Definitions of school climate include a critical core set of common elements. The definition of school climate usually encompasses dimensions of the perceived social environment that: (a) have a contextual influence on the learning and development of students, (b) remain stable over time, and (c) can be meaningfully aggregated across raters. Definitions of climate characteristically focus on conditions as they are perceived by students, teachers, or other participants in a school setting, rather than on objective aspects of the setting. Illustratively, school climate may be reflected in the frequency with which teachers go out of their way to explain material to students, a behavior that can be observed by students. However, objective characteristics of the school, such as the percentage of teachers who are certified in the area that they teach, would not fall within the scope of climate assessment. School climate has been conceived as a set of conditions that influence student outcomes, in part by establishing norms and expectations for behavior. Climate dimensions mediate the effects of educational interventions on student outcomes, rather than being the final outcomes themselves. For example, the amount of emphasis that is placed on learning is a common focus of climate assessment, while students' grade point averages would be viewed as an outcome indicator.

Climate assessments are thought to have a contextual effect in the sense that school-level differences in climate dimensions are thought to be associated with differences between schools in student outcomes in ways that are not accounted for by individual differences in students' background characteristics and prior achievement. Climate dimensions are thought to be stable across time, absent any systematic effort to change them. For example, climate scores in middle schools remain stable over 2 years, even when the student membership of the building turns over (Brand, Felner, Shim, Seitsinger, & Dumas, 2003), suggesting that climate persists over time independent of the individuals who comprise the membership of a building. Finally, while students may offer diverse opinions about the climate of their school building, their ratings can be meaningfully and reliably aggregated to create school-level scores (Brand et al., 2008; Griffith, 2000).

Research on school climate has focused on the proximal conditions affecting students' learning, focusing on students' and teachers' experiences of the school as a learning environment. A related body of work on the organizational climate of the school also considers teachers' experiences of the school as a workplace (Halpin & Croft, 1963; Hoy & Tarter, 1997; Kelly et al., 1986; Rentoul & Fraser, 1983). Illustratively, the educational climate literature considers such dimensions as teacher support or achievement emphasis, while the organizational climate literature considers teachers' experiences of participation in decision-making at work. The present review focuses on the educational climate of the school, although the influence of organizational climate variables on students' learning and adjustment must also be acknowledged.

Implicitly, many educators and researchers think of school climate as being one-dimensional, in the
sense that climate is generally positive or negative. Another form of one-dimensional thinking associates the entire domain of school climate with a specific dimension. In this vein, the domain of climate is equated with just teacher support, personalization, sense of community, relationships, achievement emphasis, or school safety. While each of these may be important aspects of school climate, no single dimension encompasses the entire domain of school climate. Rather, numerous studies suggest that a comprehensive assessment of school climate should encompass multiple dimensions.

An early, and very influential, conceptual framework was proposed by Trickett and Moos (1973), who suggested that classroom climate assessment should address three overarching conceptual dimensions: Relationships, Personal Growth or Goal Orientation, and System Maintenance and Change. This conception of climate dimensions has broadened the perspective of investigators on the multidimensional nature of climate, and has lead to efforts to empirically differentiate underlying dimensions of climate through factor analysis. Illustratively, Brand and his colleagues (2003) report that students’ ratings of the ten ISC-S scales reflect the following higher-order dimensions: Developmental Sensitivity, Pro-social Emphasis, Contextual Negativity, and Safety Problems. Cumulatively, these perspectives suggest that efforts to improve school climate need to be cognizant of how school conditions vary on multiple dimensions.

Assessment of Classroom and School Climate

School and classroom climate dimensions have been assessed through structured inventories that ask participants to indicate the extent to which they agree or disagree with specific statements about the social environment. Scale scores are computed by summing or averaging responses to the items that comprise a dimension. Pioneering work on the development of structured climate inventories was undertaken during the 1960s by Herbert Walberg and colleagues (Walberg & Anderson, 1968) and George Stern (1970). During the 1970s Walberg’s work led to the development of the Learning Environment Inventory (LEI) (Fraser, Anderson, & Walberg, 1982) for secondary level classrooms, and the My Class Inventory (MCI) (Fraser et al., 1982), for elementary classrooms. During the same period, Edison Trickett and Rudy Moos published the Classroom Environment Scale (CES) (Trickett & Moos, 1973; Moos, 1979). Though the CES was initially developed for use in secondary level classrooms, this instrument was adapted to assess school-level climate in high schools (Felner, Aber, Cauce, & Primavera, 1985), and classroom climate in the early elementary grades (Toro et al., 1985). Research using the LEI and CES proved to be critical in establishing the importance of climate assessment for research and intervention.

