

The Relationship between Middle Grade Student Belonging and Middle Grade Student Performance

Phyllis B. Faust, *Principal, Trussville, Alabama*

Leslie S. Ennis, *Samford University*

William M. Hodge, *University of Alabama*

This study examined the relationship between a middle school initiative to develop student voice, interpersonal relationships, and intrapersonal relationships and students' sense of belonging. The literature indicated a strong connection between students' sense of belonging in school and positive outcomes in and out of the classroom (Deci & Knowles, 2008). The design compared changes in students' perceptions across time. The subjects were 187 male and 156 female sixth-grade students in a suburban school system during the 2011-2012 academic school year. Results indicated a decline in students' perceptions related to teacher and peer support, overall satisfaction, and academic competence.

Belonging is an essential human need that strongly relates to self-esteem, acceptance, and positive interpersonal relationships in middle school years but is usually absent from school services (Baumeister & Leary, 1995; Kunc, 1992). Middle school is a period of greater vulnerability with challenges to values, norms, self-esteem, and a strong need for support and approval from peers and adults (Education, 2012). Students with a low sense of belonging are often at risk for joining gangs, dropping out of school, or abusing drugs (Beck & Malley, 2003). Physical development and varied rates of maturity create further a challenge for some middle grade students. Deci (1992) stated a sense of belonging may strongly motivate students' interest in school, and promote classroom engagement, self-concept, intrinsic value, and the pursuit of academic and prosocial goals and behaviors.

Literature Review

In middle school years, personal development and social goals may take precedence over academic goals (Education, 2012). Adolescent development begins five years earlier for current adolescents than for those of the last century. Students' accelerated physical development and the varying rates of maturity may cause a lack of coordination and social and physical awkwardness. As the physical development of middle school students accelerate, pressures toward sexual behavior increase, often preceding adequate emotional and social development.

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Academic benefits from positive peer relationships evolve early in students' school careers (Parker & Asher, 1987). Students maintaining positive peer relationships have greater enjoyment in the school environment and make greater gains in academic performance.

Approximately twenty-five percent of students experiencing low acceptance from peers drop out of school (Parker & Asher, 1987). Low peer acceptance may result in easy distraction, confusion, and difficulty concentrating, resulting in an unpleasant school environment with undue or unwanted stress.

Changing demographics have transformed traditional sources of belonging for the adolescent stage of development (Beck & Malley, 2003). One-parent households, adults' long work hours, and the transient nature of families have contributed to some children experiencing alienation and apathy.

Middle school students are intensely curious, argumentative, inexperienced with independence, and fledgling critical thinkers (Education, 2012). Fledgling critical thinkers encounter an academic curriculum that transitions from concrete stages of learning to more abstract thought processes stressing the ability to hypothesize, reason, consider multiple ideas, and contemplate thoughts possibly contrary to fact. Analyzing and synthesizing literature and mathematical concepts and symbols require the development of students' higher order thinking skills. Developing deeper insights into poetry, music, and political ideology involve skills of questioning and debating the opinions, attitudes, behaviors, and values of others. Therefore, active learning experiences and real world problem solving grow more important for middle grade students than passive, disconnected, and irrelevant teaching.

Brain research is pivotal in understanding adolescents who often do not have sufficient brain maturity to organize, plan, prioritize, and evaluate the consequences of certain actions (McDonald, 2010; Sylwester, 2003). The typical attention span of adolescents is 10 to 12 minutes. This level of brain maturity suggests devising classroom structures and creating school climates that adapt to these characteristics.

Middle school students need healthy adult role models who listen and affirm their sense of well-being and belonging during a period of development that is often turbulent and challenging (Education, 2012). During this period, students transition from accepting adult moral judgments to developing autonomy and making judgments of their own.

Students often lack an innate sense of authority, and school leaders and teachers seldom consider students' perceptions a valid source of data regarding the learning environment (Angus, 2006; Cook-Sather, 2002). Allowing students' voices in the classroom empowers students to advocate for themselves and for their peers. Student voice encourages academic and social growth in areas of cooperation, compromise, negotiation, and conflict resolution. Having their voices heard and establishing positive relationships with teachers and peers increases students' satisfaction levels within the learning environment.

