

The purpose of this sequential explanatory mixed methods study was to investigate teacher and peer support for young adolescents' academic motivation classroom engagement, and school belonging within one large, urban, ethnically diverse middle school. In the initial quantitative phase, associations among aspects of teacher support (autonomy, structure, and involvement), peer support (academic and emotional), and adjustment (motivation, engagement and belonging) were examined using student surveys (N= 209, 61% females). In the follow-up qualitative phase, participants elaborated on the ways teachers and peers support young adolescents' adjustment during individual interviews (N= 18 students, 5 teachers, and 1 administrator). Results indicate teacher and peer support are academic and social in nature and have unique implications for supporting motivation, engagement, and belonging in middle school. By utilizing a mixed methods design and adopting a multidimensional perspective of classroom-based support, our findings provide a comprehensive understanding of the role of teacher and peer support on student adjustment. An implication for educators is for them to understand the ways teacher and peer support may help meet young adolescents' needs and promote their academic motivation, classroom engagement, and school belonging. Findings may inform middle level educational research and practice, especially in urban, ethnically diverse middle level schools.

Keywords: academic motivation; engagement; school belonging; teacher support; peer support

Support from teachers and peers can have a profound influence on students' success (Wang & Eccles, 2013), well-being (Van Ryzin, Gravely, & Roseth, 2009), and overall adjustment in school (Deci et al., 1991; Wentzel et al., 2010). Interactions with teachers and peers play a central role in supporting young adolescents' academic motivation, classroom engagement, and sense of school belonging (Wentzel, 2012; Wentzel & Wigfield, 2007). Motivation, classroom

engagement, and sense of school belonging are important aspects of students' overall adjustment in school. Motivation is a set of beliefs that drive and sustain behavior and is an important precursor to learning and success in school (Wentzel, 2012; Wentzel & Wigfield, 2009; Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006). Engagement is a multifaceted construct that includes behavioral, cognitive, and/or emotional involvement in an activity (Fredricks, Blumenfeld, & Paris, 2004). School belonging involves students feeling a sense of acceptance, value, inclusivity, and encouragement from teachers and peers (Goodenow, 1993).

Teachers and peers may support adolescents' academic motivation, classroom engagement, and school belonging by promoting a learning environment that is responsive to their unique needs (Deci, Vallerand, Pelletier, & Ryan, 1991; National Middle School Association [NMSA], 2010). While researchers have examined implications of teacher and peer support for adolescent motivation, engagement, and belonging individually, they have rarely examined these constructs in tandem (Wang & Eccles, 2013; Wang & Holcombe, 2010; Wentzel, Battle, Russell, & Looney, 2010). In the current mixed methods study, we adopted a multidimensional perspective to examine teacher and peer support and their implications for adolescent adjustment. Our first goal was to examine the unique influences of teacher support (autonomy, structure, and involvement) and peer support (academic and emotional) on adolescent adjustment. Because less is known about the ways teachers and peers shape students' school experiences, our second goal was to investigate student and educator perceptions of the ways teachers and peers support student adjustment. Researchers need to include adolescents' perspectives (Caskey, 2011; Nichols, 2008) to capture the complexities of students' experiences in school (Daniels & Arapostathis, 2005; Kaplan, Katz, & Flum, 2012; Schmakel, 2008). Further, researchers have not

sufficiently examined these aspects of adjustment in large, ethnically diverse, urban school contexts, especially at the middle level (Daniels & Arapostathis, 2005; Murray, 2009).

Our primary aim was to examine teacher and peer support for adolescent adjustment in one large, urban, ethnically diverse middle level school. Two main questions framed the study: (1) How do teacher and peer support relate to student motivation, engagement, and belonging, and (2) In what ways do teachers and peers support student motivation, engagement, and belonging? We employed a sequential explanatory mixed methods design in which we examined associations among constructs using quantitative analyses and investigated perceptions of the ways teachers and peers support student adjustment using qualitative inquiry (Creswell & Piano Clark, 2011). By investigating the roles of teacher and peer support in meeting adolescents' needs and promoting adjustment, we hoped to provide valuable insight into ways to foster responsive learning environments for young adolescent learners at a time in their lives when educators and peers become increasingly salient (Brown, 2004) and motivation, engagement, and belonging often decline (Eccles & Roeser, 2011).

## Review of Literature

Adolescents' Basic and Developmental Needs Stage-environment fit theory (Eccles et al., 1993) and self-determination theory (Deci & Ryan, 2000) provided a cohesive theoretical framework for the current study. According to stage- environment fit theory, teachers and peers can foster a learning environment that is responsive to adolescents' developmental needs (Eccles & Roeser, 2011; Eccles et al., 1993). Developmental needs include high-quality friendships, peer acceptance, and close relationships with non-familial adults as well as dynamic cognitive, social, personal, and emotional needs (Brown, 2004; Eccles & Roeser, 2011). Self-determination theory

contends individuals have basic psychological needs for competence, autonomy, and relatedness (Deci & Ryan, 2000), and meeting students' basic needs fosters motivation and positive adjustment in school (Deci et al., 1991). Together, these theories suggest that motivation, engagement, and sense of belonging may be enhanced when young adolescents' basic and developmental needs are met within a responsive learning environment.

### [Teacher Support: Associations with Motivation, Engagement, and Belonging](#)

Teachers can help meet young adolescents' basic and developmental needs and promote positive adjustment by engaging in need-supportive teaching and providing students with appropriate levels of autonomy support, structure, and involvement (see Stroet, Opdenakker, & Minnaert, 2013 for a review). The current study examined multiple aspects of need-supportive teaching, including autonomy support (choice, respect, and relevance for learning), structure (monitoring student learning and expectations) and involvement (emotional support). This multidimensional approach enhanced our understanding of the ways, and the extent to which, teachers promoted student motivation, engagement, and belonging. Teachers may promote choice by allowing students to select tasks they perceive as interesting, which fosters engagement (Assor & Kaplan, 2001; Reeve, Jang, Carrell, Jeon, & Barch, 2004). Teachers may encourage respect in the classroom by using informational, non-controlling language and constructive criticism (Assor & Kaplan 2001; Belmont, Skinner, Wellborn, & Connell, 1992). Mutual respect is positively associated with self-efficacy, self-regulated learning, and a sense of security, allowing students to focus on the learning task (Patrick, Ryan, & Kaplan, 2007; Ryan & Patrick, 2001). Teachers promote relevance in learning by communicating the value and meaning of lessons and activities (Assor & Kaplan, 2001; Reeve et al., 2004). Perceiving learning as relevant allows students to

feel a sense of autonomy and control over their learning, which is essential to sustained motivation (Eccles & Roeser, 2011). Thus, we expected aspects of autonomy-supportive teaching to be positively and uniquely associated with adjustment. We expected choice to be positively related to engagement, respect to be positively related to engagement and belonging, and relevance to be positively related to motivation.

