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Perceptions of Classroom Working Alliance and Student Performance

Positive teacher-student relationship has been established as an important contributor to students' social, behavioral, and academic adjustment. Nevertheless, current research has not employed relationship measures that examine both teachers' and students' perceptions. Furthermore, the measures currently being used lack breadth in the definition of the teacher-student relationship. Using the construct of "working alliance" from counseling psychology, this study investigated teachers' (n=14) and elementary school students' (n=53) perceptions of their working alliance and explored how this construct relates to student performance. Teachers' and students' ratings on subscales of the Classroom Working Alliance Inventory (CWAI) were found to be significantly related to one another. In addition, regression analyses demonstrated that both teachers' and students' ratings of working alliance contributed signficantly to ratings on the Student Performance Questionnaire (SPQ).

Un rapport positif entre l'enseignant et l'élève s'est avéré être un facteur important qui contribue à l'adaptation sociale, comportementale et académique des élèves. Néanmoins, la recherche actuelle n'a pas employé de mesures des rapports qui examinent à la fois les perceptions des enseignants et celles des élèves. De plus, les mesures actuelles manquent d'envergure quant à leur définition du rapport enseignant-élève. Empruntant de la psychologie thérapeutique la construction de l'alliance de travail, nous avons étudié les perceptions qu'ont les enseignants (n=14) et les élèves de l'élémentaire (n=53) de leur alliance de travail et avons examiné dans quelle mesure cette construction joue un rôle dans le rendement des élèves. Nous avons trouvé une relation significative entre les cotes des enseignants et celles des élèves aux sous-échelles de l'inventaire de l'alliance de travail en salle de classe (Classroom Working Alliance Inventory). De plus, les analyses de régression ont démontré que ces cotes, tant celles des enseignants que celles des élèves, ont contribué de façon significative aux cotes du questionnaire sur le rendement des élèves.

As children make the transition from home to school, teachers become a primary source of guidance and emotional support. Each day at school, children strive to establish and maintain interpersonal relationships and to develop a sense of belonging. The quality of teacher-student relationship is a reflection

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of these day-to-day interactions. Children who have close, supportive relationships with their teachers feel that the teacher likes them and think that they are capable of learning (Stockard & Mayberry, 1992; Wang, Haertel, & Walberg, 1994). A positive relationship with a teacher has been shown to be a critical component in a student's classroom success, but how can teachers develop and foster a working relationship with their students? Although the existing research has clearly established a connection between positive teacher-student relationship and students' social, behavioral, and academic adjustment, measurement limitations have precluded current researchers from examining both teachers' and students' perceptions and capturing sufficient breadth in conceptualizating the teacher-student relationship. Thus the purpose of the present study was to expand on the literature by examining both teachers' and students' perceptions of the classroom working alliance and how this construct relates to student performance.

The quality of teacher-student relationships has been shown to be an important predictor of student-related outcomes. Indeed, Bronfenbrenner (1979) claimed that the teacher-student dyad played an essential role in children's learning and developmental processes. Research has documented associations between aspects of teacher-student relationship and children's behavioral and social competence (Hughes, Cavell, & Wilson, 2001; Pianta, 1994), academic achievement (Furrer & Skinner, 2003; Wentzel, 2002), and overall school adjustment (Baker, 1999; Birch & Ladd, 1997; Murray & Greenberg, 2001).

Most research about teacher-student relationships and children's early school adjustment builds on attachment theory (Pianta, Nimetz, & Bennett, 1997; Pianta & Steinberg, 1992). Secure relationships provide children with a sense of security and supportive belonging that frees them to pursue other goals such as exploration, learning, and mastery (Ainsworth & Bowlby, 1991; Rey, Smith, Yoon, Somers, & Barnett, 2007). Past research has shown that achievement is enhanced by high expectations for students coupled with a classroom climate characterized by encouragement and support (Bernard, 1991; Stockard & Mayberry, 1992; Wang et al., 1994). There is increasing recognition among educators that children's overall adjustment and success at school requires a willingness, in addition to an ability, to meet both social and academic challenges (Wentzel, 2002). In considering this, it can be hypothesized that children who have strong teacher-student relationships become more actively engaged in the learning process and thus have more positive school experiences.

Teacher-Student Relationship and Children's Adjustment

Numerous studies have found that positive relationships between teachers and children are associated with a variety of beneficial school-related student outcomes (Birch & Ladd, 1997; Hamre & Pianta, 2001; Lynch & Cicchetti, 1997). The following section provides an overview of the literature demonstrating the influence of teacher-student relationship on children's social and behavioral competence, academic achievment, and overall school adjustment.

