

THE ASSOCIATION OF WORKING ALLIANCE AND CLASSROOM
ADJUSTMENT FOR STUDENTS WITH EMOTIONAL AND
BEHAVIORAL DISORDERS

by

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A DISSERTATION

Presented to the Department of Special Education and Clinical Sciences
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

September 2017

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DISSERTATION ABSTRACT

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Doctor of Philosophy

Department of Special Education and Clinical Sciences

September 2017

Title: The Association of Working Alliance and Classroom Adjustment for Students with Emotional and Behavioral Disorders

Teacher-student relationships can influence the academic, social, and behavioral adjustment of children and youth. Students with emotional/behavioral disorders (EBD) experience poor quality relationships with teachers. The current study explores the importance of *working alliance* (i.e., agreement on tasks and goals, bond) among teachers and their students. Seventy-six teacher-student dyads completed measures of classroom working alliance, perceptions of the student-teacher relationship, student engagement, and student behavior (i.e., externalizing and internalizing behavior). Findings indicated that (a) students and teachers have weak agreement about the quality of their alliance, (b) working alliance was associated with student engagement, and (c) students' externalizing symptomology predicted teacher ratings of alliance. Interpretation of these findings, study limitations, and suggestions for future research and practice are discussed.

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- Knowles, C., Machalicek, W., & Van Norman, R. (2015). Parent education for adults with intellectual disability: A review and suggestions for future research. *Developmental Neurorehabilitation*, 18(5), 336-348.

ACKNOWLEDGEMENTS

I would like to acknowledge my dissertation chair, Dr. Christopher Murray, for his outstanding mentorship during all phases of this study. I'd also like to thank my advisor and committee member, Dr. Wendy Machalicek for pushing me to get involved in research in my early years of the program. Thank you to Dr. John Seeley and Dr. Elizabeth Stormshak for your service on this committee. Your time and expertise is very much valued.

In addition, I'd like to thank Drs. Beth Harn, Kent McIntosh, Robert Horner, Jeffery Sprague and Edward Kame'enui for contributing to my development as a scholar in special education.

It is also important to acknowledge the students and teachers who participated in this study. Thank you for being willing to talk about your experiences in the classroom.

DEDICATION

To my mother

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CHAPTER I

INTRODUCTION

It is well documented that children and youth identified with an emotional/behavioral disorder (EBD) demonstrate challenges that adversely impact school success, behavior, emotional health, and social adjustment (e.g., Reid, Gonzalez, Nordness, Trout, & Epstein, 2004; Simpson, Peterson, & Smith, 2011; Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005). These difficulties portend poor long-term outcomes including higher rates of absenteeism, school dropout, disciplinary exclusion (Bowman-Perrott et al., 2011; Redmond & Hosp, 2008; USDOE, 2014), involvement in the juvenile justice system (Bullis & Cheney, 1999; Simpson et al., 2011), and poor adult outcomes (Bradley, Doolittle, & Bartolotta, 2008; Kauffman, Mock, & Simpson, 2007). Students with EBD have one of the lowest graduation rates and the highest dropout rate across all disability categories (Bullis & Cheney, 1999; Mathur & Nelson, 2013; Scott & Shearer-Lingo, 2002; Simpson et al., 2011; Wagner et al., 2005). Unfortunately, continued poor outcomes related to unemployment and incarceration are a troubling reality for youth with EBD with arrest rates reaching as high as 37% within two years following exit from high school (Bullis & Cheney, 1999; Simpson et al., 2011).

Due to the associated societal costs of serving individuals with entrenched behavioral, social, and academic problems, identifying and appropriately serving students with EBD is not only an educational concern, but a public health issue (Costello, Egger, & Angold, 2005; Forness, Freeman, Paparella, Kauffman, & Walker, 2012; Kauffman & Landrum, 2009b). Failure to complete school greatly influences one's future success and economic stability as an adult (Kortering & Christenson, 2009). Likewise, an individual

entangled in the criminal justice system can incur correctional costs of one to one and a half million dollars over a lifetime (Cohen, 1998). There is not a question that such a trajectory is also associated with a lifetime of substantial healthcare costs (Guevara, Mandell, Rostain, Zhao, & Hadley, 2003).

Unfortunately, research efforts to understand and ameliorate the challenges students with EBD encounter have not sufficiently matched the need for improved educational practice. Although researchers have identified interventions to improve the myriad of challenges for this population, the effective disruption of negative long-term trajectories has not occurred (Vannest, Harrison, Temple-Harvey, Ramsy, & Parker, 2011). The present study is designed to contribute to the growing body of research focused on identifying innovative approaches to improving the academic, social, and behavioral outcomes of students with EBD. Specifically, the study will investigate the construct of working alliance between teachers and their students with EBD in an effort to begin to explore the importance of working alliance in this population.

Characteristics of the Population

The Individuals with Disabilities Education Act defines emotional disturbance (ED) as:

- A) An inability to learn that cannot be explained by intellectual, sensory, or health factors.*
 - B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.*
 - C) Inappropriate types of behavior or feelings under normal circumstances.*
 - D) A general pervasive mood of unhappiness or depression*
 - E) A tendency to develop physical symptoms or fears associated with personal or school problems.*
- (IDEA § 300.8 (c)(4))

In contrast to this federal definition, epidemiologists, psychologists, psychiatrists, and other health professionals rely on the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-V) to define EBD under a wide umbrella of behavioral or emotional disorders including Conduct Disorder (CD), Oppositional Defiant Disorders (ODD), depression, mood or anxiety disorders, and attention deficit hyperactivity disorders (ADHD) (American Psychiatric Association, 2013). In the current study, I use the term EBD to refer to students who meet criteria based on a variety of behavioral or emotional challenges identified through either approach (Forness, Freeman, Paparella, Kauffman, & Walker, 2012; Forness, Kim, & Walker, 2012).

According to the U.S. Department of Education (2016), students identified with an ED made up approximately 6% of the special education population and half of one percent of the overall student population. Many researchers, however, suggest that the actual prevalence may be much higher, with estimates ranging from between 5% and 20% (Forness et al., 2012; Kauffman et al., 2007).

Academic. In educational settings, children are expected to develop competence and fluency with a variety of skills involving the academic, behavioral, and social domains. Academic skills include behaviors that typically encompass tasks related to reading, writing, mathematics, and other core content areas. Although *an inability to learn* is one criterion of the IDEA definition, researchers have identified that poor academic outcomes are typical for this population (Lane, Barton-Atwood, Nelson, & Wehby, 2007; Nelson, Benner, Lane, & Smith, 2004) and commonly do not change over time (Anderson, Kutash, Duchnowski, 2001; Lane, Wehby, Little, Cooley, 2005). Academic deficits are estimated to impact between 25% and 97% of the school-aged

population with EBD (Reid et al., 2004). For these students, academic performance of one to two years below grade level is not uncommon (Trout, Nordness, Pierce, & Epstein, 2003). In one meta-analysis, Reid and colleagues (2004) found that children and youth with EBD had moderate to large deficits in academic skills compared to typical peers and that these difficulties extended across subject areas.

Behavioral. Challenging behavior is the most common characteristic of students with EBD (Simpson et al., 2011). Challenging behavior is broadly operationalized in the literature but is primarily defined in relation to the behavior's negative impact on self or others (Powell, Fixen, & Dunlap, 2003). Generally, challenging behavior is labeled as externalizing or internalizing (Kauffman & Landrum, 2009a). Externalized behaviors are directed at the environment and often include aggression and disruption. Internalized challenging behaviors primarily include anxiety and depressed symptomology (Gresham & Kern, 2004). In a study of a national sample of students with EBD, teachers reported that 93% of identified children and youth in this category demonstrated externalizing problem behaviors in the classroom (Gage, 2013).

Although it is sometimes difficult to differentiate the bidirectional relationship between academic difficulties and subsequent behavior problems (Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008; Sutherland & Wehby, 2001a), considerable evidence suggests that challenging behaviors are a root cause of wide ranging difficulties in academic and social domains (Simpson et al., 2011). Moreover, research confirms that a low percentage of teachers are adequately trained to work with students with severe challenging behaviors, which diminishes the teacher's confidence and willingness to do so (Westling, 2010; Shapiro, Miller, Sawka, Gardill, & Handler, 1999). For those

working with this population, managing the spectrum of behavioral challenges can be both difficult and overwhelming.

Social. Another common challenge for individuals with EBD takes place in the domain of social and relational competence (i.e., interactions and relationships with others), which can be either peer or teacher-related (Walker, Irvin, Noell, & Singer, 1992). Such difficulties are reflected in the federal definition of ED as “An inability to build or maintain satisfactory interpersonal relationships with peers and teachers”. According to Gresham (2002) students with EBD can demonstrate one or more of the following social challenges: acquisition deficits (lack of understanding and inability to discriminate appropriateness of one’s behavior), performance deficits (failure to perform the behavior despite the ability to do so), and fluency deficits (difficulty demonstrating skill at appropriate times). These social deficits can negatively affect social relationships among students with EBD (Cook et al., 2008).

Difficulties developing and maintaining social relationships are often compounded by concurrent deficits in academic skills (Moffit, Caspi, Harrington, & Milne, 2002). Students with EBD are also more likely than other students to be rejected by peers (Reid, Patterson, & Snyder, 2002). Furthermore, when students with EBD do engage socially, it is often with other students with similar behavioral challenges (Farmer & Hollowell, 1994) which could encourage the demonstration of maladaptive behaviors in the school setting.

Students with EBD may also struggle to develop strong relationships with their teachers (Gunter & Coutinho, 1997; Ladd & Burgess, 1999; Sutherland & Morgan, 2003). This is problematic, in particular for elementary students, because the relationship

with one's teacher is often more important than relationships children establish with peers (Cook et al., 2008). Because students with EBD are identified as one of the most challenging student populations to serve (Scruggs & Mastropieri, 1996), many teachers have negative attitudes about including these students in their classrooms, and report they are poorly prepared to serve this population (Allison, 2011; MacFarlane & Woolfson, 2013). These variables paired with the spectrum of educational difficulties are a recipe for a challenging teacher-student working relationship.

Current Practices for Students with EBD

Academic. Researchers agree that evidence-based *academic interventions* for students with EBD have not been developed to match the scale of need (Mattison & Blader, 2013; Vannest et al., 2011) and often receive less priority than *behavioral interventions* (Downing, 2007). For example, in a literature review of mathematics interventions, Hodge, Riccomini, Buford, and Hurst (2006) identified only 13 studies that investigated mathematics interventions for students with EBD. Findings suggested that 12 of the 13 studies only investigated basic computation skills while higher order math reasoning was mostly absent. Overall findings demonstrated a lack of sufficient research in mathematics support for this population. Similar findings of insufficient interventions were identified for reading (Levy & Chard, 2001) and writing interventions (Sreckovic, Common, Knowles, & Lane, 2014) for this population.

Academic practices show promise for students with EBD when they are structured, organized, and embedded with review opportunities (Simpson et al., 2011). Interventions involving self-management and peer-management strategies appear to have particular benefit in practice to improve academic outcomes. In a review of self-

management interventions to improve academics for students with EBD, Mooney, Ryan, Uhing, Reid, and Epstein (2005) reviewed 22 studies that utilized some iteration of student self-management (e.g., self-evaluation, self-monitoring) to improve an academic outcome. Results calculated a large and meaningful overall effect size of $d = 1.80$ which indicated that self-management strategies had a robust impact on academic skills across multiple subject areas. Similarly, the use of peer-mediated interventions (e.g., peer reinforcement, peer modeling) also demonstrated a large effect size ($d = 1.88$) across all subject areas (Ryan, Reid, & Epstein, 2004) with stronger effects for adolescents than children.

Pierce, Reid, & Epstein (2004) reviewed 30 studies which investigated the academic outcomes of teacher-mediated interventions. Again, results demonstrated that teacher mediated interventions had a positive effect on academic outcomes across subject areas with a strong effect size ($d = 1.05$). In this investigation, antecedent strategies such as choice making, previewing, and sequential prompting had stronger effects ($d = 1.31$) than did consequence-based strategies such as token reinforcement systems, academic contracting, and written feedback ($d = 0.8$).

Behavioral. One of the most important foundational practices recommended to support behavioral deficits among students with EBD is with the use of a functional behavioral assessment (FBA) to inform a child's behavioral intervention plan (BIP). Although highly valued and often required (Dunlap & Kincaid, 2001) there are many variables that make the effective implementation of FBAs a challenge including teacher preparation and teacher preferences (Horner & Dunlap, 2012; Kauffman, Nelson, Simpson, & Mock, 2011).

Other promising practices to improve behavioral outcomes for students with EBD include the use of behavior specific praise (Sutherland, Wehby, & Copeland, 2000), increased opportunities to respond (Sutherland & Wehby, 2001b), antecedent interventions (i.e., structured tasks, sequential prompting, choice-making), teacher-mediated interventions to improve behavior (i.e., behavioral contracts, token reinforcement, contingency reinforcers (Ryan, Pierce, & Mooney, 2008) and systems-wide tiered supports such as Positive Behavior Intervention Supports (PBIS, Mathur & Nelson, 2013).

Social. Social skills interventions are another important feature of a student's overall educational support program (Gresham, 2002). Considering the diversity of targets (e.g., collaboration, self-regulation, appropriate communication) a range of strategies and interventions are available. Cook and colleagues (2008) conducted a meta-analysis to investigate the effectiveness of social skills programs for secondary students with EBD. Results demonstrated that the social skills training produced improvements for two out of every three students with EBD, compared to one out of three for control. An earlier study by Quinn, Kavale, Mathur, Rutherford, and Forness (1999) contradicts these findings with a weak to moderate calculated effect size of $d = .119$. Unfortunately, these reviews did not stipulate if each intervention was to improve interactions with peers or teachers.

The relationship with one's teacher is a critical component for an individual to successfully navigate the social world. Birch and Ladd (1998) identified that stronger relationships with one's teacher were related to improved academic performance. Similarly, problems in student-teacher relationships are also associated with indicators of

school maladjustment (Murray & Murray, 2004). For children with high incidence disabilities, Murray and Greenburg (2001) reported that strong relationships with one's teacher corresponded to lower levels of student behavioral problems. Although many researchers agree on the benefit of strong student-teacher relationships, research in this area is limited compared to investigations in the academic or behavioral domain, in particular for students with EBD. This is highly problematic considering effective practice and successful programs for those with EBD are often directly aligned with the quality of teacher-student relationships (Simpson et al., 2011) and teacher support (Wagner et al., 2005).

Common Response Practices

Most often the response to chronic challenging behavior does not mirror the recommendations disseminated in research. Historically, children with EBD have undergone crisis-oriented or “reactive” responses instead of the use of a preventative framework (Booker & Mitchell, 2011). Teachers and administrators may resort to practices without evidence of effectiveness, such as exclusion, when a student is identified as chronically disruptive (Reinke & Herman, 2002). There is also a long history of punishment-based practices (Sugai, Horner, & Gresham, 2002), which is alarming since reliance on punishment will not facilitate behavioral change (Horner, Vaughn, Day & Ard, 1996).

Although systems level approaches commonly used in public schools (e.g., PBIS, Response to Intervention [RTI]) have improved the educational environment for countless students (Fuchs & Fuchs, 2006; Sugai et al., 2000), many with EBD are still moved into restrictive placements as a means to intervene on challenging behavior

(Flower, McDaniel, & Jolivette, 2011). Likewise, zero tolerance policies have impacted students with EBD through higher rates of suspension disproportionate to the general school population (APA Zero Tolerance Task Force, 2008). Unfortunately, these policies do not address the school's responsibility to make ecological changes to foster school success (Mihalas, Morse, Allsopp, & McHatton, 2008).

Although there are a multitude of interventions with varying degrees of effectiveness for students with EBD (Reddy, Newman, De Thomas, & Chun, 2009), continued identification of successful practices are needed (e.g. Hodge et al., 2006; Scott & Shearer-Lingo, 2002; Sreckovic, Common, Knowles, & Lane, 2014; Therrien, Taylor, Watt, & Kaldenberg, 2013).

Rationale of the Current Study

The current study was conducted to investigate the construct of therapeutic or *working alliance* as a predictor of school-related outcomes among children with EBD. Many researchers have found that positive relationships between teachers and students are associated with a variety of favorable school outcomes across social, behavioral, and academic domains (Murray & Murray, 2004; Pianta, Hamre & Stuhlman, 2003). Teacher-student relationships provide “affordance” value (i.e., supports the intellectual, social, emotional development; Pianta, 1997) that may be absent from other adults in the child's life. When students perceive they are partnered with the teacher in the classroom, they are more likely to be engaged in school tasks (Daniels & Arapostathis, 2005). Moreover, enhancing school-based relationships has been identified as an important in many common behavioral interventions such as Check and Connect (C&C; Anderson,

Christenson, Sinclair, & Lehr, 2004), Check in Check out (CICO), and Check, Connect, and Expect (CCE; Cheney et al., 2009).

