perceived by parents and students occurs at the individual level, but that there is also a substantial amount of variance explained by between-school differences in climate (see also Koth, Bradshaw, & Leaf, 2008; Mitchell, Bradshaw, & Leaf, 2010; Vieno, Perkins, Smith, & Santinello, 2005).

To date, most of the research on school climate has been based on measures from the perspective of a single informant and/or assessment of school climate as a summary measure instead of taking into account perspectives of multiple informants and subdimensions within the larger construct that is school climate. However, different perceptions of school climate between students, staff, and parents may elicit different feelings and behaviors toward their environments, which may lead to different outcomes. Understanding how perceptions differ between informants can inform interventions to improve perceptions and prevent adverse outcomes. Therefore, the purpose of this study was to compare perceptions of multiple dimensions of school climate from the perspective of three different informant groups (students, staff, and parents) within urban, primarily African American elementary schools.

Methods

Sample

The sample for this study included 4,244 students in Grades 3 to 5, 727 school staff, and 3,113 parents within 55 elementary schools in Baltimore City who completed the Baltimore City Public School System Climate Survey (BCPSSCS; see Measures) in the 2010–2011 school year. All elementary schools in Baltimore City ($n = 55$) administered the survey. Participation rates of students within schools ranged from approximately 42% to 100% (mean: 84.7%, standard deviation: 11.1%). Because the total number of staff and parents administered the BCPSSCS within each school was unavailable, survey response rates for these informants could not be determined. Participating elementary schools enrolled students

in kindergarten to fifth grade (combined elementary/middle schools were excluded) and were all located in an inner-city, urban setting. Schools were predominantly low income with the percentage of students receiving free or reduced price meals ranging from 90.3% to > 95.0%. Median percentage of African American students was 97.3% (range: 6.5%–99.7%), and mean enrollment was 368 students (standard deviation: 168; range: 64–940 students). Student mobility (number of students entering and exiting the school during the September to June school year divided by mean daily attendance) ranged from 6.7% to 79.1% (mean: 33.3%, standard deviation: 14.1%).

Procedure

Data for this study came from 17 parallel items in versions of the BCPSSCS administered to students in Grades 3 to 5, parents, and staff during the 2007–2008 to 2010–2011 school years (see Measures). The survey was administered to all students in Grades 3 to 5, parents, and staff (teachers, administrators, and assistant principals) in the Baltimore City Public School System using a passive consent process. Student surveys of approximately 30 items were administered school-wide to all students on the same day and time designated by the school principal. Students were given approximately 30 min to complete the survey during the school day. Parent surveys consisted of approximately 45 items and were sent home with students, accompanied by a letter of instruction and a postage-paid addressed envelope. School staff received an email with instructions and a link to a web-based survey consisting of approximately 70 items. The staff survey took approximately 20 min to complete. In each version of the survey, participants were asked to rate how much they agree/disagree with statements about their school on a 4-point Likert scale (1 = *strongly disagree* to 4 = *strongly agree*). To ensure anonymity of participants, personal identifying information (e.g., race, gender, age) was not reported as part of the survey.

Measures

Development of the Baltimore City Public School System Climate Survey (BCPSSCS)—In collaboration with academic and community partnerships, the BCPSSCS was developed by the Division of Research, Evaluation, Assessment and Accountability (DREAA), a department within the Baltimore City Public School System (BCPSS) responsible for external research, program evaluation, and student assessment (Melick, Feldman, & Wilson, 2008, 2010). Key stakeholders identified important constructs to be assessed (e.g., school safety, school connectedness) and selected survey items by evaluating existing, well-validated, surveys currently being used to measure school climate (Guo, Choe, & Higgins-D'Alessandro, 2011; Haynes et al., 1997; Zullig et al., 2010). Different versions of the survey were developed for staff, parents, students in Grades 3 to 5, and students in Grades 6 to 12 (not used in this study). Beginning in the 2004–2005 school year, the survey was administered annually to assess various elements of school climate across the entire school system from the perspectives of school staff, students in Grades 3 to 12, and parents (Melick et al., 2008, 2010).