Social and behavioral competence. Numerous studies have provided support for the association between children's social and behavioral functioning and positive teacher-student relationships (Birch & Ladd, 1997; Blankemeyer, Flannery, & Vazsonyi, 2002; Dubow, Arnett, Smith, & Ippolito, 2001; Hamre &

Pianta, 2001; Hughes, Cavell, & Jackson, 1999; Meehan, Hughes, & Cavell, 2003; Murray & Greenberg, 2001; Pianta, 1994). Hamre and Pianta conducted a longitudinal study examining the trajectory of school outcomes for 179 kindergarten students (91 male, 88 female). Teachers' perceptions of relationship, as measured by ratings on the Student-Teacher Relationship Scale (STRS, Pianta, 2001) during the children's kindergarten year, were found to be highly associated with teachers' ratings of behavior problems (e.g., conduct, shy/anxious). Furthermore, teacher-rated relationship was predictive of students' behavioral outcomes, as measured by school's disciplinary records, into early elementary and through grade 8. These results are consistent with Pianta's earlier (1994) study of 436 children (205 male, 231 female), in which he reported that dysfunctional teacher-student relationships in kindergarten predicted conduct problems and poor social skills in grade 1.

These studies provide evidence to support the critical role of the teacher-student relationship in children's social and behavioral development. However, both of the described studies assess teacher-student relationship solely from the perspective of the teacher. It is possible that students understand and characterize positive relationships differently than their teachers. Students' perceptions of the teacher-student relationship may influence their classroom behavior, which in turn is associated with the teacher's perception of relationship. As such, students' perceptions may be a critical factor related to both behavioral difficulties and teachers' connectedness to their students.

The association between quality of relationship and behavioral outcomes was also supported by Hughes et al. (1999). In this study, they investigated the influence of teacher-student relationships on subsequent levels of aggression among a sample of 61 grades 2 and 3 students (41 male, 20 female) nominated by teachers as aggressive. Teachers' and students' perceptions of relationship were represented by a factor score that combined subscales from the Network of Relationships Inventory (NRI, Furman & Burhmester, 1985) and the Social Support Appraisals Scale (Dubow, Tisak, Causey, Hryshko, & Reid, 1991) and were found significantly to predict teachers' ratings of children's aggression one year later. However, in considering the findings from this study, it is important to note that the researchers did not employ independent measures of teacher-student relationship. By examining a relationship that develops uniquely in the classroom setting as a subdimension of diverse constructs, it is unclear whether these measures truly assess the teacher-student relationship. Indeed, it makes it difficult to generalize results from various studies when each defines teacher-student relationship uniquely.

Academic achievement. Student achievement has also been investigated as a outcome of positive teacher-student relationships. In addition to measures of achievement such as school grades or standardized tests, children's academic competence can be measured by other individual characteristics that contribute to their likelihood of success. For example, children's readiness to learn is characterized by a motivation to engage in classroom experiences and to maintain positive interactions with adults (Lynch & Cicchetti, 1997). This readiness is influenced by students' interactions with teachers that communicate high expectations, coupled with a classroom climate characterized by encouragement and support (Stockard & Mayberry, 1992; Wang et al., 1994). Presumably,

because these children's teachers make them feel supported and capable, they behave in ways that support their cognitive development; the students may enjoy school, feel confident in their academic abilities, and be willing to engage actively in classroom activities. Indeed, these assumptions are supported by research that has shown that having a positive and supportive relationship with a teacher enhances a student's motivation, willingness to participate in learning activities, and academic success (DiLalla, Marcus, & Wright-Phillips, 2004; Furrer & Skinner, 2003; Hamre & Pianta, 2001, 2005; Klem & Connell, 2004; Parker & Asher, 1987; Pianta & Steinberg, 1992; Wentzel, 2002).

For example, in their study of 641 grades 3-6 students (321 male, 320 female), Furrer and Skinner (2003) explored the effects of a sense of "relatedness" or belonging on children's academic motivation and performance. Relatedness was assessed through children's responses on four items for each social partner (i.e., mother, father, teacher, classmate, and friend). Results indicated that children's reports of relatedness to teachers was highly related to their own ratings of classroom engagement and motivation for learning. This study has critical implications for the development of positive relationships for children. Nevertheless, it may be argued that the scales used do not truly measure teacher-student relationship independent of other contextual classroom factors (e.g., happiness, success with schoolwork). Further, the same items were used to assess relatedness for each social partner, which once again supports the need to elaborate our current conceptualization of teacher-student relationship.