For students with disabilities, relationships with one's teacher could be more important to school success than for typical students. A strong teacher-student relationship has been identified as important for populations of children and early adolescents with high incidence disabilities, including those with EBD (Murray & Pianta, 2007). Specifically, research suggests that students with EBD may have a more difficult time developing strong relationships with their teachers but that such relationships may be more critical among this population due to difficulties they experience developing and maintaining positive relationships with adults (Murray & Greenberg, 2001; Murray & Murray, 2004). In the educational context, such difficulties between teachers and students can affect disciplinary referrals and student-to-student conflict (Hamre & Pianta, 2001).

Special education teachers are in the unique position to develop positive relationships despite the past failures students with EBD may have experienced with other adults (Mihalas et al., 2008). Although systematic changes in schools (e.g., [PBIS], [RtI]) are important pursuits, variables specifically targeting the student-teacher dyad are also essential for understanding and improving outcomes for students with EBD (Kern, 2015; Mihalas et al. 2008).

Despite general agreement regarding the importance of teacher-student relationships, one dimension of these relationships that have not received adequate attention is *working alliance*. There is a rich history of empirical investigation into the construct of therapist-client relationships through the framework of working alliance. Researchers have identified working alliance as a predictor of improved therapeutic

outcomes for both adults and children with a diverse representation of emotional, behavioral, and social challenges (e.g., Castonguay, Constantino, & Holtforth, 2006; Shirk, Karver, & Brown, 2011). Therefore, it may be appropriate to apply the construct of working alliance to special education research, in particular for students with EBD who continue to struggle across a range of educational outcomes. Conceptually, positive relationships with one's special education teacher should provide students with EBD a *secure school base* upon which positive school skills can be introduced, mastered, then generalized. The investigation into the complex construct of the student-teacher relationship through the lens of working alliance is potentially a new starting point to expand our knowledge of the mechanisms that may influence and facilitate positive outcomes for students with an EBD. The current study explored the application of working alliance with students with EBD and their special education teachers to begin to explore how such relationships may impact school adjustment for this population of students.

CHAPTER II

LITERATURE REVIEW

This chapter reviews the empirical literature on the association between working alliance and client outcomes within the context of therapy and why *working alliance* may be an important variable of interest in educational settings generally, and for students with EBD specifically. First, the theoretical frameworks informing this study will be introduced. Second, I briefly review the literature on student-teacher relationships. Third, I will examine the meta-analytic research on the therapist-client construct of working alliance for adults followed by research conducted with children and youth. Fourth, I will review the recent studies that investigate working alliance in an educational context for children with and without disabilities. Finally, a rationale for a school-based investigation of working alliance for special educators and students with EBD will be presented.

Theoretical Frameworks

Attachment theory and ecological systems theory are central to understanding the complex construct of working alliance. These theories inform this study because each captures a different mechanism hypothesized to influence therapist-client alliance and positive therapeutic outcomes. Although the two theories conceptualize the client therapist or teacher-student dyadic relationship differently, both highlight the important role interpersonal relationships play in human development.

Attachment theory. Attachment theory was developed by John Bowlby and is defined as a biologically based system of dyadic and reciprocal behavior upon which personal connections are created (Bowlby 1969, 1973, 1980). According to attachment theory, early interactions with a caregiver influence one's *internal working model* of

relationships, a primary influence when encountering new individuals (Bowlby, 1982). These critical relationships form the schema of the self in relation to others. It is hypothesized that internalization of this relationship influences later relationships in life (Ainsworth, 1989; Bowlby, 1988). Furthermore, research suggests that a secure or insecure (i.e., ambivalent, disorganized, avoidant) attachment may influence cognitive (e.g., Ainsworth, 1978; West, Matthews, & Kerns, 2013) and behavioral (Pasco Fearon & Belsky, 2011) functioning, although mediating mechanisms and causation are still under investigation.

Attachment theory is a relevant theoretical framework beyond early childhood because attachment can be observed throughout one's life, most evident in stressful situations (Bretherton, 1985). Furthermore, carry-over effects of attachment are often represented as an individual's social functioning with teachers and peers, a residual of the behavioral-motivational control system (Bretherton, 1985; Grossmann & Grossmann, 1991). Many iterations of attachment theory interpret alliance from a transference perspective, mainly that unconscious or unresolved thoughts and feelings of the client are transferred to the therapist (Horvath & Luborsky, 1993).

Attachment is a theoretical framework often referenced in therapeutic research, in particular as a lens to explain the development and influence of working alliance between a client and a therapist. Associations between attachment and working alliance demonstrate a client's attachment can predict perceptions of working alliance (Bachelor, Meunier, Laverdiere, & Gamache, 2010). From a reciprocal or transactional perspective, a therapist's attachment security does not appear to be related to alliance development, but low therapist attachment histories do predict poorer quality alliance (Dinger, Strack,

Sachsse, & Schauenburg, 2009). Levin, Henderson, and Ehrenreich-May (2012) suggested that attachment theory and social support theory accounted for between 18 to 26% of the variance in therapist-client working alliance. Similarly, Ross, Polaschek, and Ward (2008) identified that attachment history is a critical variable that may predict therapist-client working alliance. Horvath and Bedi (2002) also identified that the quality of a client's attachment style may predict their perceptions of an early alliance.

Attachment theory originally focused on early experiences with caregivers but was later extended to explain the influence of relationships developed in a school context (Birch & Ladd, 1997, Pianta, 1999). Although attachment is not the only theory to conceptualize the teacher-student relationship (e.g., social support model, social-motivational models), attachment theory has made strong contributions to understanding the relationships that develop between students and their teachers (Jimerson, Campos, & Greif, 2003; Verschueren, 2015). Moreover, some researchers have hypothesized that after one's primary caregiver, a teacher is the most significant adult in a child's life (Kesner, 2000). Although the parental role is regarded as more influential than a teacher (i.e., children change teachers frequently), teachers can be regarded as a temporary attachment figure (Verschueren & Koomen, 2012).

The teacher as an attachment figure is documented in both early and late childhood. Attachment behaviors shift from a need for proximity to one's teacher and internalization of the teacher as a *secure base* in the early school years to seeking out encouragement and *availability* from one's teacher in the later school years (Verschuerene & Kooman, 2012). Some research suggests that older students with emotional difficulties may continue to demonstrate attachment patterns of younger

children (i.e., a need for a secure base, Sabol & Pianta, 2012). A child's attachment to the teacher may even be associated with later school functioning (Granot & Maysel, 2001). In a study by Murray, Kosty, and Hauser-McLean (2015) attachment-based constructs (i.e., conflict, alienation, trust) were more consistently associated with student and teacher ratings of student adjustment than the similar theoretical construct of social support.

Attachment theory is not without limitations. In a literature review of attachment research, Bolen (2000) identified the following considerations when conceptualizing research on attachment: (a) the majority of initial studies used nonhuman subjects while findings from human research are often inconsistent, (b) attachment is not universal, and attachment presentation may also be influenced by cultural norms, and (c) the linear model of parent-child attachment is insufficient to explain one's internal working model throughout development and different contexts. These limitations are ameliorated by concurrently accounting for the embedded systems of one's environment via ecological systems theory. Together these theories are commonly combined to conceptualize both working alliance and student-teacher relationships (McGrath & Van Bergen, 2015).

Ecological systems theory. Although several interpretations of ecological systems theory exist, the conceptualization provided by Bronfenbrenner (1976, 1979) is arguably the most influential. His theory contends that there are five systems constantly influencing development. These systems are dynamic, nested within one another, and include the microsystem (i.e., context within which a person has direct association such as the home or school), mesosystem (i.e., contact between two people from the microsystem such a meeting between one's parent and teacher, or peers interacting with

one another), exosystem (i.e., a system of indirect effects such as when a parent loses a job), macrosystem (i.e., cultural norms and expectations) and chronosystem (i.e., an important personal or cultural event in an individual's lifespan). The systems account for some of the limitations of attachment theory, in particular the complexity of the school-based environment and cultural considerations of these nested systems.

For children and youth, schools, and consequently teachers, are a central part of one's microsystem. Bronfenbrenner (1979) identified that understanding the dyadic relationships in one's microsystem (i.e., with parents, peers, and teachers) was key to understanding the complex nature of development. For example, the relationship with one's teacher may influence the way peers view a classmate, as peers are constantly observing the events, exchanges, and interactions in the classroom (Hughes, Cavell, & Wilson, 2001; Troop-Gordan & Kopp, 2011).

An ecological approach to understand relationships between teachers and students with disabilities is critical because of the influence the environment has on students with identified educational challenges (e.g., relationships, services available, district, state, and federal special education policy).

Although attachment theory could be understood as a dyadic exchange in one's microsystem, attachment alone does not comprehensively account for other influences in one's environment. Here is where both frameworks intersect to explain the importance of student-teacher relationships: attachment represents the unique interaction between a teacher and student while ecological systems theory accounts for the student's history, home life, and unique variables of influence in the past or present. When combined, these theories help to provide the theoretical basis for studying teacher-student relationships.

Teacher-student Relationships

A child's relationship with their teacher provides an important source of stability in the educational context (Birch & Ladd, 1998; Wentzel, 2002). The teacher-student relationship is widely documented as a critical variable that influences school success for children and youth (e.g., Hamre & Pianta, 2001; Murray & Greenberg, 2001; Pianta, Hamre, & Stuhlman, 2003). This relationship is identified as important across developmental domains (Pianta, 1999; Roorda, Koomen, Spilt, & Oort, 2011) and contexts (e.g., Hamre & Pianta, 2005). High-quality teacher-student relationships may also serve as a protective factor for children at risk for educational difficulties (Murray & Greenburg, 2006; Sabol & Pianta, 2012). Similarly, negative relationships with one's teacher may predict later school adjustment difficulties (Sutherland et al., 2008), including conduct problems (Hamre & Pianta, 2001; Hughes & Cavell, 1999). The important influence of the teacher-student relationship has been documented for students with and without disabilities (e.g., Baker, Grant, & Morlock, 2008; Crum, Waschbusch, Wiloughby, 2015; Stipek & Miles, 2008), although far more research has been conducted on non-disabled populations.

The affective quality of teacher-student relationships is commonly defined through positive (i.e., closeness) and negative (i.e., conflict, dependency) dimensions (Pianta et al., 2003). Better *quality* relationships are higher in closeness and lower in conflict and dependency (Pianta, Steinberg, Rollins, 1995). These positive and negative dimensions are commonly measured using the Student-Teacher Relationship Scale (STRS; Pianta, 1996). This measure has been applied in a variety of investigations of the student-teacher relationship (e.g., Baker, 2006; Murray et al., 2015; Murray & Malmgren, 2005).

Although studied less frequently, some evidence suggests that students with disabilities may have more conflict in relationships with teachers than students without disabilities (Murray & Greenberg, 2001). Similarly, student behavioral functioning may impact the relationship quality with one's teacher such that students with greater levels of behavioral problems have more conflict in relationships with teachers than students with fewer problem behaviors (Doumen et al., 2008). Finally, some evidence suggests that students with internalizing behaviors (e.g., depression, anxiety) have poorer relational quality with their teachers than typical peers (McIntire, Blacher, & Baker, 2006; Murray & Greenberg, 2006).

Working Alliance

The construct of client-therapist *alliance* has a rich history in empirical therapeutic literature. As a process variable, evidence regarding the importance of a strong therapeutic alliance is compelling and suggests that a strong alliance with one's therapist can influence a variety of positive client outcomes (e.g., Horvath & Bedi, 2002; Horvath, Del Re, Flückiger, and Symonds, 2011). Different iterations of alliance include therapeutic alliance, working alliance, or helping alliance (Horvath & Luborsky, 1993; Bordin, 1980). Although the critical features associated with these terms are generally congruent, some researchers suggest the varying definitions should be noted as a limitation when synthesizing the research of this process variable (Crits-Christoph, Gibbons, & Hearon, 2006).

The origins of the construct of alliance have an extensive history of theoretical development. The foundational concept of alliance first emerged with psychoanalytic theories (Freud, 1913/1958), which introduced the idea of *positive transference*, or the

influence of collaboration between an analyst and a client. In line with Freud's theory, others expanded on the concept of transference. For example, Sterba (1934) extended this aspect of the theory by introducing the concept of *ego-alliance* (i.e., relationship between the client and therapist's ego with emphasis placed on the client's work at therapeutic success). Later, Zetzel (1956) maintained that the client's identification with the therapist is what fosters alliance. The term *working alliance*, coined by Greenson (1965), was defined as the alignment and collaboration between a client and therapist during the analytic process. This concept then shifted to describe the relational elements of helping behaviors in all relationships, referred to as *helping alliance* (Horvath & Bedi, 2002).

Bordin (1980, 1994) further elaborated on the concept of alliance provided by Greenson (1965) and developed a *pan-theoretical* model of working alliance. Bordin's model was comprised of three critical features of the client-therapist relationship: (a) agreement on therapeutic goals, (b) agreement on therapeutic tasks, and (c) the quality of therapist-client bond. This conceptualization is considered the most heuristic and widely embraced definition of alliance in contemporary therapeutic alliance research since it focuses on the process of conscious collaboration (Horvath, Del Rel, Fluckiger & Symonds, 2011). Bordin also suggested that this model could apply to other dyadic exchanges, including the relationship between a student and teacher (Ross et al., 2008).

A strong working alliance was soon represented in the theoretical and applied literature as a way to improve outcomes for individuals with disabilities. In a program description of a successful separate high school for "anti-social disturbed adolescents," Linton and Russell (1982) recommended that school teams should develop a working alliance with each student. A paper by Brechin and Swain (1988) provided suggestions

for professionals (i.e., social workers) working with clients considered to have learning difficulties (i.e., labeled as mentally handicapped). The overarching recommendation was to provide a strong and respectful working relationship by strengthening working alliance between social workers and their clients. Despite these early efforts and recommendations, there has been a dearth of empirical research focused on studying teacher-student working alliance among students with disabilities.

Therapeutic Alliance Research

Although school-based research on teacher-student alliance among students with disabilities is virtually nonexistent, working alliance has been studied extensively within the context of therapy (Constantino, Castonguay, & Schut, 2002). To date, numerous meta-analytic reviews and literature syntheses of therapeutic alliance research have been published.

Horvath and Symonds (1991) conducted the first meta-analysis investigating the influence of therapist-client alliance on client outcomes. Included studies investigated a variety of client outcomes including: targeted client complaints, stress response, satisfaction, reduction of depressive symptoms, drug use, anxiety, mood, and premature termination of therapy. The authors identified 24 studies based on 20 distinct data sets where some measure of alliance and client outcome was collected. An overall effect size of $r = 0.26$ was calculated for the influence of alliance on positive client outcomes. Results also indicated that the patient's ratings of alliance were more correlated with outcomes than the therapist's alliance rating and perceptions of working alliance were not influenced by type of therapy or length of treatment.

Martin, Garske, & Davis (2000) conducted a meta-analysis that re-analyzed the original data from the Horvath and Symonds (1991) study by including additional published and unpublished research. These researchers identified 79 studies and found a weighted effect size of $r = 0.22$ between the quality of therapist-client alliance and client outcomes. Although over 60 different client outcomes were identified, the authors determined five main themes of outcome measures. The most common outcome measured were global scales ($n = 38$), specific outcome scales ($n = 27$), and symptom scales ($n = 24$) while mood scales ($n = 9$) and termination of therapy by the client ($n = 13$) were less prominently measured as an outcome. Other relevant findings included: (a) good reliability of alliance measures was found for all three raters (patient, therapist, observer) although therapists were slightly less reliable than the patient and observer; (b) most studies measured alliance using the Working Alliance Inventory (WAI; Horvath & Greenberg, 1986) ($n = 22$) and (c) most studies measured client global outcomes (i.e., overall assessments of change) followed by targeted outcomes (e.g., ratings of drug use).

In a later effort, Horvath and Bedi (2002) conducted a meta-analysis of over 100 studies taken from Horvath and Symonds (1991) and Martin and colleagues (2000) with the addition of ten studies that met inclusion criteria. Across studies, the researchers discovered a weighted by sample effect size of $d = 0.21$ between alliance and multiple client outcomes. These outcomes included premature termination, drug use, symptom severity, global change, self-esteem, and social adjustment, to name a few. Particularly relevant to this study, the authors noted that certain types of individuals may struggle to develop alliance including clients with personality disorders, those experiencing homelessness, and clients identified as delinquent. Also, early alliance was a better

predictor of outcomes than mid-point assessments of alliance although some strong ratings of alliance from the clients taken early in treatment may have indicated a client's unreasonable expectations.