Validity of the BCPSSCS—Through several iterations of item selection, the survey development committee agreed upon a set of items for each survey version based on clarity and simplicity of language, and face validity of the items intended to measure school

climate. To further evaluate the construct validity of the items in each version of the survey, the authors of the current study mapped the items onto seven commonly used and well-validated dimensions of school climate used in other school climate surveys (Haynes et al., 1997; Zullig et al., 2010; Table 1). Because the aim of this study was to compare ratings of school climate across three informant groups, to assure measurement equivalence across the student, staff, and parent scales, we used only the items in each dimension that were asked of all three informant groups. In doing this, some dimensions of school climate known to impact school outcomes were excluded from our analysis because the survey for one or more informant groups did not include questions pertaining to that dimension (e.g., *student–peer relationships* and *sharing of resources*).

Next, we performed confirmatory factor analyses (CFA) of these items and constructs separately for each survey using BCPSSCS data from elementary schools in the 2007–2008 school year. To test the reproducibility of these findings (i.e., test–retest reliability), we repeated the same CFA in 3 additional school years (2008–2009 to 2010–2011). Variance of factors was fixed to one, factor loadings were free parameters, and all factors were specified to be correlated. Due to the categorical nature of survey items, a weighted least squares estimation procedure was applied (Bollen, 1989). Factor loadings for each item are displayed in Table 2.

Further, because evaluation of the psychometric properties of the surveys was not a stated aim of initial scale development (Melick et al., 2008), we conducted a series of exploratory and confirmatory analyses of the BCPSSCS items to assess the fit of the data to several alternative models of school climate based on guidelines of Cabrera-Nguyen (2010) and compared the fit of these models to the survey structure currently used by the Baltimore City Public School System. Finding no significant improvement in model fit statistics (chi-squared test, root mean square error of approximation [RMSEA], comparative fit indices [CFI], and standardized root mean square residual [SRMR]) of the alternative factor structures, we retained our original seven-factor structure of the 17 items that were asked on each of the three versions (students in Grades 3–5, parents, and staff) of the BCPSSCS (Hu & Bentler, 1999).

Reliability of the BCPSSCS—We assessed the internal consistency reliability of the dimensions of school climate for each version (student, staff, and parent) of the BCPSSCS in each school year using Cronbach's alpha statistic (Table 2). Dimensions exhibiting reliabilities lower than the conventionally acceptable threshold ($\alpha < 0.70$) for two or more informant groups across all 4 school years (i.e., dimensions exhibiting low internal consistency and low test–retest reliability) were excluded from subsequent multilevel analyses (Nunnally & Bernstein, 1994). Dimensions excluded due to their low reliability included *school facilities*, *knowledge and fairness of disciplinary policies*, and *student–teacher relationships*. The dimensions of school climate we ultimately included in our analysis were: *connectedness*, *safety*, *academic emphasis*, and *parental involvement*. Summary scores for each of these dimensions were obtained by taking the mean of each participant's responses to the individual items within that dimension.

School-level covariates—School enrollment, student mobility, proportion of African American students, and proportion of low-income students (i.e., students receiving free or reduced price meals), were obtained from the Maryland State Department of Education.

Data analysis

We used a multilevel approach to test our primary hypothesis that students, staff, and parents within schools would differ in their perceptions of school climate. To assess the magnitude and direction of differences between informant groups on ratings of each of the dimensions of school climate, we estimated two-level models, with clustering by school. For each school climate outcome, we estimated an unconditional model, with no covariates, to partition the variance across the two levels (individuals and schools). We then estimated two additional models for each school climate outcome. In the first model, we included two dummy variables for staff and parent as fixed effects in the models with students as the reference group, and in the second model we adjusted for school-level factors known to influence perceptions of school climate, including enrollment, student mobility, and racial composition of the student body (i.e., % African American students). Because all schools had > 90% of students receiving free or reduced price meals, we did not include this as a covariate in our models. We conducted separate models for each of the dimensions of school climate adjusting for the above-mentioned covariates. To test the pair-wise differences in parent and student ratings, we used a linear combination estimator. All statistical analyses were performed using Stata software, Version 13 (StataCorp, College Station, TX) and Mplus Version 7 (Muthén & Muthén, 2012).