Similarly, DiLalla et al. (2004) showed that teachers' ratings of relationship, as measured by the Student-Teacher Relationship Scale (STRS, Pianta, 2001), were significantly associated with academic achievement. Analyses based on 42 children (23 male, 19 female) demonstrated that conflictual teacher-student relationships in preschool predicted teachers' ratings of children's school grades six to eight years later (in grades 5-8), beyond that explained by children's early behavioral problems. This study makes a significant contribution to the literature in demonstrating the long-term effects of positive teacher-student relationships. Of interest would be both teachers' and students' perceptions of relationship and the outcome of school success.

Overall school adjustment. Given that students spend a significant amount of time in school and the teacher-student relationship is a key relationship in the school environment, it is not surprising that a positive relationship with a teacher is important for students' school adjustment; particularly, how well children adapt to the school environment and other school-related experiences (Juvonen & Wentzel, 1996). Positive teacher-student relationships have been demonstrated to be an important contributing factor to school adjustment variables such as academic self-efficacy, self-worth, attitudes toward school, and overall school satisfaction (Baker, 1999; Birch & Ladd, 1997; Demaray, Malecki, Davidson, Hodgson, & Rebus, 2005; Murray & Greenberg, 2001; Rey et al., 2007; Wentzel, 2002).

For example, Baker (1999) examined the association between students' ratings of relationship with their teachers and school satisfaction among 61 children in grades 3-5. Teacher-student relationship was measured through the Things That Happen in School Scale (Grannis, 1992) to assess social support

and the Psychological Safety Index (Hinman, 1993) to assess students' sense of security and belonging in the classroom. Results indicated that students with more caring, supportive teachers were more satisfied with school than students who perceived less teacher support. Although these findings support earlier research in the area, teacher-student relationship was once again assessed with measures that do not directly examine relationship.

Rey et al. (2007) examined teachers' and students' perceptions of their relationship. Eighty-nine African-American children in grades 3-6 (42 male, 47 female) and their teachers independently rated the quality of their relationship on the Student-Teacher Relationship Scale (STRS, Pianta, 2001) and completed a range of questionnaires about the children's school-related adjustment including school attitudes and classroom behavior. It was found that children's perceptions of the teacher-student relationship were indeed significantly related to school adjustment and predicted numerous school outcomes variables above and beyond teachers' perceptions. Moreover, children who perceived a caring, emotionally supportive, and meaningful relationship with their teacher also rated themselves as behaving better in class, feeling more connected to school, and being more involved in school-related activities (e.g., clubs, sports). The findings of this study are critical in that they demonstrate the importance of examining both teachers' and students' perceptions of relationship, as both ratings independently influence student outcomes. However, teachers and students completed different rating scales in this study, which makes it difficult to compare and examine possible discordances in their perceptions.

Measurement of Teacher-Student Relationship

In examining the literature on teacher-student relationships, we found several noteworthy inconsistencies in the field. The gaps in the present literature clearly demonstrate a need to develop an independent measure of teacher-student relationship that considers teachers' and students' perceptions separately and broadens the definition currently employed in the literature to consider variables unique to a classroom working relationship.

Past research has shown significant associations between teachers' and students' perceptions of their relationship, suggesting that children are capable of forming an opinion about their relationship with their teacher reliably (Rey et al., 2007). The notion that two independent raters can partly agree on the quality of a relationship supports the idea that the teacher-student relationship is a measurable and distinct phenomenon. Only two of the reviewed studies examined both teachers' and students' perceptions of relationship (Hughes et al., 1999; Rey et al., 2007) and the association between these ratings and school adjustment. However, Hughes et al. did not measure teacher-student relationship as an independent construct, but rather as a subdimension embedded within a larger scale of social support. Although Rey et al. employed an independent measure of teacher-student relationship, only the teachers completed this scale; students' perceptions were measured through a separate measure of social support. With these limitations, a further inconsistency across the literature is revealed.

As evident in Hughes et al. (1999), teacher-student relationships have typically been measured either as a subdimension embedded in larger scales of social support (Malecki & Demaray, 2002) or as a single dimension based on

items extracted from other scales (Blankemeyer et al., 2002). Currently, only two validated scales serve as independent measures of teacher-student relationship: the Student-Teacher Relationship Scale (STRS, Pianta, 1992, 2001) and the Teacher-Student Relationship Inventory (TSRI, Ang, 2005). Although both these scales have been shown to yield scores with high internal consistency and good predictive validity (Ang; Pianta, 2001), they rely solely on teachers' perceptions. Furthermore, these scales assess relationship solely from the perspective of bond, respect, connectedness, or absence of conflict (characteristics derived from the attachment literature). This is problematic because unique characteristics are associated with working relationships, especially in classroom environments.