In a literature review of therapeutic alliance and associations with positive client outcomes, Castonguay, Constantino, and Holtforth (2006) reviewed the meta-analytic literature and several individual studies and then offered suggestions for moving the line of research on therapeutic alliance forward. The authors identified the literature mostly indicated that alliance quality correlated positively with client characteristics and negatively with others, as do therapist characteristics. The authors summarized the big ideas from the research which included: (a) alliance correlated positively with desirable outcomes across treatments and client problems; (b) alliance quality correlated positively with some client and therapist characteristics; (c) alliance may be predictive of outcomes even when measured early in the treatment process, and (d) alliance can successfully be measured across therapy type.

Castonguay and colleagues (2008) then crafted recommendations for the field to move forward. First, the causal direction of alliance (if any) should be investigated. Second, there is no decisive pantheoretical explanation at this time and the field should develop a more comprehensive theory of the therapist-client relationship. Third, interventions should be developed to help therapists both strengthen or repair alliance. For example, "rupture markers" may help identify problems in alliance, which are hypothesized to include anger and hostility. Fourth, researchers should investigate how patterns of alliance develop (linear, quadratic, brief V-shape directions) since some inconsistencies are present in the research. Finally, the field should further investigate the

influence of alliance on specific populations of clients and therapists (i.e., personality disorders, culture, ethnicity).

Tryon, Blackwell, and Hammel (2007) conducted a meta-analysis to investigate the difference between client-therapist alliance ratings. Results demonstrated a moderate correlation ($r = .36$) between therapist and client ratings of alliance. This study also identified that clients generally rated alliance higher than their therapist although effect sizes for the alliance-outcome association were not investigated.

Sharf, Primavera, and Diener (2010) conducted a meta-analysis ($n = 11$) to specifically evaluate the influence of therapeutic alliance on client dropout (i.e., client outcome measure) from the psychotherapeutic process. Results indicated a moderately strong association between alliance and dropping out of therapy ($d = 0.55$) and that a strong alliance could help keep clients engaged in the therapeutic process.

Horvath, Del Re, Flückiger, and Symonds (2011) conducted a literature review of over 200 reports of “alliance” (i.e., working alliance, helping alliance, therapeutic alliance) based on 190 independent data sources of over 14,000 psychotherapeutic treatments. Findings indicated that effect sizes for the relationship between alliance and psychotherapeutic treatment ranged from $r = .25$ to $.30$ with an average effect size of $r = .28$. Common outcomes measured in these studies included the Symptom Checklist (SCL, $n = 44$), Beck Depression Inventory (BDI, $n = 27$), and drop-out ($n = 19$).

A multilevel longitudinal meta-analysis utilizing the data set from Horvath and colleagues (2011) investigated the impact of possible moderators influencing alliance and outcomes from therapy (Flückiger, Del Re, Wampold, Symonds, & Horvath, 2012). The study evaluated the following moderators: (a) if the study was a Randomized Control

Trial (RCT), (b) if the treatment utilized a disorder specific manual, (c) was outcome specifically linked to the disorder, (d) treatment type (e) researcher allegiance (e.g., author of the study was an author of the measure used), and (f) when in the therapeutic process alliance was assessed. Results indicated that study design, use of a manual, outcome specifics, and treatment type did not moderate the alliance to outcome association. This investigation provided evidence that the quality of alliance between a therapist and a client makes a meaningful contribution to client outcomes.

Overall the results of these reviews suggest that alliance has, even in isolation, a small to medium positive effect on the therapeutic process. Although some findings in the research can be contradictory, alliance is arguably one of the most potent predictors of positive outcomes in therapeutic settings, and it is potentially malleable (Wampold, 2001).

Measuring Alliance

The identification of alliance as an important construct has inspired many subsequent measures to facilitate empirical investigation. These measures assess perspectives of the client, therapist, or an outside observer (Horvath, 2001). Meta-analytic reviews have identified over 30 instruments used in published research to measure alliance or a selected component of the construct (Elvins & Green, 2008; Horvath et al., 2011). The four “core” measures coded in a synthesis of over 200 studies concluded that two-thirds of measures identified in the literature included the California Psychotherapy Alliance Scales (CALPAS; Gaston & Marmar, 1991), the Helping Alliance Questionnaires (HAq), Vanderbilt Psychotherapy Process Scale (VPPS), and the Working Alliance Inventory (WAI; Horvath & Greenberg, 1986). The following section

will briefly review selected instruments commonplace in alliance literature identified as the most applied measures (Elvins & Green, 2008; Martin et al., 2000).

The Vanderbilt Psychotherapy Process Scale (VPPS; O'Malley, Suh, & Strupp, 1983) includes 80 items that measure the therapeutic relationship and process. This assessment was not directly designed to measure alliance so a different iteration was subsequently developed, (e.g., The Vanderbilt Therapeutic Alliance Scale, VTAS; Hartley & Strupp, 1983). This VTAS measures information from the perspective of a clinical observer on a selected segment of a therapeutic session. This scale is documented as moderately correlated with client outcomes (Martin et al., 2000). Out of the four core measures, the Vanderbilt scales are the least applied (under 3%) in the studies of interest in this review (Horvath et al., 2011).

The Penn Helping Alliance Rating Scales were some of the earliest scales used in alliance research (Martin et al., 2000). The Helping Alliance Rating Method (HAR; Morgan, Luborsky, Crits-Christoph, Curtis, & Solomon, 1982) is rated by clinical observers. A later version collected information from the perspective of the therapist, which was well correlated with the observer version (Alexander & Luborsky, 1986). The Helping Alliance Questionnaires (HAQ; Luborsky, 1985) allowed the patient to rate their perspective of the therapeutic process using a six-point scale for 11 items. The developers reported good correlations of the HAQ with the HAR (Martin et al., 2000). Together these three measures form the Penn Scales to measure perspectives from the therapist, the client, and outside clinical observer. Approximately 15% of research studies applied this measure when client outcomes were collected (Horvath et al., 2011).

The Working Alliance Inventory (WAI; Horvath & Greenberg, 1986) measures agreement on goals, agreement on tasks, and therapist-client bond using a 36- item self-report. This measure is commonly used in therapeutic empirical studies considering it is *pantheoretical* in nature and was used in almost 40% of studies identified by Horvath and colleagues (2011). The WAI has moderate correlation with client outcomes and has been identified to have predictive validity in a variety of different treatment types (e.g., Martin et al., 2000) and therapeutic populations (Cecero, Fenton, Frankfort, Nich, & Carroll, 2001). This measure is seen as the “standard” in therapeutic empirical research due to its reliability and validity (Tichenor & Hill, 1989).

The California Psychotherapy Alliance Scale (CALPAS; Marmar & Gaston, 1988) measures patient satisfaction, goal consensus, therapist understanding and involvement, patient working capacity, and working strategy consensus. This measure is comprised of 24, seven-point items grouped into four subscales: patient working capacity, commitment, agreement with the therapist on goals and strategies, and therapist understanding and involvement. Measures are available for the client, therapist, and outside observer. Approximately 14% of research studies applied this measure when client outcomes were measured (Horvath et al., 2011).

Concordance of Alliance

Because measures of alliance can be gathered from multiple perspectives, several investigators have examined potential similarities and differences in rater perspectives (Horvath & Bedi, 2002; Horvath & Symonds, 1991; Sharf et al., 2010). According to Horvath and colleagues (2011), the majority of prior research on alliance has been collected through client ratings (n = 112) followed by observer ratings (n = 40) with

therapist ratings representing the least common perspective (n = 23). Working alliance should be conceptualized as a relational construct (Dew & Bickman, 2005) and collecting ratings from both the client and therapist may provide important information.

Horvath and Symonds (1991) reported that patient ratings of alliance were more strongly correlated with client outcomes (e.g., symptoms, premature termination, drug use, depression) than were therapist perceptions of alliance. Horvath and Bedi (2002) found that client and observer ratings of alliance were both stronger predictors of patient outcomes than were therapist ratings. In contrast to these findings, Sharf et al. 2010 reported no differences between client, therapist or observer rated alliance in predicting client attrition to therapeutic intervention. Horvath and colleagues (2011) also found no significant differences between client, observer, and therapist ratings as predictors of client outcomes (e.g., drop-out, depression, symptoms). Although somewhat mixed, these results, in combination, suggest the therapist's perspective of working alliance may be the least predictive of client outcomes. Associated ratings of alliance for students and teachers is important because the stronger association demonstrates teacher-student perceptual continuity and that both people are attending to and perceiving the same phenomena.

Considerations

Within the therapeutic alliance literature, there is growing evidence that the presence of a positive working alliance accounts for a significant portion of the variance in client outcomes (Castonguay et al., 2006). Although the correlation is not overwhelmingly strong, it is arguably one of the strongest identified therapeutic treatment variables (Webb, DeRubeis, & Barber, 2010). The field does not yet have a definitive

explanation for how a therapist can facilitate strong alliance with their clients, although certain behaviors such as warmth and flexibility are identified as positively associated with stronger alliance (Ackerman & Hilsenroth; 2003).

Alliance Research with Children and Youth

The majority of research concerning alliance has taken place with adults. Although the APA Division 29 Task Force on Empirically Supported Therapy Relationships determined that therapeutic alliance was a process factor for Empirically Supported Treatments (EST), youth participants were not considered (Norcross, 2001/2002). However, meta-analytic research investigating relationships between therapist-*child* alliance does exist. These reviews are important since some research suggests strong alliance may be critical to develop with children since they are often not self-referred and may enter treatment more reluctantly than adults (Shirk & Karver, 2003).

Shirk and Karver (2003) reviewed 23 studies to evaluate the strength of association between alliance ratings and therapeutic outcomes among children and youth. There was a modest, but consistent association between therapeutic relationship variables and outcomes in child therapy (i.e., weighted mean effect size of $r = 0.22$). Treatment outcomes in this review included the Child Behavior Checklist, Effectiveness of Treatment Index, self-perception, perception of therapeutic change, anxiety, and patient's global rating of progress.

A meta-analysis by Karver, Handelsman, Fields, and Bickman (2006) examined the post-intake relationship variables of a therapist (e.g., therapeutic alliance with client or family, relationship with client or family, therapist direct influence skills, therapist

self-disclosure) to investigate how these variables may have accounted for treatment outcomes among children and youth in 49 studies. Although this study provided detailed information about different therapeutic process variables (e.g., therapist skills, youth participation, family involvement), descriptions of specific client outcomes were not provided. There were 14 studies that investigated the relationship of alliance and varying therapeutic outcomes. Effect sizes ranged from $r = .05$ to $.49$, with a small to moderate weighted average mean effect size of $r = .21$. Findings suggested that a relationship between therapeutic alliance and youth treatment outcomes was found across treatment settings (e.g., home treatment, inpatient, outpatient) and therapeutic types (e.g., CBT, psychodynamic).

Shirk, Karver, and Brown (2011) identified 16 studies that investigated alliance-outcome associations for children and youth. Results resembled findings from previous research with a weighted mean correlation of $r = .22$ between ratings of alliance and therapeutic outcomes. Results indicated children have marginally stronger alliance-outcome associations than do adolescents and that alliance may be more strongly present in behavioral than non-behavioral therapies.

McLeod (2011) conducted a meta-analysis ($n = 34$) that estimated the alliance-outcome relation pertaining to youth in psychotherapy. Variables of investigation included patient characteristics (e.g., age, gender, problem type), treatment characteristics (e.g., treatment type, length of treatment, use of a manual), informant of alliance (i.e., child, therapist, parent) and outcomes (i.e., reduction in symptoms, treatment satisfaction, functioning, attendance). An effect size of $r = .14$ was calculated

as an overall alliance-outcome association, which is the smallest effect size calculated of the meta-analytic literature.

Variables of Influence for Alliance-Outcome Associations for Children and Youth

Although working alliance appears to be associated with positive client outcomes for children and youth similar to effect sizes identified in the adult literature, it is important to review possible variables that may impact the robustness of alliance-outcome relationship (i.e., covariates) or may explain variability in the strength of the alliance-outcome relationship (i.e., moderators). The following section will briefly summarize variables of influence commonly discussed alongside alliance-outcome associations.

Age. Three meta-analyses have investigated the influence of age on effect size for children (i.e., under age 13) and adolescents (i.e., 13 to 18 years old). Shirk and Karver (2003) did not find a significant difference between effect sizes of alliance on outcomes between children ($r = .28$) and adolescents ($r = .25$). Contrarily, McLeod (2011) identified a statistically significant difference in effect size of alliance-outcome association for children ($r = .20$) compared to adolescent clients ($r = .10$) as did Shirk and colleagues (2011) with effect sizes of $r = .32$ and $.19$. These findings indicate working alliance-outcome associations may be more influential for children age 13 and under than adolescents.

Gender. Gender was only analyzed in one meta-analysis and was not identified as a moderator of the association between alliance and treatment outcomes (McLeod, 2011).

Behavioral symptomology. The influence of alliance on positive client outcomes has been investigated for a variety of challenges associated with the expression of internalized or externalized behavioral difficulties such as depression (e.g., Feeley, DeRubeis, & Gelfand, 1999), maltreated adolescents (Eltz, Shirk, & Sarlin, 1995), trauma (Ormhaug, Jensen, Wentzel-Larsen, & Shirk, 2014), anxiety (Chiu, McLeod, Har, & Wood, 2009) and substance abuse (Hougue, Dauber Tambough, Cecero, & Liddle, 2006). A dearth of studies specifically investigated “behavioral problems” and often a label (i.e., depression, substance abuse) has been used as a proxy for working with children and youth with behavioral challenges. Regardless of the selected terminology, research indicated that alliance is a predictor of change and not strongly moderated by specific diagnostic category for children or youth (Shirk & Karver, 2003). The meta-analytic research suggested a stronger effect on outcomes for externalizers (i.e., $r = .22$, McLeod, 2011; $r = .26$, Shirk et al., 2011; $r = .30$; Shirk & Karver, 2003) as opposed to those labeled as internalizers ($r = .10$, McLeod, 2011; $d = .25$ Shirk et al., 2011; $r = .10$ Shirk & Karver, 2003).

Types of therapy. According to Horvath and colleagues (2011), therapeutic alliance can be traced back to interest generated from early meta-analytic research that concluded diverse therapies provided similar beneficial outcomes for clients. This finding encouraged therapeutic researchers to investigate common therapeutic factors. Some research suggested that behavioral based therapy may have a stronger effect size of alliance-outcome relations than non-behavioral-based therapies (Shirk et al., 2011) although these results are not conclusive due to a small sample size.

Alliance source. Shirk and Karver (2003) identified that the therapist ($r = .29$) and parent ($r = .26$) perceptions of alliance had a better predictive validity of client outcomes over child reports ($r = .18$). Other similar studies suggest that parent alliance may be more strongly associated with outcomes than youth perception of alliance (Faw, Hougue, Johnson, Diamond, & Liddle, 2005) but more research is needed to make any definitive conclusions.

Timing of measurement. Shirk and Karver (2003) identified that measures of alliance taken late in treatment ($r = .27$) were more highly associated with outcomes than when collected early in treatment ($r = .12$), as did McLeod (2011) with $r = .34$ compared to $r = .06$. These results diverged from the adult alliance literature.

Concordance of Alliance for Children and Youth

Historically, when a child was a participant in an empirical investigation of alliance, their perspective was often not a consideration in the research design (Shirk & Saiz, 1992). This is problematic, as some research has demonstrated that the perspective of alliance from the person receiving services (i.e., the child) can be a stronger predictor of outcomes (McLeod, 2011)

As previously discussed, there is an absence of agreement regarding who is most reliable source of alliance concerning children and youth: some reviews predict parent or therapist perception is more strongly associated with child outcomes (Shirk & Karver (2003) while other research identified the predictive value of child and parent alliance ratings (McLeod, 2011). Undeniably, more research is needed to make any definitive conclusions.

If two independent raters do not agree on the quality of interactions, researchers must identify which perception may be more highly associated with specific components of positive client outcomes. Shirk, Gudmundsen, Kaplinski, and McMakin (2008) found that child reported alliance predicted a reduction in depressive symptoms, while therapist reported alliance predicted the number of sessions completed. Shirk and Karver (2003) found that reports from treatment providers, not the child, were more strongly associated with positive therapeutic outcomes. Other individual studies indicated that child alliance with the therapist predicted symptom improvement while parent-therapist alliance was related to therapy retention (Hawley & Weiz, 2005).

Perceptions of alliance and/or concordance of alliance between individuals in a working dyad are important variables to investigate in research. When two independent raters agree or partly agree on distinct interactions of the dyad, it demonstrates that relationship is a distinct phenomenon (Toste, Heath, & Dallaire, 2010). Furthermore, if two raters are in agreement, assessing the perceptions of both may not be necessary. Alternatively, if evidence demonstrates one's perception may predict a specific component of outcome (i.e., attrition, reduction in depression) information from different individuals could be used to predict different specifics of targeted outcomes. Measuring different perspectives can also inform and ameliorate possible carry-over effects of rater bias considering adult perception can be influenced by child characteristics.