Investigations of climate have often focused on the social climate of classrooms, even in secondary level schools where students occupy multiple classes throughout the school day. The classroom-level focus reflects the interest of investigators in changing instructional practices and conditions in particular subject-specific classrooms. Over the past two decades, increased attention has been given to the assessment of whole school climate, reflecting growing interest in implementing and evaluating the effects of comprehensive school reform models. The emphasis on school-level climate is reflected in the work of James Comer's School Development Program on the School Climate Scale (Haynes, Emmons, & Comer, 1993), as well as climate studies by Shaps (Battisch, Solomon, Kim, Watson, & Shaps, 1995) and Rauden-bush (Raudenbush, Rowan, & Kang, 1991), and the Project on High Performance Learning Communities (HiPlaces) (Felner, Seitsinger, Brand, Burns, & Bolton, 2008) As part of the HiPlaces project the Inventory of School Climate (ISC) (Brand, Felner, Shim, Seitsinger, & Dumas, 2003) has been administered in more than 3,000 whole-school assessments in the past two decades. This instrument has also been widely adopted in other projects in the United States and internationally. The ISC assesses the perceived social environment of middle level and secondary
schools, and is also available in a form that is appropriate for elementary school children. In addition, the teacher version of the ISC has been found to predict students' climate ratings and outcomes (Brand, Felner, Seitsinger, Burns, & Bolton, 2008). Drawing upon the work of the authors cited above, and factor analytic research in large and diverse samples, the ISC assesses ten dimensions of school climate, including teacher support, consistency and clarity of rules and expectations, student commitment to achievement, negative peer interactions, positive peer interactions, disciplinary harshness, student input in decision-making, instructional innovation and relevance, support for cultural pluralism, and safety problems. Each of these dimensions of perceived school climate has been found to be associated with multiple indices of students' learning and adjustment, as is shown in the following section.

Significance of School Climate for Students' Learning and Development

School climate has been found to be associated with multiple areas of students' learning and development. A pervasive pattern of relationships has been found between climate dimensions and students' academic, behavioral, and socioemotional adjustment, even after partialling out the effects of poverty on student outcomes. The relationship of climate to each of these adjustment domains are considered in turn, focusing on findings from large-scale studies of young adolescents (Brand et al., 2003). The dimensions of school climate discussed below have also been found to be associated with student learning and adjustment in large scale samples of students at the elementary and high school levels (Brand, Felner, Seitsinger, & Hupkau, 2006).

To assess the impact of climate on students' learning, it is critically important to examine variation in students' academic motivation, as well as in their scores on standardized achievement tests. Academic motivation merits attention because students' aspirations, expectations, and sense of self-efficacy influence their long-term adaptation to school as well as decisions about the pursuit of advanced training and education. In schools with higher levels of student commitment to achievement, students attain higher scores on standardized tests of reading and math. In addition, multiple dimensions have been found to be associated with students' academic motivation. Higher teacher expectations, academic aspirations, and academic efficacy have been found in schools with higher school mean levels of teacher support, structure, positive peer interactions, and instructional innovation. In schools that students rated as having fewer safety problems, students reported higher self and teacher expectations, academic aspirations, and efficacy. Better grades and teacher expectations were associated with higher mean levels of student participation in decision-making, and lower levels of disciplinary harshness and negative peer interactions, while higher student self-expectations and academic aspirations were related consistently with higher mean levels of support for cultural pluralism.

Turning to indicators of students' behavioral adjustment, higher levels of smoking, drinking and drug use, and more favorable attitudes toward these activities, were found in schools that students rated as lower in teacher support, student commitment to achievement, and instructional innovation, and higher in safety problems. Higher levels of delinquency and teacher-rated aggression were found in schools that students rated as having higher levels of negative peer interactions, disciplinary harshness, and safety problems. Higher levels of delinquency and classroom aggression were also found in schools that students rated as having lower levels of teacher support, student commitment to achievement, structure, and positive peer interactions. Turning to indices of socioemotional adjustment, higher levels of peer self-esteem, and lower levels of depression, have been found in schools in which students report higher levels of teacher support, structure, student commitment to achievement, positive peer interactions, and instructional innovation, as well as lower levels of safety problems. In addition to the climate dimensions noted above, support for cultural pluralism appears to be particularly important for
academic performance, aspirations, and self-expectations among minority students (Brand, Felner, Seitsinger, Burns, & Jung, 2007). Support for pluralism also moderates the impact of poverty on students’ academic performance and motivation. Gaps between students from low-income families and those from more affluent families are significantly smaller in schools that have higher levels of support for cultural pluralism.