Teachers often enhance students' sense of competence and effectiveness in learning when they provide structure (Stroet et al., 2013). Researchers have identified four components of structure, including clarity, monitoring, positive expectations, and informational feedback (Belmont et al., 1992; Jang, Reeve, & Deci, 2010). The current study focused on monitoring student learning (i.e., providing guidance when needed) and high expectations regarding academic performance. Teachers monitor learning on an individual basis (e.g., walk around to check on student progress, respond to requests for help) and/ or during whole-class activities (e.g., ask questions, go over a concept/problem together) (Anderman, Andrezejewski, & Allen, 2011). Although monitoring may promote motivation (Jang et al., 2010; Skinner & Belmont, 1993), motivation may be hindered if students perceive it as controlling or diminishing their autonomy or competence (Deci & Ryan, 1985). Teacher expectations play a significant role in fostering motivation and achievement (Brophy, 2004) and are considered best practice especially for students in high needs, urban school settings (Corbett, Wilson, & Williams, 2002). However, if students perceive expectations as too high or unrealistic, motivation declines (Daniels & Arapostathis, 2005). Thus, non-controlling monitoring may be positively related to motivation as well as engagement and belonging as it encourages on-task behavior and teacher-student interaction. Challenging, yet realistic, expectations may be positively associated with motivation and engagement.

Teacher involvement-providing students with social and emotional support-is associated with the need for relatedness, care, and connection to others and is critical to supporting young adolescents' motivation, engagement, and belonging (Juvonen, 2007; Ryan & Patrick, 2001). When middle level students have a high-quality relationship with at least one non-familial adult in school who understands their developmental needs and enjoys working with them, their sense of feeling cared for and their chances of being successful in school increase (Jackson & Davis, 2000).

Although research indicates teacher involvement promotes adolescent adjustment, the ways in which teachers support student adjustment has received little attention (Ahmed, Minnaert, van der Werf, & Kuyper, 2010). Further, many teachers are not aware of the influence high-quality teacher- student relationships have on students' school success and do not view it as their responsibility to foster such relationships at the middle level (Davis, 2006). We expected teacher involvement to be positively and uniquely associated with student adjustment, especially school belonging (Nicholls, 2006, 2008).

Most research has examined global associations among need-supportive teaching (Reeve, 2006; Sierens, Vansteenkiste, Goossens, Soenens, & Dochy, 2009); associations among specific components of need-supportive teaching and their implications for student adjustment are relatively unknown. We addressed this gap in the literature by examining multiple dimensions of autonomy support (choice, respect, and relevance in learning), structure (monitoring and expectations), and involvement (emotional support) and their associations with student motivation, engagement, and school belonging. Need-supportive teaching may contribute to adjustment in unique and complementary ways (Jang et al., 2010; Vansteenkiste et al., 2012).

Implementing multiple aspects of need-supportive teaching has the potential to help to promote young adolescents' academic motivation, classroom engagement, and school belonging, and may be especially important for students in large, urban, diverse schools (Daniels & Arapostathis, 2005; Murray, 2009; Nicholls, 2008).

### [Peer Support: Associations with Motivation, Engagement, and Belonging](#)

Young adolescents support their peers' adjustment by meeting their basic and developmental needs (Deci & Ryan, 2000; Eccles et al., 1993), especially their needs for relatedness and acceptance (Brown, 2004). Student perceptions of peer support are associated with success in school (Anderman, 2003; Bishop & Pfiaum, 2005; Goodenow, 1993). Peer academic support such as clarifying teacher directions, providing information, and comparing school work promote motivation and engagement (Hamm & Faircloth, 2005; Wentzel et al., 2010). Peer emotional support, including providing emotional support and security (Wentzel et al., 2010), is associated with positive academic and social outcomes (Patrick et al., 2007). Peer support provides students with a sense that they can rely on others (Hamm & Faircloth, 2005) and help establish a sense of school belonging. Conversely, adolescents who do not perceive peers as supportive often do not develop a strong sense of school belonging and may be at risk for poorer academic and social adjustment (Goodenow, 1993; Wentzel et al., 2010). It is important to investigate ways peers promote school belonging in ethnically diverse, urban schools at the middle level so students in these contexts feel safe, are not harassed by peers, and do not feel lonely (Bellmore, Witkow, Graham, & Juvonen, 2004; Juvonen, Nishina, & Graham, 2006). We expected peer academic and emotional support to be positively and uniquely associated with all three aspects of student adjustment, especially school belonging.

Teacher and peer support may have distinct contributions to student adjustment as these social influences become increasingly independent during early adolescence (Davis, 2006; Wentzel et al., 2010). We expected teacher and peer support to be positively and uniquely associated with student adjustment (Deci et al., 1991; Wentzel et al., 2010). Teacher support may have stronger relations with motivation and engagement given teachers' role in promoting learning and achievement. Peer support may have stronger relations with belonging, as students often have closer, more egalitarian relationships with classmates than they do with teachers. Thus, the current study responds to recent calls (Kiefer, Ellerbrock, & Alley, 2014; Nichols, 2006; Wang & Holcombe, 2010) to provide a more comprehensive investigation of how teachers and peers meet student needs and support adjustment, including motivation, engagement, and belonging.

## Methodology

We used a mixed methods sequential explanatory design to examine teacher and peer support for student motivation, engagement, and belonging in a large, urban, ethnically diverse middle school. This multidimensional approach provided a more comprehensive understanding of the extent to which teachers and peers may support adolescent motivation, engagement, and belonging and yielded important implications for educators (Anderman & Kaplan, 2008; Daniels & Arapostathis, 2005; Kaplan et al., 2012). We gave priority to qualitative data collection and analysis in order to expand upon results obtained from the initial quantitative phase, as recommended by Ivankova, Creswell, and Stick (2006).

First, we used student surveys to collect quantitative data to examine associations between teacher support (autonomy, structure, involvement), peer support (academic, emotional), and adjustment (motivation, engagement, belonging). A multidimensional approach was warranted,



as most research has examined global associations among teacher support (Reeve, 2006; Sierens et al., 2009); relations among specific aspects of teacher support and their implications for student adjustment are relatively unknown. Teacher and peer support become more nuanced during the middle school years as adolescents have a heightened awareness of and interest in peer relationships (Brown, 2004) and educators become increasingly important in shaping students' learning and school experiences (Davis, 2006). Thus, multiple aspects of teacher and peer support were expected to be positively and uniquely associated with student adjustment.

Second, we conducted individual follow-up interviews to collect qualitative data to gain a more comprehensive understanding of the ways teachers and peers support adolescent adjustment. Little is known regarding how student and educator voices contribute to understanding the complex and multifaceted ways teacher and peer support affect student adjustment (Anderman & Kaplan, 2008). Thus, a deeper understanding of student perspectives regarding motivation (Daniels & Arapostathis, 2005; Schmackel, 2008) and belonging (Nichols, 2006, 2008) is needed at the middle level. It was, therefore, critical for us to include adolescent and educator voices as they have intimate knowledge and expertise regarding what takes place within the school context (Caskey, 2011; Kaplan et al., 2012). The interview data clarified and explained statistical results from the first quantitative phase (Creswell & Piano Clark, 2011) and provided insight regarding teacher and peer support for student adjustment.