Results

Unconditional models partitioning variance into individual and school components are displayed in Table 3. Results suggest that most of the variation in perceptions of school climate is explained at the individual level rather than at the school level (*connectedness*: 88.8%, *safety*: 89.8%, *academic emphasis*: 97.9%, and *parental involvement*: 97.4%). Unadjusted means and effect sizes comparing student, staff, and parent perceptions of school climate are displayed in Table 4.

Multilevel model estimates for *connectedness*, *safety*, *academic emphasis*, and *parental involvement* and pair-wise comparisons between informant types are displayed in Table 5. For perceptions of *connectedness*, in the adjusted models, ratings by staff (B = 0.14, 95% confidence interval [CI]: 0.09, 0.18) and parents (B = 0.09, CI: 0.06, 0.12) were both greater than ratings by students. Compared to school staff, parents had worse perceptions of *connectedness* in their children's schools (B = −0.04, CI: 0.003, 0.09). For perceptions of s*afety*, in the adjusted models, staff (B = 0.06, CI: 0.01, 0.11) and parents (B = 0.15, CI: 0.11, 0.18) rated schools as being more safe compared to students. Compared to school staff, parents had better perceptions of *safety* (B = 0.09, CI: 0.04, 0.13). Perceptions of *academic emphasis* received high positive ratings by all informant groups. Parents and students did not differ significantly in their perceptions of *academic emphasis*, and staff had slightly worse perceptions of *academic emphasis* compared to students and parents (B = −0.05, CI: −0.08, −0.02 for both). Parents (B = −0.08, CI: −0.11, −0.06) and staff (B = −0.11, CI: −0.15,

–0.07) had worse perceptions of *parental involvement* compared to students and did not differ between one another in their ratings of this dimension.

Discussion

This study assessed dimensions of school climate as perceived by students in Grades 3 to 5, staff, and parents in elementary schools in a low-income, predominantly African American, urban school district. We compared perceptions of four commonly evaluated dimensions of school climate (*connectedness*, *safety*, *academic emphasis*, and *parental involvement*) that have previously been found to impact student, teacher, and school outcomes in studies measuring climate from the perspective of a single informant.

Applying a multilevel modeling framework for individuals clustered within schools, we found that most of the variation in perceptions is attributable to differences between individuals, and a smaller proportion of variation is explained by school-level differences. Overall, our results are consistent with past studies that have reported that most of the variation in school climate is explained at the level of the individual, rather than at the level of the school or classroom (Griffith, 2000; Koth et al., 2008; Vieno et al., 2005) and offer further evidence that interventions to improve school climate may be most effective if they are designed to target individual-level interactions within the schools (i.e., student–peer and student–teacher relationships, teacher–parent communication). Additionally, our study extends upon previous findings by investigating the role of the informant in explaining variation in perceptions of specific dimensions of school climate known to be important predictors of school outcomes. By identifying differences by informant type, we may be able to more precisely target interventions to improve perceptions of individual students, staff, and parents within schools.

With respect to differences in perceptions of school climate within the multilevel modeling framework, we found that after controlling for school-level demographic factors known to influence school climate, students, parents, and staff within schools differed in their perceptions of school climate, and the magnitude and direction of these differences depended on the dimension of school climate being assessed. Overall, students had the worst perceptions of *connectedness* and *safety* within their schools, parents had the worst perceptions of *parental involvement*, and staff had the worse perceptions of *academic emphasis* (although this measure received high positive ratings by all informant groups).

When evaluating *safety*, students tended to give lower ratings compared to parents and staff. This is consistent with previous research on exposure to violence in which parents report their children having lower levels of exposure compared to children's self-reported exposure (Goodman, De Los Reyes, & Bradshaw, 2010; Kuo, Mohler, Raudenbush, & Earls, 2000), and with teachers having perceptions of lower levels of student victimization compared to students' perceptions (e.g., Stockdale et al., 2002; Wienke Totura et al., 2009). Stockdale and colleagues (2002) also reported no differences between parents and teachers on the extent of bullying, whereas our study found that parents perceived schools as being slightly safer compared to school staff.