While the majority of studies on school climate have been cross-sectional in nature, initial studies have examined the longitudinal impact of climate dimensions on trajectories of adjustment, particularly in early adolescence (e.g., Brand et al., 2007; Kuperminc, Leadbeater, & Blatt, 2001; Loukas & Murphy, 2007). Teacher expectations often decline during the middle school years. However, these declines were not evident in schools that were characterized by higher levels of structure, student commitment to achievement, positive peer interaction, and instructional innovation, as well as lower levels of disciplinary harshness. Gains over time in students’ self-expectations and sense of efficacy were associated with higher levels of student commitment to achievement, positive peer interaction, and instructional innovation (Brand et al., 2007). School climate dimensions are associated with differential rates of onset for smoking, drinking, and drug use during early adolescence (Brand, Felner, Seitsinger, Shim, & Hupkau, 2005). Students who did not smoke, drink or use drugs in sixth grade were less likely to initiate these behaviors by eighth grade in schools that had higher levels of teacher support, student commitment to achievement, student involvement in decision-making, and instructional innovation and relevance, as well as lower levels of disciplinary harshness, negative peer interactions, and safety problems. Cumulatively, findings from the cross-sectional and longitudinal studies again emphasize the importance of a comprehensive, multi-dimensional perspective on school climate.

Current Issues in the Conception and Measurement of School Climate

The metaphor of “climate” has often, unintentionally, suggested that the perceived social environment of the school is like the weather: critically important, but difficult to control. This view of school climate can, implicitly, lead to the assumption that climate is simply a given, or the product of complex forces that cannot be systematically and deliberately addressed by educators. However, the findings of numerous studies suggest that school climate can be enhanced by systematic changes in the social organization and instructional regularities of the school (e.g., Maehr & Midgley, 1996). Numerous dimensions of school climate are associated with differences in the size, structure, and activities of interdisciplinary teams in middle grade schools (Brand et al., 2007). Other factors affecting school climate include classroom instructional practices, teacher attitudes toward the implementation of research-based practices, teacher readiness and professional development, and teacher role strain and job satisfaction. Change in school climate can result from systematic changes in school organization, instruction, and other regularities of the school. Indeed, the effects of structural and organizational changes on students’ learning may be mediated by dimensions of school climate.

Student Perceptions of School Climate

Initially, theories of social climate (e.g., Moos, 1979) proposed that social climate reflected consensual perceptions of the social environment of the school that were shared by occupants of the classroom or school building. However, since the late 1990s, numerous studies have shown that ratings of social climate vary much more within school buildings than they do between school buildings. Illustratively, Griffith (2000) reports that only 3% to 6% of the variance in school climate ratings is accounted for by differences between school buildings. Such findings suggest that the average rating of climate in a school does not necessarily reflect the perceptions that are shared by all students. However, even though a school-level mean score on a climate scale may not reflect a consensus of opinion among students about their building, variation in this score account for a substantial portion of the variance
between buildings in indices of students' learning and adjustment (Brand et al., 2003). Further, school mean scores also tend to be highly correlated when they are drawn from randomly selected sub-samples of students from the same building (Brand et al., 2003; Griffith, 2000). Obtaining a consensus of opinion across students might not be a necessary condition for obtaining a reliable and predictive assessment of school climate dimension.

Analysis of Multi-Level Data From Students, Classrooms, and Schools

Efforts to assess the school-level impact of climate dimensions have been greatly enhanced by advances in the field of Hierarchical Linear Modeling (HLM) (Raudenbush, Rowan, & Kang, 1991). HLM is a statistical technique that has been developed specifically for analysis of multilevel, hierarchical data. Initial efforts to relate climate with adjustment examined correlations at the level of the individual student (which looks at a conceptually quite different level of analysis), or else carried out correlational analyses of the relationship between school mean scores on climate and adjustment (which tends to overestimate school-level effects). HLM has enabled investigators to make more accurate estimates of school-level effects of climate on students' developmental trajectories, and to better understand how school-level climate can moderate the effects of students' background characteristics on learning and school adaptation.

Alternative Methods of Assessing Climate

While standard methods for assessing school climate rely on the collection of data from students, circumstances can arise in which reliable survey data from a representative sample of students is not available. In such circumstances, investigators may need to rely on alternate sources of information to assess climate dimensions. Illustratively, Pianta and colleagues (Pianta et al., 2002) have developed an observational system to assess climate conditions, as well as instructional and organizational regularities, in kindergarten classrooms. This approach is particularly critical for the investigation of climate among children who are too young to complete climate inventories. In addition to using observational data, investigators may turn to teacher ratings to assess climate when representative and reliable student data are not available. However, caution should be exercised when using teacher ratings as a proxy for student ratings. It may be particularly important to choose a teacher instrument that has been validated for the purpose of predicting students' ratings and outcomes (Brand, et al., 2008).

See also: Classroom Environment, School Belonging

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