The Working Alliance

One construct of relationship that has been extensively studied and validated is the working alliance. In the counseling context, researchers have demonstrated convincingly that the quality of the alliance is deemed crucial regardless of the theoretical orientation of the therapist. In essence, alliance refers to the quality and strength of the collaborative relationship (Horvath & Bedi, 2002). Findings have demonstrated that the quality of relationship, or the *alliance*, between client and counselor is one of the best predictors of a variety of positive outcomes (Barber, Connolly, Crits-Cristoph, Gladis, & Siqueland, 2000; Horvath, 2000; Martin, Garske, & Davis, 2000; Norcross, 2002).

Bordin (1979) conceptualized the working alliance as consisting of three interdependent components: bond, task, and goal. The Working Alliance Inventory (WAI, Horvath & Greenberg, 1986, 1989) was developed based on this conceptualization, with three unique subscales, and has been shown to be a reliable measure of alliance. The aspect of bond represents the emotional component of the relationship, a complex network of positive attachments based on mutual trust, liking, respect, and caring. This represents much of what has been encompassed in explorations of the teacher-student relationship. However, alliance also encompasses more cognitive aspects of relationship including the goals established in collaboration between the two parties and the tasks or means by which these goals can be reached.

The WAI provides a previously validated definition of the elements that form a positive relationship, as well as a solid foundation for assessing these elements from the perspective of multiple informants. Thus the present study sought to explore whether the construct of *working alliance* could be validated for use in the classroom.

Research Questions

Taken together, the findings from earlier research suggest that supportive teacher-student relationships are associated with myriad school-related adjustment outcomes. However, there is a need for research examining the variables unique to a classroom setting, and specifically a working relationship between teacher and student. The purpose of the current investigation is to explore teachers' and students' perceptions of working alliance as measured by an adapted version of the WAI, the Classroom Working Alliance Inventory (CWAI, Heath, Toste, Dallaire, & Fitzpatrick, 2007). The present study builds on earlier work by examining the following questions: (a) Is there agreement

between teacher-rated and student-rated indicators of alliance? and (b) How much variance in the student performance can be accounted for by teacher and student ratings of alliance?

Method

Participants

The participants were 53 children (28 male, 25 female) enrolled in a public elementary school located in the greater Montreal area and their classroom teachers (N=14). Students were randomly selected from the class lists of the teachers who agreed to participate in the study. Children ranged in age from 8.5 to 12.8 years (M=123.36 months, SD=13.47), with 16 students from grade 3, 15 from grade 4, 12 from grade 5, and 10 from grade 6. The school population comprises largely working-class to middle-class families of various cultural backgrounds. As identified by the parents, the children's first languages were English (84.9%), French (1.9%), and other (13.2%).

Fourteen classroom teachers (3 male, 11 female) participated in this study. A total of 18 teachers were responsible for the grades 3-6 classes; all teachers were approached, and four declined participation due to previous commitments with other projects. Teachers were between the ages of 22 and 58 years (M=37.36, SD=13.28), with years of teaching experience ranging from 1-33 years (M=11.86, SD=11.51). Each teacher had 2-5 participating students from his or her homeroom class.

Measures

Classroom Working Alliance Inventory (CWAI, Heath et al., 2007). For the purposes of the present study, the WAI Short Form (WAI-SF, Tracey & Kokotowitc, 1989, from Horvath & Greenberg, 1986) was adapted for use with elementary-aged students. The CWAI is a 12-item questionnaire assessing the teacher-student relationship using a 5-point Likert scale. Parallel teacher and student forms are used in order to measure multiple perceptions of relationship. This inventory consists of the three subscales that represent the critical components of alliance: task, bond, and goal. The task subscale focuses on the agreement and understanding of task relevance in the classroom setting. This subscale assesses whether teachers and students feel that the tasks assigned in the classroom are relevant to the student's individual learning (e.g., "What I am doing in school helps me learn better in the areas where I have difficulty") and will help him or her achieve success (e.g., "My teacher and I agree about the things I need to do to help me improve my schoolwork"). The bond subscale captures the respect, liking, and trust between the teacher and his or her student (e.g., "I believe my teacher likes me" and "My teacher and I trust one another"). Finally, the goal subscale measures the extent to which the teacher and student feel that they are collaborating on the goals set in the classroom. This subscale measures the teachers' and students' sense of agreement and mutual understanding about classroom objectives (e.g., "My teacher and I agree about what my difficulties are" and "We agree about what I need to do differently in school").