We found that students also had worse perceptions of *connectedness* (i.e., overall satisfaction and enthusiasm for school activities) compared to staff and parents. Similarly, Waasdorp and colleagues (2011) also found that teachers were more likely than students to report a sense of belonging in their schools; however, parents' reports of *belonging* did not relate to student and staff reports. Better perceptions of *connectedness* among staff could be explained by greater flexibility to choose a place of employment that aligns with one's personal values compared to choice of a public elementary school to attend/send one's children, which is typically assigned by geographic locality. This lack of choice for parents and students may contribute to worse perceptions of connectedness among students and parents.

Academic emphasis was rated highly by all informant groups in our study, with students and parents having slightly better perceptions compared to school staff. Overall, this suggests that all informants believe strongly in the importance of attending school every day, trying hard in school, and most importantly, that these beliefs are robust to school-level factors known to impact student and teacher outcomes (e.g., student mobility, school size). Thus, adverse academic outcomes are not likely to be attributed to individual beliefs about the importance of education in general, and future studies should focus on other modifiable risk factors.

The final dimension of school climate explored in this study was *parental involvement*. For this dimension, we found that students perceived a greater degree of communication between parents and teachers compared to either group of adults, and that parents and school staff did not differ in their perceptions of *parental involvement*. To our knowledge, this is the first study to compare perceptions of parental involvement between these three informant types.

Overall, it appears that informants tend to give lower ratings to dimensions of climate that are most directly related to their own behaviors (i.e., students: school safety and connectedness; staff: academic emphasis; parents: parental involvement). For students, this could be because behaviors that lead to worse perceptions of safety such as bullying and physical and emotional aggression may occur when there is less adult supervision (i.e., recess, transitions between classes). For parents and staff, lower perceptions of parental involvement and academic emphasis, respectively, could be explained by a greater awareness or a more critical perspective of their behaviors or those of their peers.

This study had several limitations that should be addressed in future studies. First, in order to ensure the anonymity of survey participants, individual-level descriptive data beyond informant type (student, staff, or parent) were not available, so we could not adjust for them in our analyses. Second, due to low reliabilities or lack of parallel items across versions of the survey, some important dimensions of school climate were not assessed. Additionally, the reliability of students' ratings of *safety* (0.56), *parental involvement* (0.54), and *connectedness (*0.62) were lower than we would have preferred. Despite the lower reliabilities, and considering the inherent problem of low reliability in the assessment of school climate by young children (Brand et al., 2003; Griffith, 1997a), we chose to include these measures in our analyses as exploratory outcomes of dimensions of school climate that researchers have not previously reported, as is standard in early stages of predictive or

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construct validation research (Nunnally & Bernstein, 1994). Future studies should seek to improve on these measures. Third, the sample for this study included students, staff, and parents in elementary schools in a low-income, mostly African American, urban school district, which may limit the generalizability of our findings. Future studies should seek to replicate these findings across ethnically and geographically diverse populations and among older students. Despite these limitations, this study benefits from a large sample of students, staff, and parents and is the first study to compare ratings on multiple dimensions of school climate from the perspective of three different informants in urban elementary schools.

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References

Achenbach TM, McConaughy SH, Howell CT. Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. Psychological Bulletin. 1987; 101:213–232. [PubMed: 3562706]

Anderson CS. The search for school climate: A review of the research. Review of Educational Research. 1982; 52:368–420.

Bandura A. Social cognitive theory: An agentic perspective. Annual Review of Psychology. 2001; 52:1–26.

Bollen, KA. Structural equations with latent variables. New York, NY: John Wiley & Sons; 1989.

Bradshaw CP, Sawyer AL, O'Brennan LM. Bullying and peer victimization at school: Perceptual differences between students and school staff. School Psychology Review. 2007; 36:361–382.

Brand S, Felner R, Shim M, Seitsinger A, Dumas T. Middle school improvement and reform: Development and validation of a school-level assessment of climate, cultural pluralism, and school safety. Journal of Educational Psychology. 2003; 95:570–588.