Allowing student voice in decision-making began in 1894 with the creation of student government at George Junior Republic School in Freeville, New York (Johnson, 1991). However, a decline in student voice developed with the social movements in the late 1960s had an adversarial relationship between some student organizations and school administrations and interfered with responsible student input (Mitra, 2008). Closing the achievement gap took primacy over other issues, including students' rights to peaceful

assembly and petition, freedom of association, due process, participation in school government, and educational opportunity.

Anderman (2003) examined 618 sixth-grade students in urban and rural public middle schools in a Southeastern state. The results indicated that the middle school setting decreases students' sense of acceptance and belonging and suggest the need for a respectful and psychologically safe instructional environment to prevent declines in belonging.

Rowe, Sangwon, Baker, Kamphaus, and Horne (2010) used the Student Personal Perception of Classroom Climate (SPPCC) survey to assess elementary students' personal perceptions of the classroom environment in four public elementary schools in an at-risk urban school district in the southeastern United States. Of the 267 students, 47% were male and 53% were female. Furthermore, 46% were African American, 34% Caucasian, 7% Latino/a, 2% Asian/Pacific, 2% multiracial, and 9% of unknown race or ethnicity. Results indicated the students who responded did not indicate a noticeable difference between support received from teachers and support received from peers.

Doda and Knowles (2008) analyzed 2,700 student responses to the question *what should middle school teachers know about middle school students*. Students identified compassion, fellowship, friendship, personalization, and mutual concern from teachers and peers as important information teachers should know. Specific attributes of teachers desired by students were encouragement, cheerfulness, helpfulness, kindness, patience, and respect. Students identified appreciation for uniqueness, commitment to success, personalized instruction, and less anonymity as high on the list of desired characteristics of teachers. Furthermore, students in the survey of Doda and Knowles consistently reported their desire for teachers' awareness of bullying, harassment, and competitive peer relationships. Students preferred a democratic and respectful teacher-to-student conversation that included insights from adolescent experiences and a review of their struggles, hopes, fears, and dreams.

This author's study explored relationships between students' perceptions of belonging, academic competence, and satisfaction with teachers who provided personal support throughout the school year. Participants included 343 sixth-grade students and their perceptions were studied over an academic year.

Throughout the school year, sixth-grade students and teachers participated in a class meeting initiative to give sixth-grade students opportunities to develop a strong sense of belonging, autonomy, and competence in individual classrooms and across the school day. The operating theory for this research focused on students' increase in academic ability and intrinsic motivation to learn when experiencing classroom and school-wide support for developing a strong sense of belonging, autonomy, and competence in individual classrooms and across the school day.

Class meetings supported the core elements research indicated were essential for developing middle grade students' perceptions of belonging. The core elements included respectful, supportive relationships, development of autonomy and agency, collaboration with peers and teachers, and a grade-wide emphasis on common goals and ideals.

The researcher modeled the initiative for teachers in professional learning meetings, with an emphasis on identifying the characteristics. Videotaped examples of a class meeting were provided for teachers to view and discuss. A re-enactment between the researcher and a teacher volunteer was provided as an example of the type of

conversation taking place. The group discussed facilitation techniques and teacher behaviors and responses.

Teachers received a list of possible questions to facilitate their respective class meetings, with encouragement to ask open-ended questions and to provide neutral, non-value-laden responses to students' answers. Teachers trained to spark thoughts and facilitate discussions of students' ideas in the classroom meetings.

During the class meetings, students discussed varying previous grade-level experiences and examined differing thoughts and ideas surrounding those experiences. Students also deliberated on the importance of student led conferences and the value of creating engaging homework. Teachers used their skills to redirect value-laden conversations and to respect each speaker's point of view.

The researcher videotaped class meetings in classrooms throughout the year. In collegial conversations, teachers studied the videos and refined their facilitation techniques and, also, studied students' responses, communication skill, and social skill development to guide the facilitation and students' dialogue during the next scheduled class meeting.

Class meetings occurred on a weekly basis in sixth-grade reading classrooms. Outside of Class meetings, teachers reviewed anonymous student responses in school wide, design team, and grade level meetings. Student responses from the class meetings influenced decision-making within the school and the implementation of many school initiatives. Application of ideas from the responses of students gave voice to the students and supported their development of communication and social skills.

Method

This study used a quasi-experimental design, comparing changes in perceptions across time. The quasi-experimental design did not use random assignment, but inferences about the effect of the independent variable on the dependent variable are possible. This study allowed for comparisons of perceptions across time while not interrupting the students' natural environment.