As demonstrated in the literature, there is no simple answer to the question "Does the perception from one individual of a working dyad predict outcomes more strongly than others?" What we do know is that information from each individual provided insight

into different components of the working alliance process model, therefore warranting further investigation.

Teacher-Student Working Alliance

With a few noteworthy exceptions, applying the construct of working alliance to educational-based research is currently in its infancy. The one exception is the work conducted by Toste and her colleagues (Toste, Bloom, & Heath, 2014; Toste, Heath, & Dallaire, 2010; Toste Heath, McDonald-Connor, & Peng, 2015). According to Toste and colleagues (2015) the interactions between a student and teacher are often conceptualized as a social or personal relationship when a more appropriate conceptualization is that teachers and students have a *working* relationship.

Measurement of classroom working alliance. In an attempt to transfer the study of the teacher-student working relationship into classrooms, Heath, Toste, Dallaire, and Fitzpatrick (2007) adapted the Working Alliance Inventory (WAI; Horvath & Greenberg, 1986) for application in an educational context. The adapted instrument, called the Classroom Working Alliance Inventory (CWAI), consists of 12 items which can be completed by either teachers or students. The three subscales on the CWAI are aligned with the WAI and measure perceptions of agreement on tasks, agreement on goals, and bond. The CWAI has been used to investigate the associations of teacher and student perceptions of classroom performance, student school satisfaction, and academic motivation (Rogers, Bélanger-Lejars, Toste, & Heath., 2015; Toste et al., 2011; Toste et al., 2014).

Toste, Heath, and Dallaire (2010) reported that CWAI demonstrated moderate internal consistency and reliabilities for the teacher rating ranged from .76 to .91 while

the student scale ranged from .59 to .71. The authors note that considering the small sample size of the study ($n = 14$ for teachers and $n = 53$ for students) that the results should be interpreted with caution.

Toste and colleagues (2015) examined the construct validity of CWAI among 430 third graders and 33 teachers. A confirmatory factor analysis demonstrated that the teacher scales of the CWAI measured two factors of the relationship (i.e., emotional [bond] and collaborative [agreement on tasks and goals]) more strongly than the single factor total score and three-factor subscales, although the total score and subscales were identified as acceptable. For the student ratings, a confirmatory factor analysis demonstrated the CWAI was not acceptable while the two and three-factor analysis revealed a good fit.

Working alliance research. Few research studies have investigated the role of working alliance and its association with positive classroom outcomes for children and youth. One exception is a study by Toste and colleagues (2010) who examined the perceptions of working alliance between 14 teachers and 53 students in elementary school. The researchers used the CWAI to gather student and teacher perceptions of working alliance but also gathered data on teacher ratings of school performance using the Student Performance Questionnaire (SPQ). The SPQ included questions about student work habits, attention, behavior, independence, and school enjoyment. Results indicated that student perceptions of working alliance were positively associated with self-ratings of school performance (an adjusted R^2 value of .354) and teacher ratings of school performance (an adjusted R^2 value of .194). For teacher perceptions of working alliance

the only significant finding was that teacher perceptions of working alliance were associated with teacher ratings of student performance (an adjusted R^2 value of .407).

In a second study on the associations of working alliance and school adjustment, Toste and colleagues (2014) examined ratings of working alliance, teacher perception of student social skills improvement, and non-achievement attitudes about school (e.g., general satisfaction, teachers, adventure, negative affect, social integration) among 17 teachers and a total of 122 students with and without disabilities (i.e., learning disability and EBD). Results indicated that disability status predicted the teacher's view of working alliance such that teachers reported higher alliance for students without disabilities and more negative perceptions of students with disabilities. However, among students themselves, there were no differences between perceptions of classroom working alliance between students with and without disabilities. These findings aligned with similar research that investigated teacher relationships with students with and without disabilities by showing that students with disabilities may have an increased likelihood of poor relationships with their teachers than typical peers (Murray & Greenberg, 2001).

Rogers and colleagues (2015) investigated the relationships between teachers and students with and without ADHD symptomology to investigate how disability may have affected teacher-student alliance. Participants included 36 typical students and 35 students identified with ADHD *symptomology* between the ages of six and ten years old. The study investigated if (a) ratings of working alliance vary for boys versus girls with low or high ADHD symptomology and if conduct or academic problems affected the association; (b) ADHD affected CWAI teacher reports; and (c) teacher-student alliance for those with and without attentional difficulties identified as ADHD symptomology

affected academic motivation. Results demonstrated that scores from the CWAI were lower for perceptions of bond and collaboration when teachers rated students with high ADHD symptomology than when rating typical peers. For the group identified as having ADHD symptomology, the scores for bond from the CWAI were associated with self-scores of internal motivation.

Brown, Valenti, and Kerr (2015) examined the relationship between a teacher's emotional labor and working alliance for students in a separate school for behavioral problems. Participants included 27 educators from self-contained schools for students with EBD. Data were collected using the Emotional Labor Teaching Scale (TELTS; adapted by the authors from other scales measuring emotional labor), the Working Alliance Inventory-short form (WAI-SF; Tracey & Kokotovic, 1989) and qualitative interviews. Findings suggested that ratings of alliance were had weak to moderate correlations with teacher behaviors which included negative display rules (i.e., withholding expression of anger/frustration) use of natural emotions (i.e., display authentic feelings), and surface acting (i.e., suppression of an emotion). Positive correlations were identified for the use of natural emotions and all three WAI-SF subscales and total. Although this paper explored working alliance in the EBD classroom, the association with student outcomes was not investigated.

School Engagement

Although research concerning working alliance in an educational context is still in development, school engagement has a stronger foundation in empirical research. There are many different definitions of what constitutes school engagement which includes behavioral, cognitive, and emotional engagement (Fredricks, Bloom, & Paris,

2004). School engagement is an appropriate outcome to measure school adjustment considering engagement, like working alliance, is a multi-dimensional construct. Research suggests one route to improve student engagement could be through improvement of interpersonal relationships (Fredricks et al., 2004). There is evidence in the therapeutic literature that working alliance and engagement may have an association. For example, a study of youth placed in a residential treatment center identified agreement on tasks and goals was one predictor of client reported engagement (Cunningham, Duffee, Huang, Steinke, & Naccarato, 2009).

The foundational literature of student-teacher relationships also suggests engagement is an appropriate outcome to measure. For example, a study by Anderson and colleagues (2004) demonstrated that higher quality relationships between elementary and middle school staff and students were associated with improved engagement at school (e.g., attendance, work completion, preparation). Klem and Connell (2004) investigated the impact of teacher-student relationships and engagement of 1846 elementary students and 2430 secondary students. Results indicated that low student perception of teacher support was associated with a likelihood the teacher would report the student as disengaged and the student would be less likely to report feeling engaged at school. Similarly, a study by Furrer and Skinner (2003) identified that 641 3rd through 6th grade students who reported positive relationships with teachers were reported to have stronger academic and behavioral engagement than students who reported the relationship with their teacher as less positive.

Disengagement has also been associated with predictors of poor school and long-term outcomes. In a study by Henry, Knight, & Thornberry (2012) information provided

by a school disengagement warning index was related to serious student behavioral problems across developmental domains. The paired evidence from therapeutic research and school-based relationship studies suggest that alliance should be a predictor of school engagement amongst students, including those with EBD because engagement, or lack thereof, arguably represents “the process” of school failure. Engagement was also a particularly compelling outcome variable due to its association with a plethora of evidence-based practices for students with EBD. For example, many evidence-based practices for this population introduced in chapter one include increasing behavioral or cognitive engagement as a primary or secondary outcome and can include self-monitoring, opportunities to respond, and behavioral antecedent interventions (i.e., structured tasks, sequential prompting, choice-making).

Purpose of the Study

Therapeutic literature states that the convergence of therapist and client expectations is important to facilitate the formation of a strong working alliance (Shaw, McMahon, Chan, & Hannold, 2004). In a school context, this concept would include relationships between teachers and students, which Kern (2015) recently identified as a critical focus for future EBD research.

There is a need in the field for special education to expand upon and supplement systems based research to improve educational outcomes for students with disabilities, in particular students with EBD. Research concerning student-teacher relationships is identified as a need in the field of special education, in particular for the EBD special education population (Kern, 2015).

Working alliance has been well documented as a predictor of positive outcomes in therapeutic settings for both adults and children. It seems natural to transition the construct of working alliance into the educational context, in particular for students who have a history of school failure. The emerging evidence suggests continued research of this construct in an educational setting is of value. Therefore, targeted research investigating any associations of working alliance and student outcomes for individuals identified with an EBD is an appropriate empirical next step.

Moving forward, a few considerations are critical to bridge the wealth of working alliance research into educational contexts. First, an appropriate student outcome must be identified. Considering the breadth of identified deficits for students with EBD, many ideal school outcomes may not be the best indicator of school success for this population. For example, simply measuring student academic aptitude would be erroneous considering the variability of academic skills for this population. Specific behavioral measures may also be problematic considering behavioral deficits define the EBD educational eligibility. Engagement is one viable outcome because it “reflects relationally mediated participation in opportunity” (Pianta, Hamre, & Allen, 2012, p.336). Student classroom engagement as an outcome measure may provide the field with an appropriate starting point in the investigation of the association between teacher-student working alliance and positive school outcomes for students with EBD.

The purpose of the present study is to *begin* to explore the viability of the construct of *working alliance* in educational research among students with EBD and their teachers. Based on prior findings pertaining to the therapeutic alliance (Martin et al., 2000; Shirk et al., 2011) and findings pertaining to working alliance in schools (Rogers et

al., 2015; Toste et al., 2011; Toste et al., 2014) the current study explores concordance in teacher-student perceptions of alliance, potential predictors of concordance, the association of alliance quality and student engagement in school, and potential predictors of working alliance quality. Moreover, because the study is designed to extend the research on teacher-student relationships in schools, I also investigate potential similarities and differences between teacher-student working alliance and traditional measures of teacher-student relationships. The study hypotheses are:

Research Questions and Hypotheses

Q¹ Are teacher and student views of working alliance concordant?

H₁: I predict there may be weak to moderate associations across student and teacher ratings of alliance.

H₂: Teachers will report lower scores of alliance than students.

Q² Do years of teaching experience, child grade, length of relationship, or minutes of contact time per week predict concordance of teacher and student ratings of alliance?

H₃ Length of working relationship and contact time may have a small influence on concordance of teacher-student working alliance.

Q³ Do perceptions of working alliance predict student or teacher rated engagement?

H₄: Teacher rated alliance will predict teacher-rated engagement after accounting for student ratings.

H₅: Student rated alliance will predict teacher-rated engagement after accounting for teacher ratings.

Q⁴ Do length of working relationship, dosage (i.e., minutes of service provision per week), internalizing student behavior, or externalizing student behavior predict teacher or student

perceptions of alliance?

H₆ Behavioral severity will influence teacher perceptions of alliance more than length and dosage of their relationship.

H₇ The length of the educational relationship and student grade may predict perceptions of student working alliance.

Q⁵ Are measures of student-teacher relationship quality (i.e., STRS and IT-SR) more strongly associated with student engagement than measures of student and teacher alliance?

H₈ Considering this is an exploratory question (i.e., there is not a literature base to inform the hypothesis), there is no hypothesis for this question.

CHAPTER III

METHODS

The proposed study investigated the research questions using a combination of analyses (i.e., descriptive, correlational, dependent correlational comparison, *t*-test, and regression). The following chapter describes the procedures and analysis.

Participants & Settings

Sampling procedure. Teachers and students meeting inclusion criteria were recruited from districts or specialized programs that granted research approval. Public or private/contracted alternative education programs (i.e., separate schools, therapeutic day treatment, residential programs) were also included in the study to represent the continuum of educational placements for students with emotional and behavioral challenges. Initially, approximately 175 school districts were contacted for research permission. Of these districts, 18 had a formal research application process and five applications were not approved. General district feedback for these rejected applications stated ‘approval wasn’t granted because special education teachers were too overwhelmed to take on any additional responsibilities.’ Four additional districts did not provide a decision concerning application status and did not respond to follow-up queries. Nine districts granted formal approval, but two of those districts then required the researcher attain principal approval before inviting teachers. When required, principal approval was approximately 50%. The other half did not respond to the researcher’s request or stated their special education teacher did not have any students with an EBD.

For the remaining districts without a formal application process, the researcher sent an email to a special education or district administration, requesting permission to

recruit special education teachers and their students with EBD. Approximately 35 of the 157 administrators in these districts granted approval, the majority did not respond to the researcher's request. Of those districts, about 75% had at least one teacher interested to participate and about half of those teachers were able to secure parental consent for at least one student.

Special education teachers. Special education teachers (i.e., licensed special educators, therapeutic teachers) were recruited as participants. Teachers who had a special education endorsement attached to a general education teaching license and those with alternative credentials were included as long as primary teaching duties were to provide special education or specialized services (i.e., at least 50% of professional duties are in a special educational context) to students with disabilities. Teachers were recruited for participation if they satisfied the following criteria: (a) at least one student on the caseload meeting student participant criteria (described in the following section), and (b) provided special education or specialized services (e.g., educator in a therapeutic placement or specialized school for or in support of students with diverse behavioral needs) for children with disabilities. Initially, 77 teachers secured parental permission for at least one student. One of these teachers did not complete the teacher survey following the collection of student data and was not included in this study. The final sample included 76 teachers from 25 different school districts. As shown in Table 1, participating teachers were mostly white, female, and had a range of teaching experience. The majority were licensed or endorsed in special education and worked in resource or self-contained classroom settings.

Table 1

Teacher Demographic Information

	<i>n</i>	%
Gender identity		
Female	65	85.5
Male	10	13.2
Open response (gender queer)	1	1.3
Race/ethnicity		
African American	3	3.9
White	69	90.8
Asian	2	2.6
Latino/a, Chicano	2	2.6
Years special education teaching experience		
0-4	24	32.0
5-15	29	38.7
16+	23	29.3
Years general education teaching experience		
0	51	67.1
1-10	20	26.3
11+	5	6.6
Total years teaching experience		
0-4 (new)	12	17.3
5-15 (experienced)	36	48
16+ (veteran)	28	34.6
Teaching license		
Special education license	47	61.8
Special education endorsement	15	19.7
Other	12	15.8
Missing	1	1.3
Educational placement		
Inclusion support	7	9.2
Resource room	28	36.8
Self-contained classroom	27	35.5
Separate/alternative school	4	5.3
Therapeutic placement	8	10.5
Other	2	2.6

Student participants. Once a teacher agreed to participate, they were asked to send home parent consent forms for qualifying students on their caseload. Three criteria were used to assist teachers to identify student participants. First, the student

must receive specialized educational services for a disability category that would fall under the umbrella of an EBD including but not limited to: an educational eligibility of emotional disturbance (ED) or educational eligibility of other health impairment (OHI) with behavioral difficulties as the primary identified educational deficit. Students with documented anxiety, depression, or significant behavioral challenges (i.e., had at least one special education behavioral goal) were also included if they received special education services through an individualized education plan (IEP) or 504 plan under a disability category such as a communication disorder or specific learning disability. Students with a significant intellectual disability were not included in this study. Students identified with an educational eligibility of autism informed by a previous medical diagnosis of Asperger's were included if the teacher identified the student's primary challenge from a behavioral, rather than social or communication etiology. Second, participating students recruited for this study were in first through sixth grades. Finally, teachers must provide direct service to participating students at least once a week.

Parent consent was provided for 185 students but two students did not provide assent to participate in the study and one student was surveyed but the teacher did not submit teacher ratings and was therefore excluded. Data were collected from a total of 182 students.

The number of children recruited per teacher was highly variable (two to 12 students per teacher) so to reduce bias in consequent analyses, the study sample was restricted by randomly selecting one student per teacher to create 76 teacher-student dyads. In Table 2, student demographic information is reported for the final student sample. Consistent with overall patterns of placement in this category (ODE, 2017;

USDOE, 2016), there were approximately three times as many males as females represented and the majority of students were White. Approximately 90% of students were identified with an educational eligibility of *emotional disturbance* or *other health impairment*. Also consistent with national patterns, over half of the participants spent the majority of their school day in segregated (i.e., self-contained or separate placement) settings and/or spends less than 80% of their day in general education (USDOE, 2016).