Bryk, AS., Driscoll, ME. The high school as community: Contextual influences and consequences for students and teachers. Madison, WI: National Center on Effective Secondary Schools; 1988.

Cabrera-Nguyen P. Author guidelines for reporting scale development and validation results in the *Journal of the Society for Social Work and Research*. Journal of the Society for Social Work and Research. 2010; 2:99–103.

Cohen J, McCabe L, Michelli NM, Pickeral T. School climate: Research, policy, practice, and teacher education. Teachers College Record. 2009; 111:180–213.

Coker JK, Borders LD. An analysis of environmental and social factors affecting adolescent problem drinking. Journal of Counseling & Development. 2001; 79:200–208.

Goodman KL, De Los Reyes A, Bradshaw CP. Understanding and using informants' reporting discrepancies of youth victimization: A conceptual model and recommendations for research. Clinical Child and Family Psychology Review. 2010; 13:366–383. [PubMed: 20799062]

Gottfredson GD, Gottfredson DC, Payne AA, Gottfredson NC. School climate predictors of school disorder: Results from a national study of delinquency prevention in schools. Journal of Research in Crime & Delinquency. 2005; 42:412–444.

Grayson JL, Alvarez HK. School climate factors relating to teacher burnout: A mediator model. Teaching and Teacher Education. 2008; 24:1349–1363.

Griffith J. School climate as "social order" and "social action": A multi-level analysis of public elementary school student perceptions. Social Psychology of Education. 1997a; 2:339–369.

Griffith J. Student and parent perceptions of school social environment: Are they group based? The Elementary School Journal. 1997b; 98:135–150.

Griffith J. School climate as group evaluation and group consensus: Student and parent perceptions of the elementary school environment. The Elementary School Journal. 2000; 101:35–61.

Guo, P., Choe, J., Higgins-D'Alessandro, A. Report of construct validity and internal consistency findings for the Comprehensive School Climate Inventory. 2011. Retrieved from https://www.schoolclimate.org/climate/documents/Fordham_Univ_CSCI_development_review_2011.pdf

Haynes NM, Emmons C, Ben-Avie M. School climate as a factor in student adjustment and achievement. Journal of Educational and Psychological Consultation. 1997; 8:321–329.

Hoy WK, Hannum JW. Middle school climate: An empirical assessment of organizational health and student achievement. Educational Administration Quarterly. 1997; 33:290–311.

Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling. 1999; 6:1–55.

Koth CW, Bradshaw CP, Leaf PJ. A multilevel study of predictors of student perceptions of school climate: The effect of classroom-level factors. Journal of Educational Psychology. 2008; 100:96–104.

Kuo M, Mohler B, Raudenbush SL, Earls FJ. Assessing exposure to violence using multiple informants: Application of hierarchical linear model. Journal of Child Psychology and Psychiatry. 2000; 41:1049–1056. [PubMed: 11099121]

Melick, C., Feldman, B., Wilson, R. School year 2007–2008 school climate survey data: Students, parents and staff. Baltimore, MD: Baltimore City Public School System; 2008. Retrieved from http://www.baltimorecityschools.org/cms/lib/MD01001351/Centricity/Domain/80/PDF/SY07_08_School_Climate_Survey.pdf

Melick, CF., Feldman, BI., Wilson, RL. School year 2009–2010 school climate survey data: Students, parents and staff. Baltimore, MD: Baltimore City Public School System; 2010. Retrieved from http://www.baltimorecityschools.org/cms/lib/MD01001351/Centricity/Domain/80/PDF/2010_ClimateSurvey.pdf

Mitchell MM, Bradshaw CP, Leaf PJ. Student and teacher perceptions of school climate: A multilevel exploration of patterns of discrepancy. Journal of School Health. 2010; 80:271–279. [PubMed: 20573139]

Muthén, LK., Muthén, BO. Mplus user's guide. 7. Los Angeles, CA: Authors; 1998–2012.