Participants

The participants in this study included students enrolled in the sixth grade during the 2011-2012 academic year in a suburban school system located in the Southeastern United States. At the time of this research, the student population for the district was 4,300. The middle school student population included 1,018, with 343 students in the sixth grade and thirty-eight students qualified for the Free and Reduced Lunch program. Table 1 presents the breakdown of genders of the students who participated in this study. Table 2 presents the ethnicity of the student population.

Table 1
Male and Female Students

Students	Males	Females	Total
6 th Grade	187	156	343

Table 2
 Student Ethnicity

Students	Whites	African-American	Asian	Multi-Race	Total
6th Grade	303	27	10	3	343

Instrumentation

This study utilized the four factors of the Student Personal Perception of Classroom Climate: Exploratory and Confirmatory Factor Analyses (SPPCC) which consist of the four following factors: Factor 1 is Teacher Support; Factor 2 is Academic Competence; Factor 3 is Satisfaction; and, Factor 4 is Peer Support (Rowe et al., 2010). The Cronbach alpha ranged from .71 to .85.

The SPPCC is a 26-item Likert like response scale instrument with generated scores related to students’ overall perceptions of teacher academic support, teacher personal support, peer academic support, peer personal support, academic competence, and satisfaction. The score of 0-never represented the lowest rating, and the score of 3-almost always represented the highest rating.

Rowe et al. (2010) conducted two confirmatory factor analyses to determine the internal consistency of the factors. Factor correlations ranged from .03 to .43 in the first study. The second analysis yielded Cronbach alphas, ranging from .79 to .91. The factor correlations ranged from .27 to .60.

Data Procedures

The researcher utilized the Student Personal Perception of Classroom Climate survey (SPPCC) to gain students' perceptions of the level of belonging in the school setting. Sixth grade students completed the SPPCC in the fall, winter, and spring of the 2011-2012 school year. Sixth grade teachers administered the survey to subjects in a morning homeroom period and returned the survey instrument to the homeroom teacher who returned all surveys to a designated teacher within another grade level.

A one-way repeated measure ANOVA determined if sixth grade students' perceptions of teacher personal support, academic competence, and satisfaction changed across time. Since the present study compared three time points, a post hoc test determined which time points were significantly different from baseline measures. A Bonferroni corrected post hoc t test for the error resulting from multiple comparisons.

Results indicated a decline in perceptions' related to teacher personal support, academic competence, and satisfaction from the fall of the school year to the spring of the school year. The initiation of the first implementation of class meetings and the new skill of facilitating non-judgmental conversations among sixth graders may possibly affect the comfort level of teachers and students and their willingness to interact freely. The focus of sixth grade teachers on the gathering and reporting of information from student conversations rather than a focus on developing student identities, self-worth, and sense of belonging may also contribute partially to the decline in perceptions.

Table 3 presents the statistical means and standard deviations of students' perceptions regarding teacher personal support, academic competence, and satisfaction.

Table 3
Means and standard deviations across time^a Student Personal Perception of Classroom Climate Category

SPPCC Category ^a	M	SD
<u>Teacher Personal Support</u>		
Fall	3.34	0.705
Winter	3.15	0.680
Spring	3.24	0.621
<u>Academic Competence</u>		
Fall	3.61	0.515
Winter	3.51	0.540
Spring	3.57	0.546
<u>Satisfaction</u>		
Fall	2.95	0.523
Winter	2.85	0.546
Spring	2.83	0.564

Findings Associated with Hypotheses

Null Hypothesis 1: There will be no significant difference in middle school students' perceptions of belonging from teacher personal support between the fall, winter, and spring of the school year.

A significant main time effect from a one-way (time) repeated measures ANOVA occurred in teacher personal support perceptions ($F_{(2, 606)} = 10.822, p < 0.001$). Bonferroni corrected post hoc tests indicated a significant decrease in the winter surveys of teacher personal support when compared to the fall (mean difference of $-0.189, p < 0.001$), and the spring surveys when compared to fall (mean difference of $-0.104, p = 0.50$) (Figure 1). Therefore, the null hypothesis that no differences occurred across time in perceptions of teacher personal support is rejected. Sixth grade students' perceptions changed (negatively) across time.