To assess whether the four items that were summed to create each subscale (i.e., task, bond, goal) formed a reliable scale, Cronbach's alpha was computed.

This analysis was conducted with the teacher version of the CWAI and found good internal consistency reliability ranging from .76 to .85.

Student Performance Questionnaire (SPQ). We developed the SPQ in order to calculate academic and behavioral indices of overall performance in one particular day of school. The SPQ was administered in the form of parallel teacher and student rating scales; and both parties were asked to refer to the same date in responding to the questions. This questionnaire included six questions relating to the students' performance including work habits, attention, independence, behavior, how much was learned, and enjoyment. The SPQ also comprises a total performance score that represents a composite of ratings on these six questions.

Procedure

The project was presented to all grades 1-3 homeroom teachers. For each of the 14 teachers who agreed to participate, five students were randomly selected from their class lists. Thus a total of 70 students (35 male, 35 female) were approached to participate in the study. An information letter and consent form for participation were mailed to parents. Fifty-three parents returned consent forms (75.7% response rate), and all children gave their consent to participate before completing the interview session.

Children were seen in their schools during the spring months to ensure that students and teachers had adequate time to form a relationship. Interview sessions were approximately 20 minutes long and were completed individually by a senior graduate student in educational psychology. Children completed the CWAI and SPQ, student versions. All measure items were read aloud by the researcher in order to maintain standardization, ensure understanding, and provide clarification if required.

Teachers were asked to complete a short package, including the teacher versions of the CWAI and SPQ, for each participating student from their homeroom class. The package was given to the teachers immediately following the students' interview sessions, and they were asked to return it to the research team leader the following day in order to ensure that both student and teacher were using the same day as a point of reference when responding to the questions about the student's classroom performance.

Results

The data analysis section is divided into two parts corresponding to the research questions: (a) correlational data on teachers' and students' perceptions of their relationships; and (b) regression analyses pertaining to the prediction of overall student performance from teacher- and student-rated alliance variables. A summary of all means and standard deviations is shown in Table 1.

Correlations Between Raters on Alliance Variables

To test the agreement between teachers' and students' perceptions of their relationships, bivariate Pearson correlations were run between teachers' and students' ratings on CWAI subscales: task, bond, and goal (see Table 2). Results indicated significant correlations between teachers' and students' perceptions of task and bond (r=.32, p=.02; r=.30, p=.03, respectively). Teachers' ratings on the task subscale were significantly related to students' perceptions of goal collaboration, r=.28, p=.04. In addition, teachers' ratings of bond were related to

Table 1
Teachers' and Students' Ratings on the SPQ and CWAI

Variables	Teachers' ratings (N=53) M	SD	Students' ratings (N=53) M	SD
Student performance (SPQ)				
Total score	4.12	.91	4.29	.58
Working alliance (CWAI)				
Task	4.17	.64	4.34	.50
Bond	4.35	.64	4.43	.61
Goal	4.01	.61	4.03	.67

Note. Means and standard deviations are presented for total score of the SPQ and subscales of the CWAI. Maximum score of 5 for each scale.

students' ratings of task agreement and goal collaboration (r=.38, p=.01; r=.36, p=.01, respectively). That is, teachers' perceptions of a bond in the relationship were associated with students' perceptions of positive working alliance.

Regression Analyses for Alliance Variables Predicting Student Performance

An initial exploration of the distribution of teacher and student alliance subscale scores revealed normal distributions, with skewness and kurtosis values lying between –1.00 and 1.00. To determine the best combination of alliance variables for the prediction of the total student performance score, separate simultaneous multiple regression analyses were run for each dependent variable, teacher-rated SPQ score, and student-rated SPQ score. Further, separate regression equations were run for each rater on the predictor variables (i.e., teachers' ratings and students' ratings on alliance variables) for a total of four regression analyses. Leech, Barrett, and Morgan (2005) recommend using the simultaneous regression method if the researcher has no a priori hypotheses about which variables will create the best prediction equation and there are a reasonably small set of predictors, which is consistent with the present investigation. Therefore, this set of analyses examines how well one can predict student performance from a combination of three alliance variables, specifically, task, bond, and goal.