### [Quantitative Procedures](#)

We collected student surveys as part of the University of South Florida Perceptions of the Learning Environment Project, a mixed methods investigation that examined student motivation, engagement, and sense of belonging in Sanchez Middle School (pseudonym). Sanchez Middle

School is a large, urban, socio-economically and ethnically diverse middle school (grades 6-8) located in one of the largest school districts in the southeastern United States. During the 2010-2011 school year, Sanchez had a total school enrollment of 1038 students. Sixty percent of the student population was minority and 56% of students qualified for free/reduced price lunch. The demographics of Sanchez were representative of student demographics at the school district level (59% of students were minority, 56% of students qualified for free/reduced price lunch). Students from sixth, seventh, and eighth grade who completed the survey in the fall and spring were included in the current study. Survey data in the fall were used to control for prior student adjustment (motivation, engagement, and sense of belonging), as well as aid in purposeful sampling for student interviews in the spring. Survey data (teacher support, peer support, and student adjustment) were collected in the spring to ensure survey data and follow-up interview data collection occurred during the same semester. As a result, students who only completed the survey in the fall ( $n = 15$ ; 7%) were dropped. These restrictions yielded a sample of 209 students (61% females, 39% males; 36% White, 64% minority: 39% Latino, 6% African American, 6% Asian American, and 13% multi-racial/other).

Participants completed surveys in a media room on school premises during school hours. The surveys were given by trained survey administrators and took 40 to 45 minutes to complete. Students were told the purpose of the study was to find out about their beliefs and behaviors regarding motivation, engagement, and sense of belonging. In addition, students were told that participation was voluntary and information would be kept confidential. All participants-and parents or guardians of student participants-signed informed consent forms. Survey administrators read aloud the informed assent protocol and asked students to provide verbal

affirmation and written consent prior to participating. An additional day was scheduled for survey make-ups for participants who were absent.

We used a five-point scale (1 = not at all true; 5 = very true) for all of the survey measures described below. All items in all scales were positively worded (i.e., higher scores indicated higher degrees of a given attribute). Students also reported demographic characteristics related to gender, race, and grade level. Teacher support. Student perceptions of teacher autonomy support and structure were measured with 20 items from the Teacher as Social Context Questionnaire (Belmont, Skinner, Wellborn, & Connell, 1988). Autonomy support subscales included promotion of choice, respect, and relevance in learning, each with four items. Choice focuses on the degree to which the teacher is perceived to allow students to make choices within the classroom context (e.g., "My teacher gives me a lot of choices about how I do my schoolwork"). Respect includes the perception that the teacher respects the student and his/her ideas (e.g., "My teacher listens to my ideas"). Relevance in learning involves the perception that what is taught has connections to the student's life and future goals (e.g., "My teacher talks about how I can use the things we learn in class"). Structure subscales included monitoring and teacher expectations, each with four items. Monitoring involves the perception that the teacher checks for student understanding before moving to new material (e.g., "My teacher makes sure I understand before he/she goes on."). Teacher expectations include perceptions that the teacher expresses belief in the student's abilities and expects the student to perform to the best of his/her abilities (e.g., "My teacher believes I can do well in class."). In the current study, autonomy support subscales were reliable ( $\alpha = .72, .82, \text{ and } .76$  for choice, respect, and relevance in learning) and structure subscales were reliable ( $\alpha = .76 \text{ and } .92$  for monitoring and teacher expectations). These scales

have been shown to be reliable and valid across different samples of young adolescents (Vansteenkiste, et al., 2012).

Student perceptions of teacher involvement were measured with four items from the Classroom Life Instrument (Johnson & Johnson, 1983). Involvement included perceptions that the teacher cared about how much the student learned and cared about the student (e.g., "My teacher really cares about me" and "I can talk to my teachers about my problems."). The measure was reliable in the current study ( $\alpha = .84$ ), and other researchers have found it to be reliable and valid in prior studies with adolescent samples (Wentzel et al., 2010). We conducted exploratory factor analysis for 24 items related to teacher support (autonomy, structure, involvement). Factors whose eigenvalues were greater than 1 were extracted. Analyses indicated six factors (choice, respect, relevance in learning, monitoring, expectations, and involvement) accounted for 67.52% of the total variance. All factor loadings were greater than .45 on their primary factor and no items loaded on another factor at greater than .40, with the exception of three autonomy support items from the respect and relevance in learning subscales.

Peer support. Students reported perceptions of peer support (Johnson & Johnson, 1983). The four items related to peer emotional support involved perceptions that classmates liked the student as a person (e.g., "Students care about my feelings"). We measured peer academic support with four items involving perceptions that peers wanted the student to do well (e.g., "Students want me to do well in school."). Given the high correlation among academic and emotional support subscales ( $r = .72$ ,  $p < .001$ ), they were combined into one measure ( $\alpha = .90$ ). Other researchers have found this measure to be reliable and valid across different samples of adolescents (Patrick et al., 2007; Wentzel et al., 2010).

Academic motivation. We measured academic motivation using Midgley and associates' (2000) mastery motivation measure from the Patterns of Adaptive Learning Scales. The five items related to motivation focused on the development of academic skills and abilities (e.g., "An important reason I do my schoolwork is because I want to improve my skills."). This measure was reliable in the current sample ( $\alpha = .88$ ), has sound psychometric properties (Patrick et al., 2007), and is associated with positive academic adjustment during adolescence (Meece, Anderman, & Anderman, 2006).

Classroom engagement. We used items from the Rochester Assessment of Intellectual and Social Engagement to assess classroom behavioral engagement (Skinner & Belmont, 1993). The four items related to engagement focused on perceptions that the student engages in on-task classroom behaviors (e.g., "I listen carefully in class."). We found this measure to be reliable in our sample ( $\alpha = .84$ ), and other researchers have found it to be valid and associated with adolescent and teacher reports of student engagement (Skinner & Belmont, 1993; see Fredricks, Blumenfeld, & Paris, 2004 for a review).

School belonging. Thirteen items focused on students' sense of personal belonging in school (e.g., "I feel a real part of my school," and "I can really be myself at this school."). This measure was reliable in the current study ( $\alpha = .86$ ) and valid in prior research, demonstrating associations with student academic motivation and learning (Goodenow, 1993; Goodenow & Grady, 1993).