Nunnally, JC., Bernstein, IH. Psychometric theory. 3. New York, NY: McGraw-Hill; 1994.

Osher, D., Sprague, J., Weissberg, RP., Axelrod, J., Keenan, S., Kendziora, K., Zins, JE. A comprehensive approach to promoting social, emotional, and academic growth in contemporary schools. In: Thomas, A., Grimes, J., editors. Best practices in school psychology V. Vol. 4. Bethesda, MD: National Association of School Psychologists; 2008. p. 1263-1278.

Stockdale MS, Hangaduambo S, Duys D, Larson K, Sarvela PD. Rural elementary students', parents', and teachers' perceptions of bullying. American Journal of Health Behavior. 2002; 26:266–277. [PubMed: 12081359]

Thapa A, Cohen J, Guffey S, Higgins-D'Alessandro A. A review of school climate research. Review of Educational Research. 2013; 83:357–385.

Vieno A, Perkins DD, Smith TM, Santinello M. Democratic school climate and sense of community in school: A multilevel analysis. American Journal of Community Psychology. 2005; 36:327–341. [PubMed: 16389503]

Waasdorp TE, Pas ET, O'Brennan LM, Bradshaw CP. A multilevel perspective on the climate of bullying: Discrepancies among students, school staff, and parents. Journal of School Violence. 2011; 10:115–132. [PubMed: 21552337]

Wienke Totura CM, Green AE, Karver MS, Gesten EL. Multiple informants in the assessment of psychological, behavioral, and academic correlates of bullying and victimization in middle school. Journal of Adolescence. 2009; 32:193–211. [PubMed: 18801565]

Zullig KJ, Koopman TM, Patton JM, Ubbes VA. School climate: Historical review, instrument development, and school assessment. Journal of Psychoeducational Assessment. 2010; 28:139–152.

Table 1

Survey items for dimensions of school climate rated by students in Grades 3–5, staff, and parents.

	Students in Grades 3–5	Staff	Parents
School connectedness	I like my school	I enjoy working at this school	I am satisfied with my child's school
	I learn a lot at my school	This school does a good job educating students	This school does a good job of educating students
	I would rather go to this school than another school	I would choose to continue to work at this school even if given the opportunity to transfer	I would recommend this school to other parents
School facilities	The school is clean	The school building is clean and well maintained	The school building is clean and well maintained
	There are a lot of broken windows, doors, or desks at my school	There are a lot of broken windows, doors, or desks at this school	There are a lot of broken windows, doors, or desks at my child's school
Knowledge and fairness of disciplinary policies	My school has clear rules about how students should act	The school has clearly defined rules and expectations for students' behavior	My child's school has clearly defined expectations for students' behavior
	Students are rewarded for acting good	Students are rewarded for positive behavior	Students are rewarded for positive behavior
Order, Safety, & Discipline — Safety	I feel safe at this school	Students feel safe at this school	My child's school is a safe place
	I feel safe going to/from school	Students feel safe going to/from school	My child is safe going to/from school
Teacher–student relationships	Most of the teachers know my name	I know most of the students at this school by name	Teachers at the school know my child well
	I like my teachers	Teachers care about their students	Teachers care about my child
Educational values	It is important to come to school every day	It is important for students to attend school every day	It is important for my child to attend school every day
	It is important to try hard in school	Teachers at this school set high standards for their teaching	It is important for my child to try hard in school
	It is important to finish high school	It is important for students to finish high school	It is important for my child to finish high school
Parental involvement	My teacher talks to my parent or guardian	I have enough opportunity to talk with parents or guardians about students' progress or problems	I have enough opportunity to talk with teachers about my child's progress or problems
	When I do something good at school, my parent or guardian hears about it	When a student does something good at school, the parents are informed	When my child does something good at school, I usually hear about it from the school
	When I do something bad at school, my parent or guardian hears about it	When a student does something bad at school, the parents are informed	When my child does something bad at school, I usually hear about it from the school

Table 2

Cronbach's alpha and factor loadings for survey items rated by students in Grades 3–5, staff, and parents in the 2007–2008 to 2010–2011 academic years.