Teacher-rated performance. Two multiple regressions were conducted to determine the best combination of either teachers' or students' ratings of task, bond, and goal for predicting teacher-rated total performance on the SPQ. For the first analysis, the teacher-rated CWAI subscale scores served as the predictor variables, and the teachers' total SPQ score was the dependent variable. Results revealed that this combination of variables significantly predicted teachers' ratings of student performance, $F(3, 49)=12.91$, p=.00. The adjusted R^2 value was .407. This indicates that 40.7% of the variance in teachers' perceptions of student performance was explained by the teachers' perceptions of alliance. According to Cohen (1988), this is a large effect size.

The beta weights suggest that the task subscale contributed most to the prediction of teacher-rated student performance. However, an examination of the regression coefficients details the contribution that each of the alliance

Table 2
Bivariate Correlations between Teachers' and Students' Ratings on the CWAI

Subscale	*1*	*2*	*3*
	Teachers' ratings (*N*=53)		
Students' ratings (*N*=53)			
1. Task	.32*	.38**	.22
2. Bond	.18	.30*	.17
3. Goal	.28*	.36**	.17

*$p<.05$; **$p<.01$.

variables independently makes to the prediction. Specifically, the partial correlation explains the relationship between each predictor and the dependent variable after removing the overlap with the other predictor variables. The purpose of this type of analysis is to spot spurious correlations (i.e., correlations explained by the effect of other variables), as well as to reveal hidden correlations (i.e., correlations masked by the effect of other variables, Tabachnick & Fidell, 2000). Squaring the partial correlation indicates the proportion of variance in teacher-rated student performance uniquely accounted for by that variable. These results revealed that although the task subscale predicts the most variance (8.23%), the bond subscale also predicts a noteworthy amount of variance in performance ratings (6.4%) beyond what is predicted by task or goal. Overall, 25.62% of explanatory variance is shared between the three variables.

In the second analysis, teachers' total SPQ score remained as the dependent variable, but student-rated CWAI subscale scores served as the predictor variables. This combination of variables also significantly predicted teacher-rated student performance, although not as strongly as the previous model, $F(3, 49)=5.17$, $p=.003$. Overall, this model accounted for 19.4% of the variance in teachers' perceptions of student performance. This is a medium effect size, as defined by Cohen (1988). An examination of the beta weights suggest that students' rating of goal appeared to explain the most variance in predicting students' performance. Further inspection of the partial correlations for the alliance variables supported this finding; the goal subscale uniquely predicted 10.3% of the variance, whereas the bond and task subscales did not substantially contribute to the amount of explained variance (1.2% and 0.03%, respectively). A further 7.87% was shared explanatory variance. A summary of the multiple regression analyses can be found in Table 3.

Student-rated performance. Because the correlational analyses indicated that there was some differentiation in perceptions of working alliance based on rater, separate multiple regression analyses were conducted with student-rated SPQ score as the dependent variable. First, the teacher-rated CWAI subscale scores were entered as the predictor variables. This combination of variables did not significantly predict students' self-rated performance, $F(3, 49)=1.94$, $p=.14$, and the adjusted R^2 revealed that only 5.1% of the variance was explained.

Table 3
Summary of Regression Analyses for Alliance Predicting Teacher-Rated Student Performance

Variable	*B*	*SEB*	β	*pr*
Teachers' alliance ratings				
Task	.63	.30	.44*	.29
Bond	.46	.25	.32	.25
Goal	−.12	.25	−.08	−.07
Adjusted R^2=.407 (p=.00)				
Students' alliance ratings				
Task	−.04	.33	−.02	−.02
Bond	.18	.23	.12	.11
Goal	.59	.25	.43*	.32
Adjusted R^2=.194 (p=.003)				

Note. *B*=unstandardized coefficients; *SEB*=standard error of the computed value of B; β=standardized coefficients (beta); *pr*=partial correlation.
*p<.05.

The second regression was conducted to determine the predictive value of student-rated task, bond, and goal for the dependent variable, student-rated total performance on the SPQ. Results indicated that this combination of variables significantly predicted students' ratings of their own performance, $F(3, 49)=10.51$, $p=.00$. The adjusted R^2 value indicates that 35.4% of the variance in students' self-perceptions of classroom performance is explained by the model, which is a large effect size (Cohen, 1988). An examination of the beta weights suggests that the bond subscale contributed most to the prediction. However, the partial correlations detailed in the analysis of regression coefficients indicated that the goal subscale predicted 6.6% of the variance, in addition to the 9.67% explained independently by the bond subscale and the 19.05% of shared variance. Table 4 provides a summary of the multiple regression analyses.