Table 1

<i>List of Interview Participants (N = 24)</i> <i>Student Participants (n = 18)</i>		
<b>Pseudonym</b>	<b>Demographics</b>	<b>Grade</b>
Julie	White female	Sixth
Sabrina	White female	Sixth
Tina	Asian female	Sixth
Mustafa	Multiracial male	Sixth
Paul	Asian male	Sixth
Kirk	Latino male	Sixth
Amy	White female	Seventh
Deidre	Multiracial female	Seventh
Liza	Latina female	Seventh
Adam	White male	Seventh
Damien	Latino male	Seventh
Andy	White male	Seventh
Kaitlin	Latina female	Eighth
Sofia	Latina female	Eighth
Shannon	White female	Eighth
Dominick	Latino male	Eighth
David	White male	Eighth
Derek	African American male	Eighth
<i>Teacher and Administrator Participants (n = 6)</i>		
<b>Pseudonym</b>	<b>Demographics</b>	<b>Position</b>
Ms. Turner	White female	Sixth grade language arts
Ms. Scott	White female	Sixth grade social studies
Ms. Barnes	White female	Seventh grade social studies
Mr. Miller	White male	Eighth grade social studies
Ms. Clark	White female	Seventh & eighth grade science
Ms. Foster	African American female	Assistant principal

TABLE:

Table 1 List of Interview Participants (N = 24) Student Participants (n = 18)

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Demographics Grade Julie White female Sixth Sabrina White female Sixth Tina Asian female

Sixth Mustafa Multiracial male Sixth Paul Asian male Sixth Kirk Latino male Sixth Amy White female Seventh Deidre Multiracial female Seventh Liza Latina female Seventh Adam White male Seventh Damien Latino male Seventh Andy White male Seventh Kaitlin Latina female Eighth Sofia Latina female Eighth Shannon White female Eighth Dominick Latino male Eighth David White male Eighth Derek African American male Eighth Teacher and Administrator Participants (n = 6) Pseudonym Demographics Position Ms. Turner White female Sixth grade language arts Ms. Scott White female Sixth grade social studies Ms. Barnes White female Seventh grade social studies Mr. Miller White male Eighth grade social studies Ms. Clark White female Seventh & eighth grade science Ms. Foster African American female Assistant principal

### Qualitative Procedures

Sampling. We used purposeful sampling to select participants (N= 24) for follow-up interviews (see Table 1 for demographics), as recommended by Patton (2002). Eighteen students who completed the survey in fall and spring were eligible to participate in individual interviews. Students who participated in the qualitative phase signed an additional consent form and provided verbal assent. Researchers sought a student sample that was representative of overall student demographics (60% ethnic minorities), included an equal number of males and females (9 males, 9 females), included an equal number of students at each grade level (six students per grade), and encompassed an array of perspectives regarding motivation based on the larger investigation. Five teachers were recruited to participate, including three social studies teachers, one science teacher, and one language arts teacher. We recruited teacher participants to ensure at least two different subjects were represented at each grade level (language arts and social studies at sixth grade, social studies and science at both seventh and eighth grades). We also recruited

the assistant principal as a participant because her daily responsibilities included supporting student motivation, engagement, and belonging.

Data collection. In this second, qualitative phase, we used a descriptive, interpretive "basic qualitative design" (Merriam, 2009) to gain a detailed understanding of the ways teachers and peers support adolescents' motivation, engagement, and belonging. We selected this design because we sought to know, "In what ways do teachers and peers support motivation, engagement, and belonging at Sanchez Middle School?" Individual interviews with all participants were conducted using a semi-structured interview protocol (Appendix 1). We conducted student interviews in the media room and teacher interviews in their respective classrooms during the school day in the spring of 2011. Each interview lasted between 30 and 60 minutes. Interviews were audiotaped and transcribed verbatim (Creswell, 2007), totaling 288 single-spaced pages of transcripts.

Data analysis. We analyzed all qualitative data and conducted a confirmatory thematic analysis (Guest, MacQueen, & Namey, 2011) using a priori codes based on the survey measures. We began by uploading all transcripts into Atlas.ti, a qualitative data analysis program. We then read and individually coded transcripts based on constructs identified in the quantitative component (Creswell & Piano Clark, 2011), and we identified examples and non-examples for each code.

We used multiple methods to limit researcher bias and enhance trustworthiness of data. We employed member checks to allow participants to validate that the research accurately represented their voices. We subjected our research methods to peer reviews in which researchers trained in the qualitative methods used in this study cross-checked the data analysis process and study results. We also used journaling to separate researcher perceptions from the



data. To ensure confidentiality, we used pseudonyms for participant and school names. We ensured trustworthiness of our data analysis by comparing coding results from each researcher and then discussing the results until we reached an agreement regarding each code. We then interpreted to what extent and in what ways the qualitative results expand upon the quantitative results and how this informed the study's overall purpose (Creswell & Piano Clark, 2011).

## Quantitative Results

### Descriptive Statistics

We report zero-order correlations, means, and standard deviations in Table 2. As expected, aspects of teacher and peer support were positively associated with student motivation, engagement, and belonging. Aspects of teacher support had a moderate, positive correlation with adjustment (ranged from .15 to .40 for autonomy support, .13 to .32 for structure, and .39 to .62 for involvement subscales). Peer support was moderately, positively correlated with student adjustment (ranged from .23 to .53). We conducted multiple analyses of variance for all variables to explore mean level differences by gender, race, gender  $\times$  race, and grade level. Overall Ftests indicated there was a significant gender  $\times$  race interaction ( $F(0, 182) = 2.26, p < .05$ ). Follow-up univariate Ftests with the Bonferroni correction indicated there was a significant gender  $\times$  race difference for motivation ( $F(182) = 7.39, p < .01$ ) and engagement ( $F(1, 182) = 4.46, p < .01$ ). White females reported the highest levels of motivation ( $X = 3.52, SD = .86$ ) whereas White males reported the lowest levels ( $X = 2.81, SD = 1.15$ ). White females reported the highest levels of engagement ( $X = 4.48, SD = .55$ ) whereas minority girls reported the lowest levels ( $X = 4.00, SD = .91$ ). Given this difference, demographic variables (gender, race, and gender  $\times$  race) were included as control variables in subsequent analyses.

## Multiple Regression

We conducted multiple regression analyses examining teacher support, peer support, and adolescent adjustment, and we conducted separate hierarchical regression analyses for motivation, engagement, and belonging (see Table 3). Gender, race, and a gender X race interaction were entered at Step 1 along with prior student adjustment from the fall semester. Gender was a dichotomous variable with female coded as 1 and male coded as 0. Race was a dichotomous variable with White coded as 1 and minority coded as 0. Teacher autonomy support (choice, respect, relevance in learning), structure (monitoring, teacher expectations), and involvement were entered at Step 2 and peer support was entered at Step 3 (all measures were from the spring semester). Preliminary analyses tested all interactions among gender, race, gender X race, and variables in the current study. No significant interactions were found. As expected, teacher and peer support had unique associations with student adjustment.