Climate dimension, α *Items, λ*	Students in Grades 3–5				Staff				Parents			
	'08	'09	'10	'11	'08	'09	'10	'11	'08	'09	'10	'11
School connectedness	0.63	0.63	0.63	0.62	0.84	0.84	0.86	0.84	0.89	0.91	0.90	0.90
I enjoy working at this school	0.84	0.80	0.80	0.84	0.98	0.96	0.99	0.99	0.98	0.97	0.96	0.95
This school does a good job educating students	0.78	0.67	0.69	0.68	0.88	0.92	0.96	0.96	0.88	0.97	0.95	0.95
I would choose to continue to work at this school even if given the opportunity to transfer	0.70	0.68	0.70	0.64	0.95	0.89	0.94	0.94	0.95	0.93	0.93	0.92
School facilities	0.20	0.22	0.31	0.24	0.47	0.42	0.45	0.39	0.49	0.41	0.39	0.42
The school building is clean and well maintained	0.65	0.81	0.84	0.72	0.79	0.76	0.75	0.75	0.82	0.87	0.87	0.90
There are a lot of broken windows, doors, or desks at my school	0.30	0.24	0.29	0.28	0.51	0.47	0.61	0.61	0.56	0.43	0.45	0.43
Knowledge and fairness of disciplinary policies	0.47	0.45	0.49	0.42	0.61	0.69	0.74	0.74	0.53	0.61	0.63	0.62
My school has clearly defined rules and expectations for students' behavior	0.68	0.64	0.68	0.69	0.85	0.84	0.91	0.91	0.74	0.81	0.82	0.79
Students are rewarded for positive behavior	0.58	0.65	0.70	0.65	0.72	0.83	0.90	0.90	0.74	0.76	0.79	0.81
Safety	0.54	0.56	0.57	0.56	0.71	0.83	0.82	0.72	0.71	0.76	0.79	0.77
Students feel safe at this school	0.84	0.83	0.84	0.85	0.90	0.97	0.96	0.96	0.91	0.92	0.93	0.94
Students feel safe going to and from school	0.54	0.58	0.58	0.59	0.79	0.87	0.88	0.88	0.76	0.80	0.85	0.81
Teacher–student relationships	0.27	0.29	0.33	0.26	0.25	0.25	0.57	0.52	0.73	0.79	0.79	0.78
I know most students at this school by name	0.38	0.43	0.47	0.69	0.30	0.32	0.91	0.91	0.78	0.87	0.87	0.84
Teachers care about their students	0.67	0.58	0.64	0.65	0.77	0.84	0.90	0.87	0.94	0.95	0.92	0.93
Academic emphasis	0.75	0.72	0.69	0.72	0.72	0.63	0.70	0.69	0.87	0.89	0.89	0.89
It is important for students to attend school every day	0.82	0.80	0.81	0.79	0.92	0.95	0.92	0.92	0.94	0.94	0.95	0.93
Teachers at this school set high standards for teaching	0.87	0.86	0.86	0.88	0.95	0.87	0.93	0.93	0.97	0.97	0.98	0.96
It is important to finish high school	0.80	0.76	0.73	0.78	0.86	0.95	0.94	0.94	0.91	0.91	0.92	0.93
Parental involvement	0.57	0.53	0.55	0.54	0.76	0.78	0.77	0.76	0.69	0.75	0.75	0.73

Climate dimension, α

Items, λ	Students in Grades 3–5				Staff				Parents			
	'08	'09	'10	'11	'08	'09	'10	'11	'08	'09	'10	'11
I have enough opportunity to talk with parents about students' progress or problems	0.65	0.65	0.65	0.62	0.75	0.77	0.83	0.83	0.84	0.87	0.86	0.85
When a student does something good at school, parents are informed	0.65	0.67	0.71	0.73	0.86	0.88	0.91	0.91	0.82	0.82	0.85	0.83
When a student does something bad at school, parents are informed	0.65	0.63	0.65	0.61	0.86	0.85	0.85	0.85	0.67	0.76	0.79	0.74

Table 3

Partitioning of variance between individuals and schools from unconditional multilevel models for students', parents', and staff's perceptions of school connectedness, safety, academic emphasis, and parental involvement.