Table 2

Student Demographic Information

	<i>n</i>	%
Gender		
Male	53	69.7
Female	22	28.9
Transgender	1	1.3
Race/Ethnicity		
White	59	85.5
African American	6	7.9
Latino/Latina/Hispanic	4	5.3
American Indian/Native American	2	2.6
Asian	2	2.6
Other/unsure	3	3.9
Grade		
1 st	8	10.5
2 nd	4	5.3
3 rd	12	15.8
4 th	21	27.6
5 th	13	17.1
6 th	18	23.7
English as a first language		
Yes	74	97.4
No	2	2.6
Receives free/reduced lunch		
Yes	31	40.8
No	23	30.3
Unsure/cannot answer	22	28.9
Primary disability		
Emotional disturbance	36	47.4
General EBD*	4	5.3
Other health impairment	28	36.8

	<i>n</i>	%
Specific learning disability	5	6.6
Speech or language impairment	2	2.6
Autism spectrum disorder	1	1.3
Secondary eligibility		
Emotional disturbance	1	1.3
Other health impairment	6	7.9
Developmental delay	2	2.6
Specific learning disability	5	6.6
Speech or language impairment	5	6.6
None reported/missing	57	75.0
Specialized service setting		
Inclusion	7	9.2
Resource	27	35.5
Self-contained class	28	36.8
Separate Placement	12	15.8
Other	2	2.6

Note. *Some participating districts did not allow disability to be formally documented by the researcher although permission was granted for teachers to invite students to participate based on the inclusion criteria. These students are categorized as “general EBD”.

Measures

Each student and special education teacher were asked to complete measures regarding teacher-student working alliance, teacher-student relationships, student classroom engagement, and perception of students’ internalizing and externalizing behavior. Teachers were also asked to complete demographic information concerning themselves, the student, and their working relationship (i.e., length of working relationship, minutes of direct service per week).

Demographic questionnaire. Teachers completed a demographic questionnaire developed by the researcher. Demographic variables for each student participant included: gender, grade, age, race, socioeconomic status (i.e., through the proxy of free and reduced lunch), English as a second language, and disability status. Demographic variables for each special education teacher participant included: gender, race, years

working in education (i.e., years as a general or special educator, instructional assistant, or administration), teaching credentials, type of classroom, and perception of their pre-service training in behavior management. In addition, teachers were asked several questions pertaining to the focus of the current study: length of working relationship, number of minutes per week of direct service, and subject areas of educational service (e.g., math, social skills, health). A copy of the teacher and student demographic questionnaire is provided in Appendix A.

Classroom Working Alliance Inventory (CWAI; Heath et al., 2007). Teacher and student perceptions of working alliance were measured using the CWAI. This measure was adapted from the original Working Alliance Inventory (WAI; Horvath & Greenberg, 1986) and has been extensively investigated and validated (Horvath & Bedi, 2002). The original WAI is designed to be a pantheoretical instrument (Cecero et al., 2001) and is seen as the “standard” to measure working alliance because it is a commonly used instrument, observers can often easily attain inter-rater agreement (IRA), and the instrument has predicative validity for a variety of therapeutic populations (Tichenor & Hill, 1989).

The adapted measure in education, The Classroom Working Alliance Inventory (CWAI; Heath et al., 2007) assesses the identical domains from both the teacher and the student perspective. The CWAI is comprised of 12-items and uses a 5 point Likert Scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) to measure the three domains of working alliance of task, bond, and goals. These domains have also been collapsed into two broader scales representing bond and collaboration. The bond scale includes 4 items that ask about respect, trust, and “fondness” of the other individual in the

dyad (e.g., “I enjoy working with the teacher/student”). The collaboration scale is comprised of two collapsed working alliance subscales: tasks (i.e., 4 items “The student and I agree about the things I need to do help improve his/her schoolwork”) and agreement on goals (i.e., 4 items “We are working towards goals that we have agreed upon together”). These scales are often combined since previous research identifies a high amount of shared variance between task and goal subscales in both the therapeutic and school-based literature (Horvath & Greenburg, 1989; Toste, Bloom, and Heath, 2014).

The CWAI, has demonstrated adequate psychometric properties (Toste, Heath, & Dallaire, 2010; Toste et al., 2014). According to Toste et al. (2010) Cronbach’s alpha on the teacher version of the CWAI ranged from $\alpha = .76$ to $.91$ and between $\alpha = .59$ and $\alpha = .71$ for the student report. A copy of the CWAI for teachers and students is provided in Appendix B and C.

On the current sample, the alpha coefficient for teacher ratings on the CWAI was task $.83$, goal $.75$, and bond $.80$. On the combined collaboration subscale (i.e., tasks plus goals) the coefficient was $.88$ and the alpha for the total scale was $.91$. The coefficient alpha’s on the student version of the CWAI were task $.54$, goal $.57$, collaboration $.73$, bond $.78$ and a total score of $.80$.

Student-Teacher Relationship Scale-Short Form (STRS-SF; Pianta, 1996). The STRS is a widely used measure that assesses teacher perceptions of student-teacher relationship from an attachment perspective (Pianta, 1999). The STRS assesses both positive and negative relationship features of these relationships through three subscales: conflict (e.g., “Dealing with this child drains my energy”), closeness (“This child values

his/her relationship with me”), and dependency (“This child is overly dependent on me”). In the current study, I utilized the STRS-short form (15 items, 1 = definitely does not apply to 5 = definitely applies) which measures closeness and conflict only.

Prior research indicates that the coefficient alpha’s for conflict ($\alpha = .92$), closeness ($\alpha = .86$) and the total scale ($\alpha = .89$) are strong (Pianta, 1996). Previous research has identified the STRS as predictive of a variety of student outcomes including behavioral adjustment, peer ratings of student behavior, and classroom participation (Birch & Ladd, 1997; Hamre & Pianta, 2001; Pianta, 1994; Pianta, Steinberg, & Rollins, 1995). On the current sample, Cronbach's alphas for the conflict (.86) closeness (.85), and the total score (.85) were similar to those reported in prior research. A copy of the STRS-SF is provided in Appendix D.

Inventory of Teacher-Student Relationships (IT-SR, Murray & Zvoch, 2011). Student perceptions of teacher-student relationships were measured with the IT-SR. This 17 item measure was created through the adaptation of the widely used Inventory of Parent and Peer Attachments (IPPA; Armsden & Greenberg, 1987) and includes three factors: communication (e.g., I tell my teacher about my problems and troubles), trust (e.g., I trust my teacher), and alienation (e.g., My teacher doesn’t understand what I’m going through these days). Students provide responses on a 4-point scale (i.e., almost never/never true to almost always/always true).

Previous research identified convergent and discriminant validity between the STRS and IT-SR (Murray & Zvoch, 2011). In a recent study, Murray and colleagues (2015) reported alpha coefficients for the three subscales as: communication $\alpha = .89$, trust $\alpha = .84$, and alienation $\alpha = .72$. On the current sample, Cronbach's alpha’s for the

communication, trust and alienation were .81, .64, and .63, respectively. The total IT-SR was found to be reliable when alienation was reverse coded and added to the total from the communication and trust subscales (17 items; $\alpha = .84$). The alienation subscale in this study included two additional questions that were removed by Murray & Zvoch (2011). Keeping these two questions in the subscale improved internal consistency scores for alienation $\alpha = .73$, and the total measure $\alpha = .86$. A copy of the IT-SR is provided in Appendix E.

Engagement Versus Disaffection with Learning (EvDL; Skinner, Kindermann, & Furrer, 2009a/b). This measure is adapted from the original assessment developed by Wellborn (1991) and assesses engagement and disaffection from both an emotional and behavioral perspective. Questions revolve around both positive (i.e., For this student, learning seems to be fun) and negative (i.e., When faced with a difficult assignment, this student doesn't even try) aspects of classroom engagement.

Both measures ask students and teachers to respond to 20 items from four subscales consisting of five questions each: (a) behavioral engagement (i.e., In my class the student works as hard as he/she can); (b) behavioral disaffection (i.e., In my class, this student does just enough to get by); (c) emotional engagement (i.e., In class, this student is enthusiastic); and (d) emotional disaffection (i.e., In my class, this student is angry). Response options for both instruments use a 4-point Likert scale that ranges from 1 = "not at all true" to 4 = "very true". For both versions, subscales can be analyzed separately or combined (i.e., engagement and disaffection or emotional and behavioral engagement) with the use of reverse coding for disaffection items (Fredricks et al., 2011).

Skinner, Kidermann, and Furrer (2009a/b) reported that Cronbach's alpha's ranged between $\alpha = .61-.85$ among students in grades three to six and between $\alpha = .81-.87$ their teachers. The developers reported construct validity through a confirmatory factor analysis of the four scales and determined that each scale was a good fit for both student and teacher report (Skinner et al., 2009).

On the current sample, the coefficient alphas for teacher reports were behavioral engagement .91, behavioral disaffection .84, emotional engagement .90, emotional disaffection .71, and total score .94. For students, the coefficient alphas were behavioral engagement .76, behavioral disaffection .60, emotional engagement .83, emotional disaffection .77, and total score .88. A copy of the EvDL student and teacher report is provided in Appendix F and G.

Social Skills Improvement System (SSIS, Gresham & Eliot, 2008). The SSIS was used to measure both student and teacher perception of students' internalizing and externalizing behavior. The SISS has strong psychometric properties has also been standardized based on a nationwide sample matched to the US population estimates for race, region, and SES. The instrument has been validated with students under the EBD umbrella (e.g., Attention Deficit Hyperactivity Disorder, Developmental Delay, Emotional Disturbance; Gresham & Elliott, 2008). According to the SISS professional manual (Gresham & Elliott, 2008) teacher surveys, when conducted on students aged five to 12 years old, demonstrate strong internal consistency for the externalizing ($\alpha = .93$) and internalizing ($\alpha = .83$) subscales and for the total score ($\alpha = .95$). The student report is comprised of 29-items and uses a 4 point Likert Scale (student: 1 = not true to 4 = very true; teacher: 1 = never exhibits behavior to 4 = almost always exhibits behavior) to

measure the domains of externalizing (i.e., is aggressive toward people or objects) and internalizing (i.e., student acts/feels lonely) behaviors. Gresham & Elliott (2008) reported coefficient alphas of $\alpha = .86$ for externalizing behaviors, $\alpha = .82$ for internalizing, and $\alpha = .91$ problem behavior total for a nationally representative sample of students.

On the current sample, the coefficient alpha's for teacher ratings were .89 (externalizing), .74 (internalizing), and .89 for the total. Among students, the coefficient alpha's were .86 (externalizing), .79 (internalizing) and .88 for the total score. A copy of the SSIS-Problem Behavior teacher and student report is provided in Appendix H and I.

Procedure

Recruitment. Recruitment procedures were conducted after University of Oregon Internal Review Board (IRB) for human subject research approval. School districts or specialized programs were contacted to seek approval to recruit qualifying teachers and students. District approval took place in two formats: the researcher submitted an application if the district had a formal research approval process or the researcher contacted a district administrator for permission to invite qualifying teachers.

Once approval was received, teachers were contacted based on district or administrative discretion in the following three ways: (a) the researcher sent an invitation to qualifying teachers via email, (b) the district sent out an invitation to all or district selected special educator placements (e.g., only teachers in self-contained classrooms), or (c) the district invited the researcher to present to teachers at a district special education meeting. Once a special education teacher expressed interest through one of these recruitment methods, the researcher would send the special education teacher a packet with study materials (i.e., teacher consent form, parent consent forms, teacher surveys)

through UPS or US mail. The teachers were instructed to only fill out a survey once parental consent was received.

Once consent was obtained for both a teacher and student dyad, the researcher scheduled a good meeting time with the teacher, went to the school, and administered the assessments to students individually or in small groups. Components of these measures assessed student's perception of their teacher so all assessments were administered without the teacher present (or not within teacher listening distance) to reduce potential bias in responses. With consideration to the varying reading abilities of the student participants, the researcher assisted students to complete the measures. Two participating students were assisted by the advisor of this study and the remaining students (n = 74) were assisted by the researcher. Assistance for students varied and included one or more of the following: (a) reading the questions aloud, (b) defining a word if the student did not know it, and (c) circling responses for the student by request (i.e., the student pointed or verbalized the response and the researcher circled the response for them on the survey). All data were gathered between November and June during the 2016-2017 school year.

Analytic Plan

Missing data. Prior to conducting any analyses, frequency counts were run on all study variables to identify missing data or data that was unusual (e.g., a number that was outside the scale minimum or maximum for a measure). All missing or unusual data were then double checked by the researcher from the handwritten surveys. If data were missing because of a "non-response" the researcher did one of two things. First, if possible, the researcher contacted the teacher for a response. If the teacher was unable to

be contacted (i.e., summer break) or the teacher wrote “NA, not sure” or a similar note to the researcher indicating the response was left blank intentionally, the missing data were filled with the average score of the measure, and when possible, the particular subscale from the larger measure. Missing data were well under 1%.

Power analysis. A power analysis using G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) was conducted to establish an a priori estimation of the sample size required to identify an effect size of at least 0.20 for independent dyads for regression calculations. An effect size of .20 was selected from associations previously identified in the meta-analytic literature investigating alliance and improved client outcomes. A power of .80 is often the standard for behavioral research (Cohen, 1988) and an alpha of .05 is also the standard benchmark to determine significance of results. To detect a small to moderate effect ($d = .20$, $r = .1$) for an alpha level of 0.05, and power of .80, a sample size of 68-112 dyads, dependent on number of predictors run in the regression, were required for this investigation. Therefore, this study is under-powered with regards to the identification of a small effect size.

Analytic technique. Data were analyzed using the statistical software package SPSS 23.0 for MAC (IBM Corp., 2015). Different analytic techniques were used to answer the proposed research questions and address each hypothesis. First, to determine association between student and teacher-rated alliance bivariate (Pearson’s r) correlations were calculated between teacher-and student-rated subscales (task, goal, bond) and for total scores on the CWAI. Strength of the association were determined using the guidelines provided by Cohen, Manion, and Morrision (2007): 0.10 weak, 0.30 modest, 0.50 moderate, and 0.8 strong. Next, to test for concordance of teacher and student

perceptions of alliance a two-way random effects intraclass correlation ($ICC_{2,1}$) with absolute agreement was conducted. Each student was paired with a different teacher so the one-way random effects model was selected (Koo & Li, 2016). The ICC coefficient was interpreted by average measures and will be used as an estimator of the degree of dependency between teacher and student ratings of alliance. Finally, to test to see if students have stronger perceptions of working alliance than their teachers, a paired samples *t*-test was conducted between student and teacher subscales and total score of working alliance and interpreted by directional mean difference and significance.

To determine if there were any predictors of the concordance of teacher-student alliance, a variable was constructed to represent their agreement, or lack thereof. There are a variety of ways to assess similarities between profiles, all of which present different strengths and limitations (Cronbach & Gleser, 1953). The Euclidean distance formula was used for this calculation of *concordance of alliance* which is often referred to as “congruence” or “agreement” and is comprised of the following calculation: the square root of the sum of squared differences between teacher and student scores for each item of the CWAI. For this transformed variable, higher scores indicate less student-teacher concordance of alliance, or more distance between perceptions. These scores were then regressed on hypothesized predictors of concordance of alliance.

To determine potential differences between student gender identity, student race/ethnicity, teaching experience (i.e., new, experienced, and veteran), student special education eligibility, student grade (i.e., primary = 1-3, intermediate 4-6) and contact time (small = under four hours per week, medium = four to eight hours per week, large = more than eight hours), a multivariate analysis of variance (MANCOVA) was conducted

using categorical demographic variables as predictors and teacher and student rated alliance and engagement as dependent variables. For possible predictors that were continuous, a bivariate correlation was run between student grade, years of teaching experience, number of students on the caseload, and number of months working with the student with teacher ratings of alliance and engagement. Selection of covariates and additional predictors were informed by both the results of these preliminary analyses, meta-analytic therapeutic alliance literature, and the few research studies already conducted on classroom working alliance.

To evaluate the extent to which teacher and student ratings of alliance predicted school engagement, two linear regression analyses were conducted. For these analyses, student and teacher ratings of alliance were regressed on student- and teacher-rated engagement, respectively. Years of teaching experience was added as a covariate for the model involving student ratings of engagement since years of teaching experience was associated with student total ratings of engagement ($r = .25$).

To investigate potential predictors of teacher and student ratings of alliance two hierarchical regression analyses were conducted. For these analyses, months working together and minutes of contact per week was entered on the first step of each equation and behavioral severity (i.e., externalizing and internalizing scores from the SSIS) was entered on the second step of each equation. The two covariates of months working together and contact minutes were added as a first step to account for overall “exposure” the student and teacher have with one another.

Finally, to compare associations between alliance and engagement to traditional relationship measures with engagement, dependent correlations were compared. An

online program to test the difference between two dependent correlations with one variable in common was used for this analysis (Lee & Preacher, 2013). This program converts each correlation coefficient into a z-score using Fisher's r-to-z transformation and then computes covariance of the estimates. Teacher CWAI scale and subscales and STRS scale and subscales were compared, with the shared variable of student engagement. Student CWAI scale and subscales and IT-SR scale and subscales also were compared.