**Table 2**  
*Bivariate Correlations for Teacher Support, Peer Support, Student Motivation, Engagement, and Belonging*

Variables	1	2	3	4	5	6	7	8	9
1. Academic Motivation	--								
2. Classroom Engagement	.47**	--							
3. School Belonging	.34**	.38**	--						
4. Teacher Choice	.19**	.28**	.19**	--					
5. Teacher Respect	.15*	.39**	.40**	.40**	--				
6. Relevance in Learning	.31**	.32**	.29**	.49**	.50**	--			
7. Teacher Monitoring	.13+	.26**	.30**	.39**	.48**	.57**	--		
8. Teacher Expectations	.21**	.32**	.32**	.26**	.48**	.51**	.42**	--	
9. Teacher Involvement	.39*	.44*	.62**	.41**	.51**	.45**	.51**	.40**	--
10. Peer Support	.23**	.25**	.54**	.10	.15*	.10	.10	.12+	.31**
M (SD)	3.20 (1.01)	4.16 (.81)	3.56 (.72)	2.92 (.91)	4.07 (.90)	3.54 (.96)	3.57 (.93)	4.33 (.78)	2.31 (.46)

*Note.*  $N = 209$ . + $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

TABLE: Table 2 Bivariate Correlations for Teacher Support, Peer Support, Student Motivation, Engagement, and Belonging

Table 2 Bivariate Correlations for Teacher Support, Peer Support, Student Motivation, Engagement, and Belonging Variables 1 2 3 4 5 6 7 8 9 10 1. Academic Motivation -- -- -- -- -- -- -- -- -- --  
 -- -- -- -- 2. Classroom Engagement .47\*\* -- -- -- -- -- -- -- -- -- 3. School Belonging .34\*\*  
 .38\*\* -- -- -- -- -- -- -- -- -- 4. Teacher Choice .19\*\* .28\*\* .19\*\* -- -- -- -- -- -- 5. Teacher  
 Respect .15\* .39\*\* .40\*\* .40\*\* -- -- -- -- -- -- 6. Relevance in Learning .31\*\* .32\*\*  
 .29\*\* .49\*\* .50\*\* -- -- -- -- -- 7. Teacher Monitoring .13+ .26\*\* .30\*\* .39\*\* .48\*\* .57\*\*  
 .57\*\* -- -- -- -- 8. Teacher Expectations .21\*\* .32\*\* .32\*\* .26\*\* .48\*\* .51\*\* .42\*\* --  
 -- -- 9. Teacher Involvement .39\* .44\* .62\*\* .41\*\* .51\*\* .45\*\* .51\*\* .40\*\* -- -- 10.  
 Peer Support .23\*\* .25\*\* .54\*\* .10 .15\* .10 .10 .12+ .31\*\* -- M (SD) 3.20 4.16 3.56 2.92

4.07 3.54 3.57 4.33 2.31 3.37 (1.01) (.81) (.72) (.91) (.90) (.96) (.93) (.78) (.46) (.89) Note. N=209. +p<.10. \*p<.05. \*\*p<.01.

**Table 2**  
*Standardized Regression Coefficients for Teacher Support, Peer Support, and Student Motivation, Engagement, and Belonging*

Variable in Equation	Adjustment Variables							
	Academic Motivation			Classroom Engagement			School Belonging	
	Step 1 β	Step 2 β	Step 3 β	Step 1 β	Step 2 β	Step 3 β	Step 1 β	Step 2 β
Prior Adjustment	.60***	.48***	.49***	.42***	.30***	.31***	.45***	.25***
Gender	.23*	.24**	.24**	.17	.17+	.16+	.12	.10
Race	.14	.15+	.15+	.05	.07	.06	.11	.13
Gender X Race	-.26*	-.26*	-.29*	-.30*	-.31*	-.35**	-.07	-.07
Teacher Choice		-.05	-.04		.03	.04		-.12*
Teacher Respect		-.08	-.08		.19*	.19*		.15*
Relevance in Learning		.16*	.15*		.01	.01		.01
Teacher Monitoring		-.13+	-.12+		-.09	-.08		-.09
Teacher Expectations		.02	.02		.06	.06		.07
Teacher Involvement		.27***	.22**		.28***	.22**		.51***
Peer Support			.14*			.17*		
R <sup>2</sup>	.38***	.45***	.46***	.23***	.39***	.41***	.22***	.49***
F Change	28.81***	3.27**	5.07*	13.71***	7.58***	6.81*	12.45***	15.49***

TABLE: Table 2 Standardized Regression Coefficients for Teacher Support, Peer Support, and Student Motivation, Engagement, and Belonging

Table 2 Standardized Regression Coefficients for Teacher Support, Peer Support, and Student Motivation, Engagement, and Belonging Adjustment Variables Variable in Equation Academic Motivation Classroom Engagement School Belonging Step 1 β Step 2 β Step 3 β Step 1 β Step 2 β Step 3 β Step 1 β Step 2 β Step 3 β Prior Adjustment .60[\*\*\*] 48[\*\*\*] 49[\*\*\*] 49[\*\*\*] 30[\*\*\*] 31[\*\*\*] 45[\*\*\*] 25[\*\*\*] 19[\*\*] Gender .23[\*] 24[\*\*] 24[\*\*] .17 .17+ .16+ .12 .10 .10 Race .14 .15+ .15+ .05 .07 .06 .11 .13 .12 Gender X Race -.26[\*] -.26[\*] -.29[\*] -.30[\*] -.31[\*] -

.35[\*\*] -.07 -.07 -.15 Teacher Choice -- -.05 -.04 -- .03 .04 -- -.12[\*] -.11[\*] Teacher Respect -- -  
.08 -.08 -- .19[\*] .19[\*] -- .15[\*] .15[\*] Relevance in Learning -- .16[\*] .15[\*] -- .01 .01 -- .01 .01  
Teacher Monitoring -- -.13+ -.12+ -- -.09 -.08 -- -.09 -.06 Teacher Expectations -- .02 .02 -- .06  
.06 -- .07 .06 Teacher Involvement -- 97[\*\*\*] 22[\*\*] -- 28[\*\*\*] .22[\*\*] -- .51[\*\*\*] 40[\*\*\*] Peer  
Support -- -- .14[\*] -- -- .17[\*] -- -- 37[\*\*\*] R2 .38[\*\*\*] 45[\*\*\*] .46[\*\*\*] 23[\*\*\*] 39[\*\*\*]  
41[\*\*\*] 22[\*\*\*] 49[\*\*\*] 59[\*\*\*] F Change 28.81[\*\*\*] 3.27[\*\*] 5.07[\*] 1371[\*\*\*] 7.58[\*\*\*]  
6.81\* 12 45[\*\*\*] 15 49[\*\*\*] 45.88[\*\*\*] Note. TV = 209; for gender, 0 = males and 1 = females;  
for race, 0 = White, 1 = minority. + p<.10. \*p<.05. \*\*p<.01. \*\*\*p<.001.

Academic motivation. The final regression model was significant,  $F= 13.79 (11, 189), p < .001$ .  
Academic motivation in the fall was positively associated and gender Xrace was negatively  
associated with motivation in the spring. Relevance in learning was positively associated with  
motivation and teacher monitoring had a marginal negative association with motivation. Further,  
teacher involvement was positively and uniquely associated with motivation. Peer support was  
positively associated with motivation above and beyond teacher support. Thus, aspects of teacher  
support (relevance, involvement) and peer support accounted for unique variance in motivation  
after controlling for prior adjustment, gender, and race.

Classroom engagement. The final regression model was significant,  $F= 11.13 (11, 189), p < .001$ .  
Engagement in the fall was positively associated and gender Xrace was negatively  
associated with engagement in the spring. Teacher respect and involvement were positively  
associated with engagement. Peer support was positively associated with engagement above and  
beyond teacher support. Thus, teacher autonomy support (respect, involvement) and peer support

accounted for unique variance in engagement after controlling for prior adjustment, gender, and race.