Level	Connectedness Variance (%)	Safety Variance (%)	Academic emphasis Variance (%)	Parental involvement Variance (%)
1. Individual (student/staff/parent)	88.8	89.8	97.9	97.4
2. School	11.2	10.2	2.1	2.6

Table 4

Means and effect sizes for student, staff, and parent ratings of school connectedness, safety, academic emphasis, and parental involvement.

	Mean	Standard deviation	Effect size	
			Cohen's *d*	95% CI
Connectedness				
Student (reference)	3.23	0.67		
Staff	3.24	0.67	−0.01	−0.08, 0.05
Parent	3.15	0.7	0.11	0.07, 0.15
Parent *vs.* Staff			−0.12	−0.19, −0.06
Safety				
Student (reference)	3.22	0.64		
Staff	3.10	0.62	0.19	0.13, 0.25
Parent	3.07	0.84	0.20	0.16, 0.24
Parent *vs.* Staff			−0.04	−0.10, 0.03
Academic emphasis				
Student (reference)	3.74	0.47		
Staff	3.69	0.38	0.11	0.05, 0.17
Parent	3.76	0.45	−0.05	−0.09, −0.01
Parent *vs.* Staff			0.16	0.10, 0.23
Parental involvement				
Student (reference)	3.30	0.68		
Staff	3.17	0.52	0.20	0.13, 0.26
Parent	3.20	0.61	0.16	0.12, 0.20
Parent *vs.* Staff			0.04	−0.01, 0.11

Table 5

Multilevel results for school connectedness, safety, educational values, and parental involvement.

	Model 1		Model 2	
Level	**B**	**95% CI**	**B**	**95% CI**
Connectedness				
1. Individual				
Student (reference)	3.11	3.05, 3.18	3.11	3.05, 3.17
Staff	0.14	0.09, 0.18	0.14	0.09, 0.18
Parent	0.09	0.06, 0.12	0.09	0.06, 0.12
Staff (reference)				
Parent	−0.05	−0.08, −0.05	−0.04	0.09, −0.003
2. School				
Enrollment			−0.0002	−0.0005, 0.0002
% Mobility			−0.009	−0.01, −0.01
% African American			−0.11	−0.37, 0.14
Safety				
1. Individual				
Student (reference)	3.06	3.00, 3.13	3.06	3.01, 3.11
Staff	0.06	0.01, 0.11	0.06	0.01, 0.11
Parent	0.15	0.11, 0.18	0.15	0.11, 0.18
Staff (reference)				
Parent	0.09	0.04, 0.13	0.09	0.04, 0.13
2. School				
Enrollment			−0.0004	−0.0006, −0.0001
% Mobility			−0.01	−0.01, −0.01
% African American			−0.10	−0.32, 0.12
Academic emphasis				
1. Individual				
Student (reference)	3.75	3.73, 3.77	3.75	3.73, 3.77
Staff	−0.06	−0.09, −0.03	−0.05	−0.08, −0.02
Parent	−0.002	−0.02, 0.02	−0.003	−0.02, 0.02
Staff (reference)				
Parent	0.05	0.02, 0.08	0.05	0.02, 0.08
2. School				
Enrollment			−0.0001	−0.0002, 0.00001
% Mobility			−0.003	−0.004, −0.001
% African American			−0.02	−0.10, 0.06
Parental involvement				
1. Individual				
Student (reference)	3.29	3.25, 3.32	3.29	3.25, 3.32
Staff	−0.11	−0.16, −0.07	−0.11	−0.15, −0.07
Parent	−0.08	−0.11, −0.06	−0.08	−0.11, −0.06

Level	Model 1		Model 2	
	B	**95% CI**	**B**	**95% CI**
Staff (reference)				
Parent	0.03	−0.01, 0.07	0.03	−0.01, 0.07
2. School				
Enrollment			−0.0001	−0.0003, 0.0001
% Mobility			−0.002	−0.004, 0.001
% African American			−0.01	−0.15, 0.12