Discussion

The purpose of this study was to examine the agreement between teachers' and students' perceptions of working alliance and, more importantly, to examine the contribution of teachers' and students' ratings of alliance to the prediction of student performance. Specifically, the study investigated whether working alliance variables of task, bond, and goal predicted either teacher- or self-ratings of student performance in a sample of elementary-aged children.

The degree of correspondence between teachers' and students' perceptions of working alliance was a key goal of this study. In the limitations of their study, Rey and al. (2007) identified the need to develop new measures that have corresponding items for teachers and children in order to make more direct comparisons. Results of the present study revealed that teacher- and student-rated alliance differentially predicted student performance, which supports the importance of considering multiple informants in future research.

Table 4
Summary of Regression Analyses for Alliance Predicting Students' Self-Rated Performance

Variable	*B*	*SEB*	β	*pr*
Teachers' alliance ratings				
Task	.24	.24	.27	.14
Bond	.15	.20	.17	.11
Goal	–.13	.20	–.13	–.09
Adjusted R^2=.051 (p>05)				
Students' alliance ratings				
Task	.12	.19	.10	.09
Bond	.30	.13	.32*	.31
Goal	.26	.14	.30	.26
Adjusted R^2=.354 (p<.001)				

Note. *B*=unstandardized coefficients; *SEB*=standard error of the computed value of B; β=standardized coefficients (beta); *pr* = partial correlation.
*p<.05.

In addition to agreement on subscale ratings, significant correlations were found between teacher-rated bond and students' ratings on all three subscale scores (i.e., task, bond, goal). This finding suggests that teachers' perceptions of bond, defined as closeness and trust, are associated not only with the students' mutual sense of bond, but also their perception that school tasks are relevant and classroom goals are individualized to meet their needs. In past studies, researchers have employed a definition of teacher-student relationship limited to what the current study refers to as *bond* and have reported important associations between relationship and student outcomes (Birch & Ladd, 1997; Hamre & Pianta, 2001, 2005). Thus it is not surprising that teachers' rating of bond was found to be an important factor in students' perceptions of classroom working alliance.

The present results revealed that teachers' perceptions of alliance predicted their own ratings of student performance, but not the students' self-rated performance. However, students' perceptions of alliance were significant predictors of both teacher- and self-rated performance. This finding provides support for the use of students' perceptions of the working alliance in investigations of school-related outcomes. Moreover, the students' perceptions of alliance predicted performance above and beyond teachers' relationship perceptions. These findings are consistent with earlier research on children in the late elementary grades (3-6) that has shown unique positive associations between students' perceptions of their relationships with their teachers and indices of positive school outcomes (Furrer & Skinner, 2003; Rey et al., 2007). Importantly, this is the first study that has demonstrated validity in predicting school performance through the use of a broader conceptualization of the construct of teacher-student relationship.

Consistent with earlier findings, teachers' reports of relationship were found to be predictive of students' school-related outcomes (Birch & Ladd,

1997; Rey et al., 2007). It seems that each informant's perspective of the working alliance is especially salient to his or her own opinion about student performance. Interestingly, students' reports of alliance predicted both teacher- and self-reported ratings of performance, which has not been demonstrated in earlier research exploring teacher-student relationships. This finding indicates that students who believe that they have a positive working alliance with their teacher are performing well in class and also have positive perceptions of their own performance.

Of particular interest to this investigation is the predictive value of the separate subscale scores. As mentioned above, past research exploring teacher-student relationships has been primarily limited to the examination of variables related to *bond*. Thus by broadening the conceptualization of relationship to examine the working alliance, it was of interest to observe whether other subscales emerged as important contributors to the prediction of student performance. Teachers' rating of student performance was significantly predicted by both teacher- and student-rated alliance. For teachers' perceptions of alliance, the task subscale explained the most variance in performance ratings. However, teachers' perceptions of bond also explained a substantial amount of variance. For students' perceptions of alliance, the goal subscale uniquely contributed the most to the prediction of teacher-rated performance. Thus these results indicate that teachers' opinions of whether they have shared goals with their students is not as important a factor as task or bond in predicting how they observe students' classroom performance. In considering the significant correlation between teachers' rating of task and students' rating of goal, it is possible that students feel that shared goals are established when they perceive that classroom tasks are relevant to them. It is interesting to note that 25.62% of the variance was explained by the three alliance subscales collectively. This suggests that although task (teachers' perception of whether the student understood the relevance of, and completed, assigned tasks) emerged as a critical factor in determining how teachers' rated their students' performance, there is an important interplay between the alliance variables.