School belonging. The final regression model was significant,  $F= 23.16 (11, 189), p<001$ . School belonging in the fall was positively associated with belonging in the spring. Gender, race, and gender X race were not significant. Teacher choice was negatively associated with belonging. Teacher respect and involvement were positively associated with belonging. Peer support was positively associated with belonging above and beyond teacher support. Thus, teacher autonomy support (choice, respect), teacher involvement, and peer support accounted for unique variance in belonging after controlling for prior adjustment, gender, and race.

### Qualitative Results

Through follow-up interview data, we sought to gain a deeper understanding of the ways teachers and peers supported young adolescents' academic motivation, classroom engagement, and school belonging at Sanchez Middle School. The following themes emerged from the analysis:

- \* Teacher and peer support are academic and emotional in nature.
- \* Teacher and peer support may foster a developmentally responsive learning environment.
- \* Teacher and peer support have unique implications for supporting adolescent adjustment (motivation, engagement, and belonging).

Findings suggest autonomy support (respect and relevance in learning), structure (monitoring student learning and high expectations), and involvement served as ways teachers supported

student adjustment. Choice, an aspect of autonomy support, was not identified as a way teachers supported student adjustment. Academic and emotional support served as ways peers supported student motivation, engagement, and belonging. However, all students did not perceive all teachers and peers as supportive and promoting these three aspects of school adjustment.

### Teacher Support: Autonomy Support

More than half of the participating educators ( $n = 3$ ) and more than one fifth of students ( $n = 4$ ) identified teachers who provided autonomy support by fostering respect as supporting student needs for autonomy and relatedness. In addition, they identified these teachers as ones who promoted academic motivation, classroom engagement, and school belonging. Teachers and students recognized the importance of respect in the classroom. As Amy stated, "I like how a teacher is actually excited to teach. He expects respect. And he's not just a friend of yours, he teaches you." Adam elaborated, "They [core academic teachers] don't make fun of you or let the other students make fun of you." Mrs. Barnes confirmed Adam's thoughts regarding the importance of respect: "There are some things that are not okay in my classroom ... saying 'shut up', saying 'stupid' ... things like that that are hurtful. You have to set up that climate and environment in the very beginning." Mrs. Clark expressed the importance of respect for future success: "I will tell the kids [that] respectful students ... people who are respectful in life generally get further." Teachers and students indicated that teachers who modeled respectful behavior and encouraged students to interact with respect created responsive environments that may have promoted positive adjustment.

All participating educators and more than half of student participants ( $n = 10$ ) viewed relevance in learning, a second aspect of autonomy support, as supporting student needs for autonomy and

promoting motivation and engagement. Andy stated the importance of viewing learning as relevant: "Math teaches you how to be successful, like everybody needs math. Language arts, you need to know how to write and read." Amy further elaborated,

He [the teacher] makes it more exciting. He tells you what the science we're learning can do. He tells you how it works, and how it can affect certain things and all that stuff. And you think, while he's telling you this, "I can do that one day. If that's how it works, I'll be able to study this harder, and I'll be able to go out and do it."

Shannon stated how relevance is essential to motivation and engaged learning: "I love science because it's actually interesting and I know that I'll use it in my life." Adam also shared, "I get taught important lessons in the school that will help me in the future," including learning percentages in math as helping him to make more informed purchases. Teachers intimated how relevance promoted engagement. Ms. Scott shared, "They are asking questions. They are looking at wherever the action is, whether it is me or their group. It is hard to get their attention ... Sometimes you have to walk up and touch them to pull them out."

#### Teacher Support: Structure

More than half of educators ( $n = 3$ ) and almost all students ( $n = 16$ ) affirmed that monitoring student learning fostered a learning environment that supported student needs for competency and promoted classroom engagement. Kaitlin shared an example of how teacher monitoring can promote engaged learning: "[Teachers] will ask us if we've done work and why don't we understand this question. They'll just pull us aside and do a couple of examples with us and just make sure we really get it." Sofia elaborated, "[The teacher is] always telling me to do my best



and when he sees me that I'm confused, he'll be like, 'Oh, you have a question.' And then he'll help me. He'll explain it to me." When asked to share how her teacher knew she was confused, Sofia explained, "My face expressions I'm thinking. I'll be like [makes a face] and then he'll be like, 'Oh, you need help,' and then I'll be like 'yeah'."

Some teachers also provided whole-class monitoring to promote learning, as Liza explained,

Whenever you need help, like after every little section of notes we take, she [the teacher] always asks if we understand everything. She always goes over the homework before we do it, and if we need help she does help us.

Kaitlin shared an example of her language arts teacher following up whole-class instruction with individual monitoring: "She'll explain [the lesson] to the whole class ... if you need more understanding of what it's about, she'll tell you in different words and go to you and pull you to the side and she'll even give you examples." Teachers like Mrs. Scott shared the importance of listening carefully and getting students "back on track" when conversations veered from the assigned topic. "You have to listen to the words carefully to know what they are arguing about... Sometimes they can get so involved in their personal stuff. [They] are off track completely. You know, 'Let's turn it back around.'"

All participating educators and nearly all students (N= 17) viewed high expectations, a second component of structure, as supporting student needs for competence and promoting motivation and engagement. Mrs. Clark shared the importance of holding high expectations for students when we asked her how teachers might support student academic motivation. "Setting the bar" and consistently holding students accountable by "setting high expectations and not accepting

anything less" were essential elements according to Mrs. Clark. Further, she discussed the importance of creating a bond with students: "I find that if you really get that bond with them then they will perform and do what you expect them to ...you know, rise to the challenge." Mrs. Foster, the assistant principal, also mentioned the importance of using implicit language in communicating high expectations for students: "I think it's important for adults, period, to use language that teaches that students can achieve in whatever it is."

Students also perceived teacher expectations as supporting their academic motivation and classroom engagement. As Sofia shared, "They [teachers] help me a lot. They're always ...they care for me. And they're always telling me to try my best." Other students reinforced Sophia's thoughts regarding teachers' desires for students to be successful. For example, Damien shared, "A couple of our teachers come up to me and say, 'Why do you have this grade? You should be better. You should have a better grade than that.' Like I know you're smarter than this." Kaitlin also shared, "Mrs. Clark. She really motivates me. She asks us our grades and why we have this grade. If there's a bad grade, she'll try to help us on that." Students expressed a desire for teachers to balance expectations with fun and for them to communicate expectations within an emotionally supportive context. Amy stated she likes teachers who are "not just your friend or just very strict." When describing her language arts teacher, Amy stated. "She will get on you if you're talking when you're not supposed to be and you have to follow the rules. But she throws in all the fun that she can." Shannon also shared that she appreciated teachers who strike a balance: "He's [the teacher] structured but he's not like strict. I feel like ...you can be yourself more in that class, like you can express the way you feel about things more in that class."