CHAPTER IV

RESULTS

Preliminary Analysis

Assumptions. Both numerical and graphical methods were used to assess specific violations of normality (i.e., check histogram/boxplots, p-plot during the analysis) including outliers (i.e., review of leverage values for points identified as outliers more than 3 standard deviations from the mean), linearity (i.e., bivariate scatterplot and residual plot), independence of errors (i.e., check to assure residuals are random, not systematic when running the regression) and homoscedasticity (i.e., width of data in Y axis is about the same). Assumptions for each specific analysis are addressed prior to reporting results for each research question, skew and kurtosis are reported in Table 3.

Table 3

Assessment for Normality

Variable	Skewness	SE of skewness	Kurtosis	SE of kurtosis
CWAI _t	0.003	0.276	0.268	.545
CWAI _s	-0.540	0.276	-0.017	.545
STRS	-0.423	0.276	0.119	.545
ITSR	-0.636	0.276	0.267	.545
EvDL _s	-0.254	0.276	-0.761	.545
EvDL _t	-0.848	0.276	1.108	.545
SSISPB _t	-0.178	0.276	-0.565	.545
SSISPB _s	0.647	0.276	0.286	.545

Note. Teacher or student report is indicated at the end of each variable, t = teacher report, s = student report. CWAI = Classroom Working Alliance Inventory. STRS = Student-Teacher Relationship Inventory. IT-SR = Inventory of Teacher-Student Relationships. EvDL = Engagement versus Disaffection with Learning. SSISPB = Social Skills Improvement System-Problem Behavior.

Group Differences. To evaluate whether there were potential group differences related to any of the criterion variables (i.e., alliance and engagement), a multivariate analysis of variance

(MANOVA) was conducted using categorical demographic variables as predictors. These variables included student gender identity, student race/ethnicity, teaching experience (i.e., new, experienced, and veteran), student special education eligibility and contact time (small = under four hours per week, medium = four to eight hours per week, large = more than eight hours). The results of both the multivariate and univariate analyses indicated no significant differences between these groups on any of the alliance or engagement scores for students and teachers. Therefore, these variables were not identified as having important influence and were not entered into any of the analysis unless the question was exploratory or previous research intimated the variable should be included as a possible covariate in a regression analysis.

For continuous demographic variables, a bivariate correlation was conducted to evaluate association with any remaining study variables as possible covariates which included length of working relationship, years of teaching experience, minutes of direct service per week, student grade, and number of students on the teacher's caseload. In Table 4, on the next page, there is a correlation matrix for continuous demographic variables and all remaining study variables. Years of teaching experience was the only significant correlation with total student score of engagement, $r = .253, p < .05$.

Table 4

Bivariate Correlation Between Possible Covariates and Study Variables (n = 76)

Covariates	Experience	Length	Dosage	Caseload	Grade
Measures					
Teacher					
EvDL	-.081	.003	-.177	-.073	.009
Collab	.014	.087	-.054	-.098	-.041
Bond	.049	.084	-.100	-.026	-.134
Total	.028	.091	-.073	-.077	-.077
Student					
EvDL	.253*	.056	-.087	-.017	-.048
Collab	.121	.131	.002	.025	.172
Bond	.108	.062	.154	-.116	-.113
Total	.133	.123	.060	-.026	.087
Mean	13.635	11.309	753.092	21.64	4.0658
SD	9.307	7.228	661.898	13.601	1.569

Note. All subscales are reported from the Classroom Working Alliance Inventory (CWAI). Collab = Collaboration subscale comprised of task and goal subscale. EvDL = Engagement versus Disaffection with Learning. Higher scores represent higher alliance quality. * $p < .05$, ** $p < .01$, *** $p < .001$

Question 1: Are teacher and student views of alliance concordant?

Correlations Between Teacher and Student Perceptions of Alliance. To address question 1, bivariate Pearson correlations were calculated to test for student and teacher associations on all scales and subscales of the CWAI (see Table 5). Preliminary analysis showed that the relationship between teacher and student CWAI to be linear through visual analysis of a scatterplot. Teacher alliance scores were normally distributed with a skewness of 0.003 (standard error = 0.276), and kurtosis of 0.268 (standard error = .545). Student alliance scores were also normally distributed with a skewness of -.540 (standard error = 0.276), and kurtosis of -.018 (standard error = .268).

Results indicated significant and positive correlations between all CWAI subscales and the CWAI total when provided from the same informant, $p < .01$. There were significant correlations between informants for perceptions of goal $r = .27, p < .05$ and bond $r = .24, p < .05$ but there was no significant association for task $r = .19$. Collaboration, the subscale of the collapsed task and goal subscales, was modestly correlated at $r = .28, p < .05$. There was also a modest and significant positive correlation between teacher total scores of the CWAI and the student total score for the CWAI, $r = .25, p < .05$. These results demonstrate that conceptually one's perception of the working relationship, as measured by collaboration between teachers and students, had the strongest cross-rater association. Teacher total score of the CWAI was equally associated with the student CWAI subscales of goal and collaboration $r = .24, p < .05$. Student total CWAI scores were associated with all teacher subscales except bond and student task was not associated with any scale or subscale of the teacher CWAI. Findings suggest that collapsing task and goal together into the collaboration subscale has a stronger association than either subscale in isolation.

Concordance of Alliance. A one-way random effects intraclass correlation (ICC_1) with absolute agreement was run to identify concordance of teacher and student measures of alliance. Overall, poor reliability was found between student and teacher reports of the CWAI bond subscale. The average measure ICC for bond was .33 with a 95% CI [-.049, .577], $p < .05$ and similar reliability was found between student and teacher reports of collaboration, .35 with a 95% CI [-.032, .584], $p < .05$. There was not significant reliability found for student and teacher total score of the CWAI, with an average measure ICC at .313. with a 95% CI [-.082, .564]. Results indicate that

Table 5

Bivariate Correlation Between Teacher and Student Perception of Classroom Working Alliance (n = 76)

	1	2	3	4	5	6	7	8	9	10
Teacher										
1. Task	-									
2. Goal	.76***	-								
3. Bond	.78***	.69***	-							
4. Collaboration	.94***	.94***	.78***	-						
5. Total	.93***	.90***	.90***	.97***	-					
Student										
6. Task	.19	.22	.10	.22	.19	-				
7. Goal	.25*	.27*	.14	.28*	.24*	.61***	-			
8. Bond	.14	.13	.24*	.14	.18	.45***	.43***	-		
9. Collaboration	.25*	.27*	.13	.28*	.24*	.90***	.90***	.49***	-	
10. Total	.24*	.25*	.19	.26*	.25*	.85***	.84***	.75***	.94***	-
Scale mean	3.59	3.50	3.55	4.12	3.74	3.83	3.89	4.36	3.86	4.02
SD	.65	.62	.59	.62	.57	.75	.74	.68	.67	.59

Note. All subscales are reported from the Classroom Working Alliance Inventory (CWAII). Collab = Collaboration subscale comprised of task and goal subscale. Scale mean range 1-5. Higher scores represent higher alliance quality. Cross-rater correlations are identified in the box. * $p < .05$, ** $p < .01$, *** $p < .001$.

concordance between student and teachers is moderate and positively associated for both the CWAI subscales, but is not significant for total score.

Strength of Perception of Alliance between Teachers and Students. To test if students or teachers have stronger perceptions of the quality of classroom alliance, a paired samples *t*-test was conducted to compare student and teacher scores on the subscales of the CWAI and the total scores. Means and standard deviations are provided in Table 6. Although the bond subscale demonstrated a lack of normality according to Shapiro-Wilk’s test $p < .05$, a paired sample *t*-test was still conducted given that the test is generally robust with consideration to distribution skew.

Table 6

Descriptive Statistics for Student and Teacher Ratings on the CWAI Scale and Subscales

CWAI	Teacher				Student			
	M	SD	Range	SE	M	SD	Range	SE
Collaboration	30.86	4.76	8-40	0.55	28.38	5.36	8-40	0.61
Bond	16.49	2.48	4-20	0.28	17.43	2.71	4-20	0.31
Total	44.86	6.86	12-60	0.79	48.29	7.09	12-60	0.81

Note. Ranges of collected student and teacher ratings also represent the minimum and maximum possible scores for the total scale and subscales.

The total student reported ratings of alliance were significantly higher than total teacher reported ratings, $t(75) = 3.50, p < .01, d = .40$ which is a moderately strong effect size. Students reported higher scores of total alliance with a mean increase of 3.43 points, 95% CI [1.48, 5.38] compared to the total score of classroom working alliance teacher report. Results indicated that students generally scored the quality of their alliance three and a half points higher than teachers, on average. Further investigation demonstrated that students also reported higher scores on the collaboration $t(75) = 3.55, p < .01, d = .41$

and bond, $t(75) = 2.57, p < .05, d = .30$ subscales. In summary, students reported significantly greater alliance than did teachers.

Question 2: Does years of teaching experience, child grade, length of relationship, or minutes of contact time per week predict concordance of teacher and student ratings of alliance?

To assess for any predictors of student-teacher concordance of alliance, concordance scores were calculated for each dyad. As an exploratory question, covariates were selected in two ways. First, a bivariate Pearson correlation was run to see if there were any significant correlations between the transformed variable of concordance and participant characteristics (i.e. behavioral severity of both informants) and characteristics of the teacher and student working relationship (i.e., length of relationship, contact minutes). The only significant correlation identified was years of teaching experience $r = .29$ so it was added as a possible predictor. Additional characteristics of student grade, months of service and minutes of contact time (dosage) were also added to see if they added any predictive value to the model.

Teacher and student characteristics did predict concordance of alliance, $F(4, 71) = 3.046, p < .022$. For the overall model $R^2 = .146$ with an adjusted $R^2 = .098$ which indicates that 9.8% of the variance in concordance was explained by teacher, student and interaction characteristics. An examination of beta weights demonstrated that years of teaching experiencing added significantly to the model, $\beta = .273, p < .05$. Although this significance isn't surprising, it is important to note that the beta weight translates to a negative association. In other words, the more experienced teachers demonstrated more

disagreement of alliance scores with their student. Regression coefficients, standard errors and significance are reported in Table 7.

Table 7

Summary of Multiple Regression Analysis for Teacher and Student Characteristics as a Predictor for Concordance of Alliance (n =76)

Variable	M	SD	B	SE _β	β	p
Intercept			4.865	.616		
Experience	13.64	1.35	.040	.016	.273	.016
Student grade	4.07	1.57	-.159	.098	-.185	.109
Months of services	11.31	7.23	-.021	.021	-.113	.311
Minutes per week	753.09	661.90	.000	.000	-.186	.106

Note. Adjusted $R^2 = .098$ ($p < .05$) for the model.

Question 3: Do perceptions of classroom working alliance predict student or teacher perceptions of classroom engagement?

Two regression analyses were conducted to examine the unique and total variance associated with student and teacher reports of student engagement. For these analyses, student and teacher ratings of alliance were entered as predictors for teacher total engagement score and student total engagement score. Years of teaching experience was entered as a covariate when student rated engagement was entered as the outcome variable. An overview of the findings from these analyses is presented in Table 8.

Teacher ratings of engagement. Student and teachers ratings of alliance significantly predicted teacher ratings of engagement, $R^2 = .392$, $F(4, 71) = 11.467$, $p < .0005$. A review of standardized beta weights revealed that student ratings of collaboration and bond were not significant. Teacher rated collaboration provided the significant contribution to the model ($\beta = .545$, $p < .005$), while bond did not ($\beta = .114$).

Student ratings of engagement. Years teaching experience, student and teacher ratings of alliance significantly predicted student ratings of engagement, $R^2 = .222$, $F(5,$

70) = 4.006, $p < .005$. A review of standardized beta weights revealed that years of teaching experience ($\beta = .215, p < .05$ and student rated collaboration ($\beta = .309, p < .05$) provided the significant contribution to the model.

Table 8

Results of Multiple Regression Analyses Predicting Student and Teacher Ratings of Engagement from Student and Teacher Ratings on the CWAI

Variable	Teacher engagement				Student engagement			
	<i>B</i>	<i>SE_B</i>	β	<i>p</i>	<i>B</i>	<i>SE_B</i>	β	<i>p</i>
Intercept	12.258	9.423			33.983	9.257		
Experience ^a					.228	.113	.215	.048
CWAI (other rater)								
Collaboration	-.312	.243	-.146	.204	.465	.376	.224	.220
Bond	.340	.472	.080	.473	-.455	.715	-.114	.527
CWAI (same rater)								
Collaboration	1.315	.383	.545	.001	.569	.240	.309	.020
Bond	.529	.727	.114	.469	.125	.463	.034	.788
	$R^2 = .392$				$R^2 = .222$			
	.000				.003			

Note. Experience^a = Years teaching experience was only entered as a covariate for student rated engagement. *B* = unstandardized regression coefficient; *SE_B* = Standard error of the coefficient; β = standardized coefficient. CWAI = Classroom Working Alliance Inventory.

Question 4: Does length of working relationship, dosage (i.e., minutes of service provision per week), internalizing student behavior, or externalizing student behavior predict teacher or student perceptions of alliance?

To evaluate whether or not any of the study variables predicted alliance, two hierarchical regression analyses were conducted. For these analyses, contact time (i.e., months the teacher has provided services to the student and minutes of direct service per week) was entered on the first step of the equation and student challenging behavior (i.e.,

internalizing and externalizing subscales measured by the SSIS teacher report) was entered on step 2 of each equation.

First, assumptions were reviewed to assure that the data adequately fits the hierarchical multiple regression model. There was linearity and homoscedasticity assessed by partial regression plots and a plot of studentized residuals against the predicted values. A Durbin-Watson statistic of 1.77 demonstrated independence of the residuals. All tolerance values were greater than .1. Case wide diagnostics revealed one studentized residual over 3 standard deviations with a leverage value of .248, although Cook's distance was well below 1 and was not deemed to be highly influential. Assumption of normality was assessed as approximate with an unremarkable positive skew.

An overview of the results from these two analyses are presented in Table 9. As shown, the model predicting teacher perception of alliance was statistically significant, $R^2 = .297$ $F(2, 71) = 7.483, p < .005$. The addition of internalizing and externalizing behavioral severity contributed to the prediction of teacher perception of alliance which led to a statistically significant increase in $R^2 = .282, p < .01$. An examination of beta weights and partial correlation coefficients showed that externalizing behavior independently made a significant contribution to the model $\beta = -.559, p < .005$ while internalizing behavioral severity did not significantly contribute to the model. Likewise, no significant variance is explained by how long or how much students and teachers work together.

Next, I evaluated student perceptions of alliance. As shown in Table 9 the overall model was not significant.

Table 9

Results of Regression Analyses Predicting Student and Teacher Ratings of Alliance

Block	Teacher alliance			Student alliance		
	ΔR^2	β	<i>p</i>	ΔR^2	β	<i>p</i>
1. Control variables	.014		.588	.018		.518
Length		.073	.469		.113	.339
Dosage		.054	.607		.089	.473
2. SSIS	.282		.000	.021		.583
Internalizing		.047	.658		.018	.882
Externalizing		-.559	.000		-.153	.220
Total R^2	.297		.000	.039		.465
Adjusted R^2	.257			-.015		

Note. Standardized beta weights are shown for the final model. Length = length of the working relationship in months. Dosage = number of direct service minutes provided to the student each week. SSIS = Social Skills Improvement System completed by the special education teacher

Question 5: Are measures of student-teacher relationship quality (i.e., STRS and IT-SR) more strongly associated with student engagement than measures of student and teacher alliance?

First, to determine dependent associations for this analysis, bivariate correlations were run between teacher alliance (i.e., CWAI) and teacher relationship (i.e., STRS) scale and subscale scores along with total score for student perception of engagement. Results indicated that when comparing associations of CWAI and STRS measures for teachers, the majority of comparisons were not significantly different. Table 10 reports the *z*-score comparisons along with *p*-values. One exception is that the CWAI subscale of collaboration was more strongly associated with student perception of engagement than was the STRS subscale of Closeness.

Table 10

Dependent Comparison of Teacher Alliance and Relationship Associations for Student Perception of Engagement

Subscale comparison Alliance-relationship	CWAI	STRS	Shared correlation	z-score	<i>p</i>
Collab-Conflict	.229	-.169	-.630	1.918	.055
Collab-Closeness	.229	-.036	.559	2.456	.014
Bond-Conflict	.121	-.169	-.713	1.351	.176
Bond-Closeness	.121	-.036	.643	1.596	.110
Total-Total	.202	.093	.809	1.520	.126

Note. Shared correlation is reported on the correlation of specified subscales between the CWAI and the STRS. Collab = Collaboration subscale (i.e., collapsed task and goal).