Table 4
*Repeated Measures Comparisons
Teacher Personal Support*

	Fall Administration 3.3437	Winter Administration 3.1546	Spring Administration 3.2401
Fall	-----	-.189*	-.104*
Winter	-----	-----	.086
Spring	-----	-----	-----

* $p < .05$

Values are means \pm standard error. + indicates a significant difference of $p < 0.001$ from fall. * indicates a significant difference of $p < 0.05$ from fall.*

Null Hypothesis 2: There will be no significant differences in middle school students' perception of belonging from academic support between the fall, winter, and spring of the school year.

A significant main time effect from a one-way (time) repeated measures ANOVA occurred in 6th grade students' perceptions of academic competence ($F_{(2, 612)} = 5.105, p = 0.006$). Bonferroni corrected post hoc tests indicated a significant decrease in the winter surveys of academic competence when compared to the fall (mean difference of $-0.100, p = 0.004$). No significant difference occurred when comparing the fall surveys to

the spring surveys ($p=0.879$) (Figure 1). Although a significant decrease occurred between the fall and winter surveys, the researcher will retain the null since no differences occurred when comparing fall and spring surveys.

Table 5
Repeated Measures Comparisons
Academic Competence

	Fall Administration 3.6116	Winter Administration 3.5114	Spring Administration 3.5757
Fall	-----	-.100*	-.036*
Winter	-----	-----	.064
Spring	-----	-----	-----

* $p<.05$

Values are means ± standard error. + indicates a significant difference of $p<0.001$ from fall.*

** indicates a significant difference of $p<0.05$ from fall.*

Null Hypothesis 3: There will be no significant differences in middle school students’ perception of belonging from satisfaction between the fall, winter, and spring of the school year.

A significant main time effect from a one-way (time) repeated measures ANOVA occurred in students’ perceptions of satisfaction ($F_{(2, 608)} = 9.325, p<0.001$). Bonferroni corrected post hoc tests indicated a significant decrease in mid evaluations of satisfaction when compared to the fall (mean difference of $-0.096, p=0.003$), and the spring surveys when compared to fall (mean difference of $-0.122, p<0.001$) (Figure 1). Therefore, the null hypothesis revealed no differences occurred across time in perceptions of satisfaction was rejected. Sixth grade students’ perceptions changed (negatively) across time.

Table 6
Repeated Measures Comparisons
Satisfaction

	Fall Administration 2.954	Winter Administration 2.858	Spring Administration 2.832
Fall	-----	-.096*	-.122*
Winter	-----	-----	-.026
Spring	-----	-----	-----

*p<.05

Values are means ± standard error. + indicates a significant difference of p<0.001 from fall.*
** indicates a significant difference of p<0.05 from fall.*

A separate repeated one-way ANOVA analyzed each of the three categories. Significant main effects occurred for each category: Teacher Personal Support ($p<0.001$), Academic Competence ($p=0.006$), and Satisfaction ($p<0.001$). Bonferroni corrected post hoc t tests indicated students' perceptions of teacher personal support and satisfaction negatively changed across time. While students' perceptions of academic competence were lower at mid-year, no changes occurred when comparing fall to spring. Figure 1 depicts the changes in sixth grade students' perceptions of teacher personal support, academic competence, and satisfaction across time.