Two students discussed excessively high expectations from teachers who expected them to "get their work done" or "not do well in class" as hindering motivation. David said, "[Teachers] don't care about excuses. They just want to see it on their desk the day it's due and if it's not then it's a zero." However, other students expressed that those teachers who demanded they "get their work done" and would not accept less than their best work supported their motivation by helping them focus and "get back on track." Students did not want to disappoint these teachers by doing less than their best work.

### Teacher Support: Involvement

All participating educators and a majority of students (n= 11) perceived teacher involvement as central to supporting student needs for relatedness and promoting academic motivation, classroom engagement, and school belonging. Teacher involvement included building relationships by being available and connecting with students in and out of class. Teachers reported ways in which being receptive and approachable supported student adjustment. Mrs. Clark shared,

I think generally being receptive to students. You know, being open ...[and] being approachable. I think that's the number one thing, and there are, you know not everyone in the world is approachable, so I find if you are positive and you set clear boundaries, you set clear rules, if you are approachable, then kids will come to you.

Teachers recognized the importance of emotional involvement, as Mrs. Barnes stated,

I love working with these kids, and I care about them as individuals. I know what's going on with them at home. I know their brothers and sisters. By the end of the year ...I'm like, "I love you guys." I care, and so they do whatever I ask them to do.

Some teachers, like Mr. Miller, expressed that getting to know students is essential to supporting their academic motivation, classroom engagement, and school belonging. He said, "I motivate them [students] by not just concerning myself with the subject at hand, but also the outside things that go on in their lives. The issues that are confronting them." Mr. Miller clarified this connection when he further elaborated on the importance of building relationships:

When you talk to kids about their future, their home life, what do they do on the weekends. 'Oh you play baseball? Oh you're a softball player? Who do you play softball for?' Simple question. Then they feel like they belong here because you're taking an interest in their personal life.

Students, like Amy, acknowledged the importance of teacher involvement:

There's a teacher here, Mr. Miller, and we're very close to him. It kind of comforts me that if I ever need somebody to talk to me that I don't feel comfortable telling the guidance counselor, telling the principal, I can go talk to him, and he can keep it private.

Shannon also explained how teacher involvement supported her motivation and engagement through a journal writing activity: "I feel I can tell her [the teacher] stuff. I write down if I'm having a problem about something ...and sometimes she'll comment on it."

Positive teacher-student interaction also helped to promote school belonging, as described by Kaitlin. She said, "When you get along with your teachers, you just feel like 'I'm here to stay' You've already made a bond with your teachers and it just feels really good."

Not all students perceived supportive teacher involvement. As Shannon stated when asked why she preferred some teachers to others, "She's [math teacher] the only teacher that I don't like because she won't stop and help you and she's so sarcastic all the time that I don't even know when to take her serious sometimes." Sabrina also described a teacher she initially perceived as involved, but then changed her perception towards the end of the year:

She's always nice and she doesn't really yell at people at all, but now that it's the end of the school year she's buckling down like she's getting more strict, but she wasn't like that all year. She never gave conduct alerts, but now she's giving more if people keep talking and talking and she says to "stop it."

### Peer Support

All participating educators and a majority of students perceived peer academic support (n = 15) and emotional support (n = 12) as central to supporting student needs for relatedness and promoting classroom engagement and school belonging. As Kaitlin stated, "Camilla helps me a lot. She really helps me a lot, like when I'm absent. She'll give me her notes to review [look] over them and she'll help me and she'll actually go over it with me." Dominick elaborated, "I was having trouble in my math class and one of my friends, he was helping me, and eventually I got an A on the next test." Liza also shared,

When I do ask my friends for help, they always help me. They're not like, "Oh no. I have to do this, I have to do that." They always take their time to help me and they always take time out of their day ...and I appreciate that.

Students discussed the importance of peer academic support as a means to support motivation and engagement. Tina shared,

My friends motivate me. Like, "Oh go, you can, I bet you can pass this test." Most of my friends, they would support me in what I do. It's like, "Oh good luck on your test. Oh that's such a good job." They would just help you in what your problems would be.

When we asked her how classmates and friends might increase her motivation, Tina shared that her friends could remind her to "think positive, don't think negative" and to "always push yourself to do it." Additionally, Mrs. Clark shared a salient instance of students providing an absent classmate with academic support:

We had a student once. He was in a car accident, and there was a family member that passed away in the car accident. [The student] was gone for a very long time-weeks and weeks. While he was gone the kids realized he was falling behind so they were copying their [notes]. I didn't even realize they were doing it; copying their agenda so that he would have the work, and then copying their notes so that he could try to catch up at home ...I said [to one of the students], "What are you copying for him?" And she said, "Look, we all take turns [copying notes for the student]."

Peer emotional support helped to promote students' sense of school belonging and may have provided a foundation for academic motivation and classroom engagement. Derek stated how

peer emotional support set a positive tone: "I can fit [in] with everybody here ... everybody accepts each other's differences. It feels like nobody is going to make fun of you ...it makes you feel like everybody is here together." Amy said, "My friends make me feel very, very secure and happy. They're always supportive and I support them. We support each other. It's like a giant family, and I love that feeling." Dominick attested to how peer emotional support fostered a sense of school belonging: "I have lots of friends and sometimes they just kind of stop by and say hi and I guess when that happens a lot, I feel like I do belong here." Mrs. Barnes verified the importance of peer relationships: "Connection, connection! They make friends and they build relationships, and that's what brings them to school." Mrs. Turner elaborated, "I think at this particular age a lot of it is the realm of peers because in sixth grade, coming out of that fifth grade and into sixth grade, it really becomes more about socialization and how do I fit in with my peers."

## Discussion

Teacher support (autonomy support, structure, and involvement) may have implications for academic motivation, classroom engagement, and school belonging. Autonomy-supportive classrooms foster positive adjustment by encouraging adolescents to take ownership of their learning and are critical during the middle school years as youth are increasingly striving for independence (Jackson & Davis, 2000). Results indicated that aspects of autonomy support (i.e., choice, respect, and relevance in learning) had unique implications for adjustment, extending understanding of the ways teachers support student experiences in school (Ahmed et al., 2010). Choice was negatively associated with belonging in survey data and did not emerge as an essential component of autonomy support in interview findings. Although providing choice may

allow students to select tasks they perceive as interesting (Assor & Kaplan, 2001), our findings indicated that students did not perceive teacher-provided choice as autonomy-supportive or salient. Respect was positively associated with classroom engagement and sense of school belonging, as indicated by survey results. Interviews with students and educators clarified ways in which teachers fostered respect, including modeling respectful behavior, explicitly stating classroom norms, and encouraging students to interact respectfully. Such positive support from educators may set the foundation to support positive adjustment in school.