Student CWAI scale and subscales and IT-SR scale and subscales were compared, with the shared variable of student engagement (i.e., EvDL student report total). Table 11 reports the z-score comparisons along with *p*-values. Results indicated that when comparing associations of the CWAI and IT-SR with student engagement, the CWAI is not more strongly associated with student report of engagement when comparing to the subscale of alienation from the IT-SR. Other comparisons did not produce significant differences.

Table 11

Dependent Comparison of Student Alliance and Relationship Associations for Student Perception of Engagement

Subscale comparison Alliance-relationship	CWAI	IT-SR	Shared correlation	z-score	<i>p</i>
Collab/Alienation	.399	-.522	-.409	5.283	.000
Collab/Comm	.399	.256	.447	1.257	.209
Collab/Trust	.399	.198	.529	1.894	.058
Bond/Alienation	.215	-.522	-.255	4.397	.001
Bond/Comm	.215	.256	.649	-0.433	.667
Bond/Trust	.215	.198	.748	0.210	.834
Total/Total	.383	.401	.671	-0.209	.834

Note. Shared correlation is reported on the correlation of specified subscales between the CWAI and the IT-SR. Collab = Collaboration subscale for the CWAI (i.e., collapsed task and goal). Comm = Communication subscale for the IT-SR.

CHAPTER V

DISCUSSION

The purpose of the present study was to develop further understanding about the teacher-student working alliance among students with EBD and their teachers. Previous research from Toste and colleagues proposed student-teacher working alliance as a viable reconceptualization of the student-teacher relationship (Toste et al., 2014; Toste et al., 2015). Classroom working alliance was chosen as the topic for this investigation because it considers relational factors which capture both emotional domains (i.e., bond) and the working relationship (i.e., collaboration) and has been identified in therapeutic literature as a mechanism of positive therapeutic outcomes (e.g., Horvath & Bedi, 2002; Horvath, Del Re, Flückiger, and Symonds, 2011). The study investigated (a) the concordance of alliance between special educators and their students with EBD, (b) predictors of alliance agreement, (c) alliance as a predictor for classroom engagement, (d) predictors of alliance and (e) comparison of the strength of association of alliance and traditional relationship measures (i.e., STRS and IT-SR) with student-rated engagement.

The first goal of the study was to investigate potential similarities between teacher and student perceptions of working alliance. Findings indicated that there were weak to modest associations between teacher and student views of goal $r = .27$, task $r = .22$, collaboration $r = .28$, bond $r = .24$, and overall alliance, $r = .25$. Next, concordance was assessed through analysis of ICC and results demonstrated poor but significant reliability for subscales of bond ICC = .334 and collaboration ICC = .345, while reliability between teacher and student total CWAI was not significant, ICC = .313. These findings are

aligned with previous research demonstrating that student and teacher perspectives of relationships can differ (e.g., Murray & Zvoch, 2011; Toste et al., 2010).

The second goal was to investigate if teachers reported lower scores of alliance than their students, which was confirmed. Student-rated alliance was higher than teacher-rated alliance across all subscales and total score of the CWAI. Therapeutic research has identified the same effect where clients also rated alliance higher than the therapist (Tryon et al., 2007) Although the cause of lower teacher scores versus higher student scores cannot be established in this study, there are some possible explanations. It is well documented students with EBD demonstrate difficulty building and maintaining appropriate interpersonal relationships with adults. In this study, students rated their alliance more favorably than their teachers. Perhaps the higher ratings from students mean these students are simply more optimistic about alliance quality. Some research suggests that students with EBD, specifically students with an ADHD diagnosis, are likely to have positive illusionary bias (i.e., overly positive view of oneself) which may extend into an inability to internalize the actual quality of their behavior and skills (e.g., Owens, Goldfine, Evangelista, Hoza, Kaiser, 2007). Research suggests students with EBD overestimate their skills across academic and social domains (Gage & Lierheimer, 2011; Gresham, MacMillan, Bocian, War, & Forness, 1998). In particular, students with externalizing behaviors (e.g., aggression) are at an increased risk of an inflated self-concept (Gresham, Lane, MacMillan, Bocian, & Ward, 2000). Perhaps the findings of higher student ratings of alliance were an illustration of positive illusionary bias and how it may manifest in the teacher-student relationship for students with EBD.

Another explanation could be that teachers reported lower alliance quality influenced by the stress of navigating the emotional/behavioral complexities of this population (Simpson et al., 2011). It may be more difficult for these teachers to separate student emotional and behavioral challenges from the working relationship, while for students, their behavior doesn't influence how they feel about their teacher.

Agreement demonstrates a common understanding which is important in educational contexts, therefore the third goal in this study was to determine if there are any predictors for student-teacher concordance, or agreement, of alliance. A regression analysis was conducted to find predictors of student and teacher agreement of working alliance. Results demonstrated that years of teaching experience was the only significant predictor of alliance agreement. It makes sense that more experienced teachers should, in theory, have more insight into their student's perception, but an examination of beta weights revealed that teaching experience positively correlated with agreement which was measured in distance. In other words, the more years of teaching experience, the more distance there was between student-teacher ratings of alliance. This finding suggests that experienced teachers have more disagreement about relationship quality with their students with EBD. The *why* of this finding is only subject to speculation, in particular because the therapeutic research identified that therapist experience does not influence discrepancies of alliance (Tryon et al., 2008). Perhaps more experienced teachers develop coping strategies to deal with the stress of working with this population which may include developing less emotional attachment. In other words, more experienced teachers disengage with challenging students as a protective factor to burn-out.

The fourth and fifth goal of the study was to determine if alliance predicted engagement when ratings were provided by the same informant after accounting for ratings by the other informant. The findings from this study indicated that the collaboration subscale of alliance predicted ratings of engagement when provided from the same informant. Also, years of teaching experience predicted ratings of student rated engagement, although this covariate was approaching insignificance. When alliance was compared as a predictor for engagement across raters, alliance did not significantly predict ratings of engagement. This finding demonstrates that cross-rater alliance as a predictor of the other's perception of engagement is not tenable. These results both converge and diverge from a previous study by Toste and colleagues (2010) that determined teacher-rated alliance does not predict student-rated outcomes although student-rated alliance explained 19.4% of the variance of teacher-rated school performance (Toste et al., 2010).

Another interesting finding was that years of teaching experience was a significant contributor to the model predicting student-rated engagement. Research suggests that more experienced special education teachers may experience less emotional exhaustion (Brunsting, Sreckovic, & Lane, 2014). Perhaps less emotional exhaustion positions these teachers to provide an environment that is more behaviorally and emotionally engaging to students with EBD.

For both informants, the subscale of collaboration significantly contributed to the model while the subscale of bond was not significant which implies collaboration quality more strongly predicted engagement than did the quality of bond. Therefore, the contribution of collaboration demonstrates that alliance, and its ability to predict

engagement, extends beyond the emotional domain of bond (Toste et al., 2014; Toste et al., 2015). Such results may be beneficial to special education practice because intervening on the collaborative relationship quality is likely more easily integrated into the child's individualized education plan than trying to strengthen bond, a more abstract concept.

Previous research on the predictive power of alliance from different informants is mixed: some studies suggest the client's ratings are more predictive of positive outcomes (Horvath & Symonds, 1991), while others suggest both client and observer ratings have stronger predictive validity (Horath & Bedi, 2002). Other research identifies no differences between client, observer, or therapist ratings of alliance to predict outcomes (Horvath et al., 2011, Sharf et al., 2010). Although the research on alliance in educational settings is limited, one study did find that student ratings of alliance were associated with teacher ratings of school performance while the teacher's rating of alliance was only predictive of teacher-rated outcomes (Toste et al., 2010).

The sixth and seventh goal of the study was to investigate possible predictors of alliance and how minutes of service per week, relationship length, and internalizing and externalizing behavior were related to both teacher and student ratings of alliance. Teacher-rated behavioral severity did significantly predict the teacher's view of alliance. For teachers, more significant behavioral challenges, in particular, externalizing challenging behavior, predicted lower quality alliance. Internalizing behaviors did not contribute to the model predicting teacher-rated alliance which demonstrates that not all types of problem behaviors impact perceptions of alliance equally. It is important to note that these findings again were based on data gathered from the same source (i.e.,

teachers) but they do align with previous research investigating the impact of behavioral functioning on teacher perception of relationship quality (Doumen et al., 2008; Jerome, Hamre & Pianta, 2009). Such findings could also explain the lower alliance ratings from teachers since all students were identified with an emotional/behavioral disorder.

Although these findings suggest behavioral topography influences the value-altering impact on a teacher's perception of alliance, the exact cause is unknown. Perhaps it is difficult for teachers to separate challenging behavioral episodes from the overall relationship regardless if those difficulties are directed at them or other students. Similarly, a transactional effect may also be present as teachers may react more negatively to challenging behavior from students with EBD than with students without a history of significant behavioral challenges (Nelson & Roberts, 2000). The transactional model of development from Sameroff (1975) is one framework that may provide insight into these findings in that challenging behaviors are a product of the child's reciprocal interactions over time. In more recent years, Sutherland and Oswald (2005) have identified how this model also applies to teachers and students with EBD and associated reciprocal influences in the classroom. There is no question that "teachers' behavior not only influences but is also influenced by, student behavior in an ongoing dynamic exchange," (Sutherland & Oswald, 2005, p.12) and these exchanges do likely influence perceptions of alliance.

Student-rated alliance was not predicted by contact time, self or teacher ratings of behavioral severity (internalizing and externalizing). Findings demonstrate that challenging behavior may influence a teacher's perception of alliance but does not influence a student's rating of alliance. One explanation could be connected to

associated deficits for this population which includes poor social competence and self-awareness which often presents as problem, challenging, or inappropriate behavior (Graziano, Reavis, Keane, & Calkins, 2007; Kauffman, 2005, Maag, 2006; Walker, Ramsey, & Gresham, 2004). Although externalizing behaviors impact alliance quality with teachers, it does not necessarily impact student perception of alliance quality. Students with EBD have been documented to have social skills deficits of acquisition which often translates to a lack of understanding and inability to discriminate the appropriateness of one's behavior (Gresham, 2002). In other words, these students may be disconnected from how their challenging behavior, regardless of who it is directed at, impacts their teacher. This disconnect may provide an example of the complexity of how emotional/behavioral deficits impede developing and maintaining appropriate relationships with adults.

Finally, the last goal of the study was to investigate the association of the CWAI and teacher-student relationship measures with engagement. Dependent correlational comparisons of the CWAI and STRS and CWAI and IT-SR on engagement were conducted. Findings demonstrated that working alliance and relationship measures are partly capturing different domains of engagement. Alliance and relationship measures were similarly associated with two exceptions. First, the CWAI subscale of collaboration was more correlated with engagement than the STRS subscale of closeness which suggests positive relational association may be better captured as “the working relationship” than positive emotional indicators of closeness.

For students, the IT-SR subscale of alienation was more correlated with student engagement than both CWAI subscales of collaboration and bond. It is important to

highlight that alienation measures aversive educational feelings (i.e., feeling upset or disconnected with the other person) while all other subscales in the comparison measured positive associations. From these results, one could deduce that aversive feelings for students may have a stronger influence on perceptions of classroom engagement. This finding aligns with previous research in that ratings of negative feelings are more strongly associated with outcomes for students with and without disabilities and that teacher-child conflict may be a stronger predictor of positive student outcomes than strong relationship quality (Hamre & Pianta, 2001; Ladd et al., 1999; Murray & Greenberg, 2006; Murray & Zvoch, 2011).

Limitations

This research has several limitations which should be considered alongside the interpretation of findings. First, the study was under powered and may have missed identifying significant weaker effects. Also, some results demonstrated significance within the same rater which may be due to common method variance.

All data were cross-sectional and represented associations, not causation. This limitation affected all of the study questions including concordance, evaluating the relationship between alliance and engagement, and evaluating predictors of alliance. For example, it is plausible that engagement could predict alliance such that students with better engagement in school are viewed more positively by teachers.

Another limitation is that possible covariate influence, or lack of influence, should be interpreted with caution. Although the sample population of students approximately reflected national and state demographics for students with EBD, the sample of students of color was small and could impact the generalizability of findings. Likewise, one-third

of teachers could not report on free and reduced lunch as a proxy for socioeconomic status. The compounding influence of poverty is an important consideration in educational research and may have provided more insight into findings as an added covariate.

Student grade level was not found to influence any of the findings, but the possible covariate of grade was only investigated at the elementary level. A child's grade level may influence the association of alliance and outcomes as demonstrated in the therapeutic literature. For example, McLeod (2011) and Shirk and colleagues (2011) concluded that child alliance had a much stronger influence effect size ($r = .32$) than for adolescents ($r = .19$) while Shirk and Karver (2003) did not. Also, the n for each grade level was small and results from a larger sample of students at different ages may reveal developmental differences.

One variable that may have informed the interpretation of findings is information about the teacher's use of evidence-based behavior management practices for this population. Common response practices to challenging behavior are often reactive instead of preventative (Booker & Mitchell, 2011). Therefore, information requiring implementation of evidence-based and preventative behavior management strategies, or lack thereof, could have impacted both results and interpretation.

The only outcome variable analyzed in this investigation was student engagement. Although engagement and teacher-student relationships are linked, (Furrer & Skinner, 2003, Pianta, 1999) engagement is still a highly subjective measure compared to more tangible aspects of school success (i.e., grades, graduation). Engagement was chosen as the most viable measure of school adjustment because student participants were educated

across the special education placement continuum. Students in more restrictive settings (i.e., residential treatment) may have different expectations and consequences delivered from their teachers or programs than mostly mainstreamed students. That is to say, a significant challenging behavior in a residential placement will have different consequences and documentation than a significant challenging behavior in a general education setting. Despite this limitation, engagement was an appropriate construct for investigation because it could be investigated equally across educational settings. Additional research should investigate alliance and association with other conceptual and tangible educational outcomes.

The use of both student and teacher ratings on each predictor and criterion variable, although a strength, is also an additional limitation. No third party observations, additional educational personnel, or parent ratings were accounted for to fully triangulate findings. This is important because some therapeutic research suggests parent perception of alliance may be more strongly associated with outcomes than youth perception (Faw et al., 2005). Also, many students with EBD interact and work with a myriad of other educational professionals (i.e., general education teacher, instructional assistants, behavioral specialists). Measuring alliance quality with only the special education teacher does not comprehensively explain the child's educational context.

Future Research

There are a variety of suggestions for future research informed by these findings. Future efforts to examine trends in these relationships over time, as well as interventions designed to improve alliance, are important for moving towards making causal statements about the importance of alliance.

Next, future investigations should consider the addition of direct observation to identify possible mechanisms for informant discrepancies which may help clarify potential contributors to the difference in cross-rater alliance and engagement associations. Similarly, it would benefit a more comprehensive understanding of a child's educational context if perceptions of alliance were collected from multiple school personnel who frequently interact with the child (e.g., instructional assistant, general education teacher, behavior specialist). At minimum research should continue to gather ratings from both teacher and student informants considering reliance on only one informant is likely limiting.

Finally, informed by the results of association comparisons and previous research on the power of capturing negative feelings, it may benefit future research to explore alternative ways to measure collaboration with this population through the inverse (e.g., division, disagreement, isolation). Regardless, working alliance and agreement about the quality of the working relationship between a special education teacher and student with EBD should receive continued attention in educational research.

Future Practice

Findings from this study may inform future special education practice for students with EBD. First, to improve agreement about the working relationship some strategies for aligning teacher and student concordance of alliance may be of benefit. Teachers could consider integrating strategies to improve student self-awareness of how their behavior may impact interpersonal relationships. Such strategies could include a collaborative teacher-student assessment of a challenging incident. In this exchange, the teacher and

student would work together to identify student coping strategies to use “next time” followed by probes for the child to reflect upon how their behavior may impact others. For example, following an incident of student verbal aggression (i.e., threats to teachers or students), it would benefit both parties to debrief when the student has stopped escalating. During the debrief, teachers should collaboratively work with the student to discuss and identify the effect of unsafe or hurtful words on the classroom community and future coping strategies.

Concurrently, teachers should reflect upon the fact that working with students with EBD, in particular, students with externalizing behaviors, may influence their perception of the classroom working relationship. When it is appropriate for an educator to use *surface acting* (i.e., suppression of feelings) versus *display of natural emotions* (i.e., display of real feelings) is an important future research pursuit (e.g., Brown et al., 2015). Special education teachers should be cognizant of their own emotions and reactions, so students receive some explicit social feedback to assist with turning challenging classroom moments into learning opportunities without rupturing the relationship.