Students' self-rated classroom performance was not significantly predicted by teachers' perceptions of alliance, although it was predicted by their own perceptions of working alliance. Specifically, the bond and goal subscales were significant contributors to the prediction. Therefore, students who felt closeness and trust with their teachers, as well as a belief that the teacher was considering their personal learning goals, were more likely to perceive themselves as doing well in class.

In this study, students' actual performance was not measured in terms of school grades, test scores, or other standardized measures of achievement. Therefore, it is possible that the measured student outcomes represented subjective perceptions of student satisfaction with the classroom experience. Future research into the contribution of classroom working alliance to specific school-related outcomes is needed. There were other limitations to this study, such as the relatively small and homogeneous sample. These factors raise unanswered questions about how students might have differed on certain variables such as behavioral or academic competence and how this could have an effect on their perceptions of their relationships with their teachers. How-

ever, they do not change the basic conclusions of the study. That is, regardless of informant, the quality of working alliance with teachers remained an important predictor of students' overall classroom performance. These findings have important implications for educators.

Educational Implications

Teacher education. The results of this investigation have implications for schools and classrooms. First, these findings provide guidance for teacher training on alliance-building. Because working alliance is a contextual variable, it has often been avoided in teacher education in favor of other variables such as curriculum planning and classroom management, which can be more readily conceptualized and manipulated (Murray & Malmgren, 2004). The findings presented in this study demonstrate the importance of informing teachers and other school staff about the lasting effects of the relationships created in the classroom.

It was not entirely surprising that bond emerged as a distinctly important component in measuring teacher-student working alliance, as past studies have found significant effects on student outcomes when employing definitions of teacher-student relationship limited to the construct of *bond* (Birch & Ladd, 1997; Hamre & Pianta, 2001, 2005). In considering this finding more critically, it is evident that bond does not independently account for the full effect of alliance. Rather, bond can be understood as playing an important role for both teacher and student in influencing performance in the classroom. This is essential to consider in terms of providing information to teachers on developing alliance with their students. Bond is clearly more difficult to develop between teachers and students and is highly influenced by personality characteristics, attitudes, and beliefs. It is often assumed that this sense of connectedness is simply present or not (e.g., you click with certain students, but not with others). But the construct of alliance presents a model of a working relationship between teacher and students that is much more complex. When providing teachers with information on alliance-building, it is important to communicate that bond is only one aspect of an effective working relationship and that teachers should focus on developing all aspects of alliance with their students. Fortunately, task and goal are more concrete components, which can be negotiated with the student.

Classroom practices. Current school-based intervention programs place little emphasis on the teacher-student relationship; instead greater emphasis has been placed on classroom management techniques (Hughes et al., 1999). In the counseling field, it has been demonstrated that the working alliance can be explicitly taught to counselors with subsequent changes in the alliance (Castonguay et al., 2004; Diamond, Liddle, Hogue, & Dakof, 1999). Extending this finding would suggest that significant improvements in classroom settings could be achieved through alliance-building.

To develop teacher-student alliance, teachers can be aware of behaviors and interactions that enhance students' sense of support and belonging, and classroom planning can take a collaborative (rather than directional) approach. In order to initiate the steps toward a more positive working alliance, teachers can us the CWAI to assess students' perceptions of working alliance and reflect on how they can improve their experiences. The obvious effect of teacher-student

relationships on students' socioemotional, behavioral, and academic functioning (Hughes et al., 1999; Rey et al., 2007) makes it imperative that schools emphasize the importance of understanding and promoting positive working alliance.

Research and theory. Future research must consider the possible influence of a positive teacher-student working alliance on students who are experiencing social, behavioral, or academic difficulties. Past research has shown that teachers prefer children who are cooperative and prosocial to those who are antisocial and disruptive (Wentzel, 1994), perhaps because these children allow teachers to focus on teaching and may even faciliate the lesson. It has been found that teachers have warmer relationships with students who are less active and disruptive in the classroom and that they are more encouraging and have more patience with these students (Hamre & Pianta, 2001). However, it is those students deemed at risk who lack the social connectedness in school that could function as a protective factor in the face of academic or life stressors. Teachers' efforts to improve their relationships with students can have a significant influence on children's overall school functioning (Rey et al., 2007).

In sum, the alliance inventory serves as a tool that captures the breadth and unique quality of the teacher-student relationship. Our results indicate that the information derived from the teacher-student working alliance can be used to enhance perceptions of student performance. Therefore, this measure can be used not only to assess relationship, but also to provide concrete steps for teaching alliance-building skills. Ultimately, the ability to demonstrate the working alliance as a predictor of student classroom performance will have implications for the educational system in regard to the development and promotion of quality of teacher-student relationships.

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