Our findings dovetailed with prior research suggesting that mutual respect encourages classroom engagement, helps students focus on the learning task, and fosters a sense of security (Patrick et al., 2007; Ryan & Patrick, 2001). Relevance in learning was positively associated with academic motivation, and the qualitative data elaborated on ways teachers made learning relevant, including communicating how things work and how learning connects with the real world. Results were consistent with extant literature (e.g., Anderman et al., 2011; Jackson & Davis, 2000; Reeve et al., 2004) emphasizing the importance of relevant curriculum and instruction to promote student motivation. Our findings suggest that teacher promotion of respect and relevance is both academic and social in nature, promotes autonomy, and encourages positive adjustment. An implication for educators, therefore, is for them to find ways to meaningfully foster respect and real-world learning in the classroom to promote adolescents' autonomy and positive adjustment.

Although quantitative and qualitative results regarding teacher autonomy support converged, there were more divergent findings for teacher structure (monitoring and expectations). Monitoring was negatively associated with academic motivation in survey results, although this



did not reach a level of significance. In contrast, during interviews students repeatedly described instances when monitoring supported their classroom engagement. Individual monitoring may have been supported by high-quality, responsive teacher-student relationships. Teachers provided whole-class monitoring during which they checked student understanding, broke down ideas, and listened to and observed students carefully. Thus, although monitoring may have enhanced engagement (Jang et al., 2010; Skinner & Belmont, 1993), it may have hindered adjustment when students perceived it as controlling (Deci et al., 1991).

Teacher expectations were not associated with adjustment in the survey results, yet during interviews students and educators shared instances in which expectations supported or hindered academic motivation and classroom engagement. Students preferred expectations accompanied with a sense of fun and emotional support, and some students discussed occasions when teachers held controlling or extremely high expectations. Interview findings suggested that teacher expectations may meet students' needs and support positive adjustment when they are realistic and expressed within a context of high-quality teacher-student relationships (Daniels & Arapostathis, 2005; Jackson & Davis, 2000; Jang et al., 2010).

The findings also indicated that teacher structure is both academic and social in nature, as these academic supports were most effective within the context of supportive relationships. An implication is that educators must understand how to provide structure within the context of high-quality teacher-student relationships to meet adolescents' needs and promote adjustment.

Qualitative and quantitative results both suggested that teacher involvement was central to meeting student needs for relatedness and supporting adjustment. Students and educators indicated teachers who were interpersonally involved built high-quality teacher-student

relationships by getting to know students personally, being available, and connecting in and out of the classroom. Findings are consistent with research indicating teacher involvement is critical to young adolescents' adjustment and that students need a high-quality relationship with at least one adult to promote school success (Davis, 2006; Jackson & Davis, 2000; Nichols, 2008; Ryan & Patrick, 2001). Not all students perceived teachers as involved, suggesting teachers need to be aware of the influence teacher-student relationships have on student adjustment and their role in fostering such relationships (Davis, 2006; Juvonen, 2007).

Qualitative and quantitative results aligned regarding peer support, indicating peer academic and emotional support was associated with all three aspects of adjustment. Students and educators mentioned that peer assistance with homework and studying supported classroom engagement and school belonging. Further, relationships with friends made students feel "secure and happy", supporting their sense of school belonging. Results aligned with research indicating teacher and peer support promote belonging (Nichols, 2006, 2008). Teacher involvement had stronger associations with all three aspects of adjustment compared to peer support, suggesting that although peer support is important, teacher support is critical to fostering positive adjustment at the middle level (Davis, 2006). Quantitative results indicated teacher and peer support explained the most variance for school belonging, followed by academic motivation and classroom engagement. Further research is needed to understand the joint influences of teacher and peer support on young adolescents' adjustment. An implication for educators is for them to be cognizant of the ways they can directly support students through teacher involvement and indirectly support students by fostering positive and supportive peer relationships and peer norms (Hamm, Farmer, Dadisman, Gravelle, & Murray, 2011).

Overall, results suggested that teacher and peer support are academic and social in nature and have unique implications for meeting young adolescents' needs and supporting adjustment in school (Deci & Ryan, 2000; Eccles & Roeser, 2011; Wang & Eccles, 2013; Wang & Holcombe, 2010). Findings capture multiple dimensions of teacher and peer support, affirming that student adjustment emerges from complex social interactions and is best understood within a unique social context (Goodenow & Grady, 1993). This study may inform responsive school- and classroom-based interventions at the middle level (Eccles & Roeser, 2011; Juvonen, 2007; Patrick & Mantzicopoulos, 2012). Interventions have targeted teachers and peers to improve student adjustment (Felner, Seitsinger, Brand, Burns, & Bolton, 2007; Hamm & Hoffman, 2012; Hudley, Graham, & Taylor, 2007), yet many interventions have not considered utilizing multiple aspects of teacher and peer support to foster learning environments that meet young adolescents' needs and promote optimal adjustment.

### [Limitations and Future Directions](#)

Findings should be understood within the context of limitations and future directions. The study focused on student and educator perceptions; these perceptions are not necessarily measures of teachers' or peers' actual behaviors. All survey constructs were measured via self-reports, which may not have fully captured actual behaviors and may have resulted in shared-source variance.

Future research could use observational data in addition to survey and interview data to investigate specific teacher and peer behaviors and their implications for student academic motivation, classroom engagement, and school belonging. Further, quantitative data were correlational in nature and qualitative data provided only a snapshot of the ways teachers and peers supported adolescent adjustment within an ethnically diverse, urban middle school.

Although students from grades 6 through 8 were included, conducting longitudinal research throughout the middle grades would provide insights into changes in teacher and peer support and into developmental trends regarding the influence of teacher and peer support on student adjustment. Lastly, including more student, teacher, and administrator voices may provide additional perspectives not currently represented. Despite these limitations, the findings have implications for supporting young adolescents during a time characterized by declines in academic and social adjustment (Anderman, Maehr, & Midgely, 1999) and provide a strong foundation for further research investigating ways teachers and peers may support student needs and promote optimal adjustment in the middle grades.

## Conclusion

The aim of this sequential explanatory mixed methods study was to gain a more comprehensive understanding of the roles of teacher and peer support for young adolescents' academic motivation, classroom engagement, and school belonging within one large, urban, ethnically diverse middle school. Findings aligned with prior research indicating that teacher and peer support are critical elements of a developmentally responsive learning environment that promotes positive student adjustment at the middle level (Jackson & Davis, 2000; Wang & Eccles, 2013; Wentzel et al., 2010). Survey results identified unique implications of teacher and peer support for adolescent adjustment, extending prior research (Reeve, 2006; Wang & Eccles, 2013). Following earlier studies (Anderman & Kaplan, 2008; Daniels & Arapostathis, 2005; Kaplan et al., 2012), we conducted qualitative interviews that allowed students, teachers, and administrators to explain and elaborate upon initial survey results, providing a detailed understanding of the ways teachers and peers supported adolescent adjustment. The main

conclusions from this study are that teacher and peer support are academic and social in nature, may foster a responsive learning environment, and have unique implications for supporting adolescents' academic motivation, classroom engagement, and school belonging. Our multidimensional approach to investigating classroom-based support and our mixed methods design contribute to research on the roles teachers and peers have in supporting adolescents' needs and promoting adjustment in school. In addition, our findings inform ways educators may enhance teacher and peer support for student academic motivation, classroom engagement, and school belonging at the middle level.