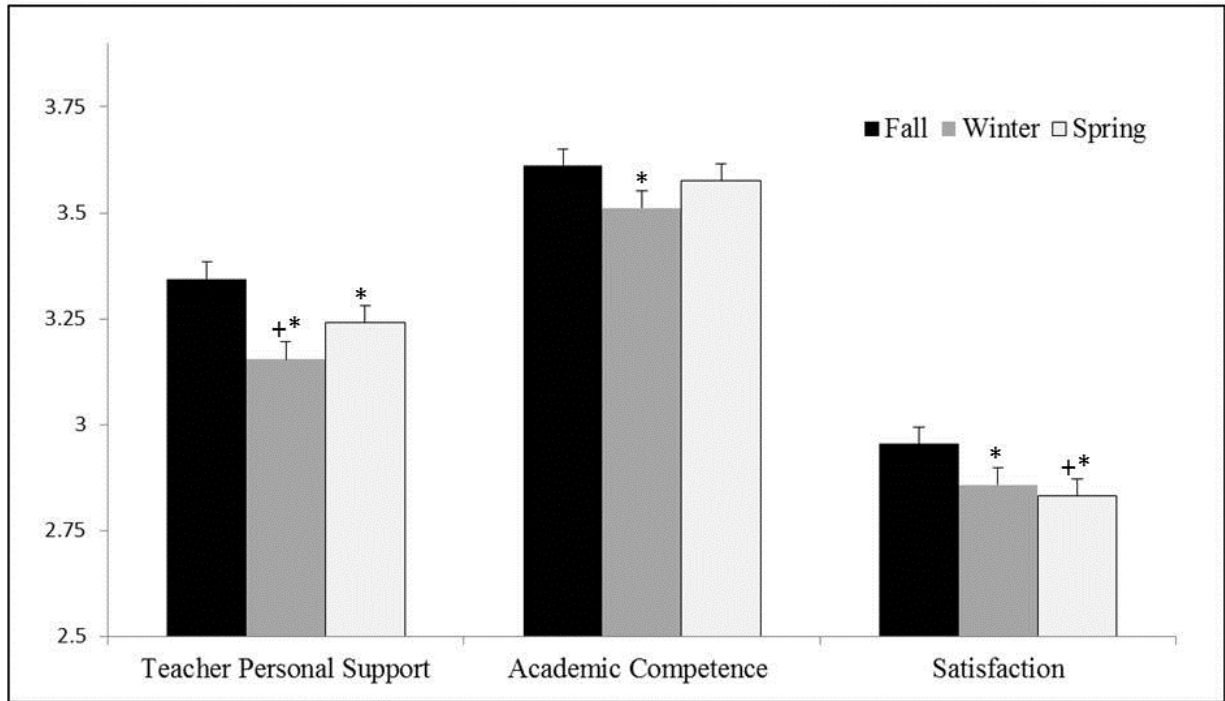


Figure 1: *Changes in sixth grade students' perceptions of teacher personal support, academic competence, and satisfaction across time.*

Conclusions and Implications

Faircloth (2009) suggests students and teachers' engaging through ideas is one way to support student belonging. Students' interpersonal relationships, sense of self, sense of voice, and school satisfaction may develop from speaking and revealing their identities and opinions.

According to Benenson and Dweck (1986), students' positive self-perceptions decline from elementary to middle school. The decline in students' perceptions of teachers' concerns for their well-being may reflect the students' natural developmental changes.

The data collected from this study emphasized the need for positive teacher-student relationships in order for students' sense of belonging and satisfaction to increase. In this study, as teacher-to-student relationships decreased, student satisfaction and sense of belonging decreased. Similar to the results of the study conducted by Ma (2003), the teacher is a critical component in shaping the students' sense of belonging. This study revealed the decline in students' perceptions in teacher personal support, academic competence, and satisfaction throughout the school year. In sixth grade class meetings, teachers focused more of their attention and energy on gathering the information from student conversations than developing the students' identities, self-worth, and sense of belonging.

This study underscores the challenge in creating middle school communities that equally appreciate and confront social, emotional, and academic developmental needs of students. Integrating students' views and voices into policies and practices may enhance learning experiences and become integral to school reform.

Recommendations for Future Research

This study was limited to one grade level in one school in a suburban school system located in the Southeastern United States. Additional studies could focus on other middle school grade levels to determine students' perceptions of belonging as students mature across districts, cities, and states.

Additional professional learning may supplement teachers' knowledge and understanding of middle school students, especially in the areas of brain development, emotional intelligence, and effective communication. Additional professional learning in the skills of facilitating conversations with groups of students and attending to their concerns may increase the effectiveness of the class meetings and add to the comfort and freedom of expression of the students.

A longitudinal study would provide data on students from the first to the last year in middle school. Tracking grades, behavior, school involvement, and family demographics would provide a statistical picture of students' progression or regression overtime.

Qualitative data from students and teachers would strengthen the quantitative data and supplement the analysis of students' responses. Expanding the study to include a comparison of teachers' perceptions of their performance with students' perceptions of their performance may provide insight into the issue of belonging and strengthen professional learning.

Class meetings related directly to students' identities and perspectives may strengthen the positive influence of teachers and peers. Relevant topics of interest to middle school students such as friendship, self-esteem, and preparation for high school may encourage self-exploration and revelation.

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