Intervening on and strengthening student-teacher collaboration (i.e., agreement on school-related tasks/goals) may also benefit special education practice. Since all items in the collaboration subscale are anchored in the idea of *agreement* of educational goals and tasks, one possible teaching practice would be to collaboratively establish agreements concerning student strengths and ‘things to work on’ as an antecedent strategy. Examples of integrating more collaboration into the school day could include a brief and informal 1 minute daily check-in which would focus on reviewing student performance of agreed

upon tasks and goals. Subsequently, teachers could increase the use of prompting and positive reinforcement, both evidence-based practices, to facilitate increased implementation of the behavioral tasks required to both execute and internalize the value of those agreements. For example, before introducing a documented aversive activity for a student (e.g., paragraph writing), the teacher could prompt the student on strategies, tasks, and goals inherent in the activity paired with a reminder of previously agreed upon coping strategies if frustration develops. Students should then be reinforced for demonstrating behaviors aligned with the activity or selecting a coping strategies (e.g., ask for help, take a break) to manage frustration appropriately.

Finally, it may benefit teachers to understand that the perception of school engagement for a student with EBD may be more influenced by negative interactions than positive ones. Teachers may want to be particularly cognizant of their negative reactions with students with EBD, regardless of the number of positive interactions. Although many educators have been trained via common multi-tiered systems of support to have more positive interactions than negative/corrective interactions with students, this population may be more sensitive to a teacher's anger or frustration regardless of the percentage of positive exchanges.

Conclusions

There is a need for educational research to more comprehensively understand how students with EBD and their special education teachers work together and how the quality of that working relationship may be associated with school adjustment. Students with EBD face considerable educational challenges, including difficulty developing quality relationships with their teachers. This study investigated if working alliance, a

mechanism associated with positive therapeutic outcomes, was associated with school adjustment for students with EBD. Although research of working alliance in educational contexts is in its infancy, results from this study paired with previous research suggest the influence of working alliance in the educational context is worthy of future investigations. Continued understanding of how working alliance may impact educational outcomes for students with EBD is an important pursuit so that negative trajectories for this population become less pervasive.

APPENDIX A

STUDENT AND TEACHER DEMOGRAPHIC QUESTIONS
Demographic Questionnaire: Teacher Information

Please fill out the following information to the best of your knowledge. If you do not feel comfortable answering a question, you may skip that question.

1. I identify as...

- Female
- Male
- _____

**2. Check all that apply:
I identify as...**

- Black, African American
- White, Caucasian, European American
- Asian
- Native American
- Latino/a, Chicano
- _____

3. How many years have you taught in the following positions?

- _____ general educator
- _____ special educator
- _____ Paraeducator/ instructional assistant
- _____ district specialist

4. Check all that apply:

I have a...

- Special education license
- Special education endorsement
- Other _____

5. I primarily work in a...

- Resource Room
- Inclusion teacher
- Self-contained classroom for behavior
- Self-contained classroom for academics
- Self-contained classroom for life skills
- Separate School/alternative school
- Day treatment/therapeutic setting
- Other _____

6. I currently have _____ special education students on my caseload.

7. I feel my preservice training in behavioral management and/or training to work with students with challenging behavior was:

- Extremely Strong
- Strong
- Satisfactory
- Needed Improvement
- Weak

Student Demographics

1. My student identifies as ...

- Female
- Male
- Transgender

2. Student grade

- 1st
- 2nd
- 3rd
- 4th
- 5th
- 6th

3. Student age

- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

4. Check all that apply

My student identifies as...

- Black, African American
- White, Caucasian, European American
- Asian
- Native American
- Latino/a, Chicano/a
- Do not know

5. The student receives free or reduced lunch...

- Yes
- No
- Unsure

6. The student receives services as an English Language Learner...

- Yes: Primary first language _____
- No

7. How many months have you provided special education services to the participating student?

_____ months

8. How many minutes per week do you directly* serve this student?

**Direct service is defined as direct contact with the student. Paperwork, collaboration, or parent contact does not count as direct service.*

_____ total minutes per week

9. What subject areas do you currently serve this student? Check all that apply.

- Reading
- Math
- Writing
- Science
- Social Studies
- Art
- Health
- Social Skills

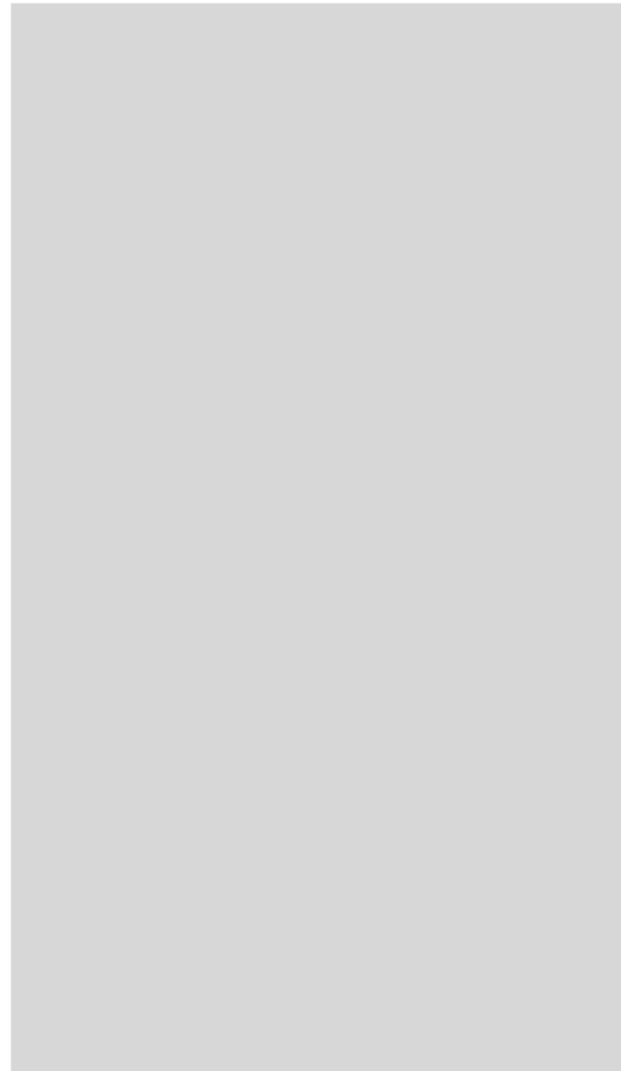
Other _____

10. Check all that apply...
The student is currently found eligible for special education services under

- Emotional Disturbance (ED)
- Other Health Impairment (OHI)
- Developmentally Delayed (DD)
primarily for social/emotional challenges
- Specific Learning Disability
- Autism Spectrum Disorder
- Speech/Language Impairment
- Multiple Disabilities
- Intellectual Disability
- Traumatic Brain Injury
- Visual Impairment
- Hearing Impairment
- Deaf-Blindness
- Deafness

If OHI is checked, is the OHI a proxy for Attention Deficit/Hyperactive Disorder (ADD or ADHD)

- Yes
- No
- NA



APPENDIX B

CWAJ TEACHER REPORT

Classroom Working Alliance Inventory

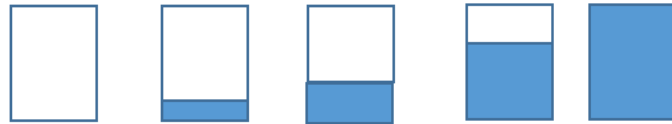
Below are some sentences that describe some ways a teacher might feel about his/her student and the work that they do in the classroom. As you read the sentences, mentally insert the name of your student in place of _____ in the text. Circle the answer that reflects your perspective.

	Never 1	Rarely 2	Sometimes 3	Often 4	Always 5
1. _____ and I agree about the things I need to do to help improve their schoolwork.	1	2	3	4	5
2. I am confident that what _____ is doing in school will help them learn better in the areas that he/she has difficulty.	1	2	3	4	5
3. I believe _____ likes me.	1	2	3	4	5
4. I believe that _____ and I agree on what he/she needs to get out of school (what he/she needs to learn and why).	1	2	3	4	5
5. I am confident in my ability to help _____ at school.	1	2	3	4	5
6. We are working towards goals that we have agreed upon together.	1	2	3	4	5
7. I enjoy working with _____.	1	2	3	4	5
8. I think _____ and I agree on what it is important for him/her to work on.	1	2	3	4	5
9. _____ and I trust on another.	1	2	3	4	5
10. _____ and I agree about what his/her difficulties are.	1	2	3	4	5
11. We agree about what _____ needs to do differently in school.	1	2	3	4	5
12. I think that _____ believes that what we work on in school is useful.	1	2	3	4	5

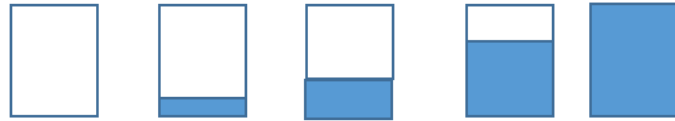
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APPENDIX C

CWAJ STUDENT REPORT



1.	My teacher and I agree about the things I need to do to improve my schoolwork.	Never	Rarely	Sometimes	Often	Always
2.	What I am doing in school helps me learn better in the areas where I have difficulty.	Never	Rarely	Sometimes	Often	Always
3.	I believe my teacher likes me.	Never	Rarely	Sometimes	Often	Always
4.	My teacher understands what I want to get out of school, what I want to learn and why.	Never	Rarely	Sometimes	Often	Always
5.	I am confident in my teacher's ability to help me in school.	Never	Rarely	Sometimes	Often	Always
6.	My teacher and I are working towards goals that we both agree on.	Never	Rarely	Sometimes	Often	Always



7. I feel that my teacher enjoys working with me.	Never	Rarely	Sometimes	Often	Always
8. We agree on what is important for me to work on.	Never	Rarely	Sometimes	Often	Always
9. My teacher and I trust one another.	Never	Rarely	Sometimes	Often	Always
10. My teacher and I agree what my difficulties are.	Never	Rarely	Sometimes	Often	Always
11. We agree about what I need to do differently in school.	Never	Rarely	Sometimes	Often	Always
12. I believe that what I work on in school with my teacher is useful.	Never	Rarely	Sometimes	Often	Always

APPENDIX D

STRS: TEACHER REPORT

Student-Teacher Relationship Scale

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

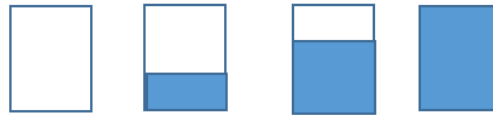
Definitely does not apply	Not really	Neutral, not sure	Applies somewhat	Definitely applies
1	2	3	4	5

1.	I share an affectionate, warm relationship with this child.	1	2	3	4	5
2.	This child and I always seem to be struggling with each other.	1	2	3	4	5
3.	If upset, this child will seek comfort from me.	1	2	3	4	5
4.	This child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5.	This child values his/her relationship with me.	1	2	3	4	5
6.	When I praise this child, he/she beams with pride.	1	2	3	4	5
7.	This child spontaneously shares information about himself/herself.	1	2	3	4	5
8.	This child easily becomes angry with me.	1	2	3	4	5
9.	It is easy to be in tune with what this child is feeling.	1	2	3	4	5
10.	This child remains angry or is resistant after being disciplined.	1	2	3	4	5
11.	Dealing with this child drains my energy.	1	2	3	4	5
12.	When this child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
13.	This child's feelings toward me can be unpredictable or can change suddenly.	1	2	3	4	5
14.	This child is sneaky or manipulative with me.	1	2	3	4	5
15.	This child openly shares his/her feelings and experiences with me.	1	2	3	4	5

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APPENDIX E

IT-SR STUDENT REPORT



	Never	Sometimes	Most of the time	Always
1. My teacher respects my feelings.				
2. I feel that my teacher is successful as a teacher.				
3. My teacher accepts me as I am.				
4. My teacher can tell when something is upsetting me.				
5. I get upset easily at school.				
6. I get upset a lot more than my teacher knows about.				
7. My teacher trusts my judgment.				
8. My teacher helps me understand myself better.				
9. I tell my teacher about my problems and troubles.				



	Never	Sometimes	Most of the time	Always
10. My teacher encourages me to talk about my difficulties.				
11. My teacher understands me.				
12. When I'm angry, my teacher tries to understand me.				
13. I trust my teacher.				
14. My teacher doesn't understand what I'm going through these days.				
15. I can count on my teacher when I need to get something off my chest.				
16. I feel that no one understands me.				
17. If my teacher knows something is bothering me, she/he asks me about it.				
18. I feel angry with my teacher.				
19. It's hard for me to talk to my teacher.				

APPENDIX F

EVDL TEACHER REPORT

Engagement Versus Disaffection with Learning

Not at all true 1	Not very true 2	Sort of true 3	Very true 4
----------------------	--------------------	-------------------	----------------

1.	In my class, this student works as hard as he/she can.	1	2	3	4
2.	When working on classwork in my class, this student appears involved.	1	2	3	4
3.	When I explain new material, this student listens carefully.	1	2	3	4
4.	In my class, this student does more than required.	1	2	3	4
5.	When this student doesn't do well, he/she works harder.	1	2	3	4
6.	In my class, this student is enthusiastic.	1	2	3	4
7.	In class, this student appears happy.	1	2	3	4
8.	When we start something new in class, this student is interested.	1	2	3	4
9.	When working on classwork, this student seems to enjoy it.	1	2	3	4
10.	For this student, learning seems to be fun.	1	2	3	4

Not at all true	Not very true	Sort of true	Very true
1	2	3	4

11.	When we start something new in class, this student thinks about other things.	1	2	3	4
12.	In my class, this student comes unprepared.	1	2	3	4
13.	When faced with a difficult assignment, this student doesn't even try.	1	2	3	4
14.	In my class, this student does just enough to get by.	1	2	3	4
15.	When we start something new in class, this student doesn't pay attention.	1	2	3	4
16.	When we work on something in class, this student appears to be bored.	1	2	3	4
17.	When working on classwork, this student seems worried.	1	2	3	4
18.	In class, this student seems unhappy.	1	2	3	4
19.	In my class, this student is angry.	1	2	3	4
20.	When I explain new material, this student doesn't seem to care.	1	2	3	4





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APPENDIX G

EVDL STUDENT REPORT



	Not at all true	Not very true	Sort of true	Very true
1. I try hard to do well in school.	Not at all true	Not very true	Sort of true	Very true
2. In class, I work as hard as I can.	Not at all true	Not very true	Sort of true	Very true
3. When I'm in class, I participate in class discussions.	Not at all true	Not very true	Sort of true	Very true
4. I pay attention in class.	Not at all true	Not very true	Sort of true	Very true
5. When I'm in class, I listen very carefully.	Not at all true	Not very true	Sort of true	Very true
6. When I'm in class, I feel good.	Not at all true	Not very true	Sort of true	Very true
7. When we work on something in class, I feel interested.	Not at all true	Not very true	Sort of true	Very true
8. Class is fun.	Not at all true	Not very true	Sort of true	Very true
9. I enjoy learning new things in class.	Not at all true	Not very true	Sort of true	Very true
10. When we work on something in class, I get involved.	Not at all true	Not very true	Sort of true	Very true

				
	Not at all true	Not very true	Sort of true	Very true
11. When I'm in class, I just act like I'm working.				
12. I don't try very hard at school.				
13. In class, I do just enough to get by.				
14. When I'm in class, I think about other things.				
15. When I'm in class, my mind wanders.				
16. When we work on something in class, I feel bored.				
17. When I'm in class, I feel worried.				
18. When we work on something in class, I feel discouraged.				
19. Class is not fun for me.				
20. When I'm in class, I feel badly.				

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APPENDIX H

SSIS-PROBLEM BEHAVIOR TEACHER REPORT

Social Skills Improvement System: Problem Behaviors

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

Never exhibits behavior N	Seldom exhibits behavior S	Often exhibits behavior O	Almost always exhibits behavior A
--	---	--	--

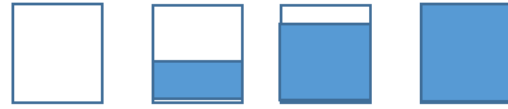
1. Acts without thinking	N	S	O	A
2. Bullies others	N	S	O	A
3. Has difficulty waiting for turn.	N	S	O	A
4. Does things to make others feel scared.	N	S	O	A
5. Fidgets or moves around too much.	N	S	O	A
6. Forces others to act against their will.	N	S	O	A
7. Withdraws from others.	N	S	O	A
8. Has temper tantrums.	N	S	O	A
9. Keeps others out of social circle.	N	S	O	A
10. Breaks or stops group activities.	N	S	O	A
11. Is aggressive toward people or objects.	N	S	O	A
12. Gets embarrassed easily.	N	S	O	A
13. Cheats in games or activities.	N	S	O	A
14. Acts lonely.	N	S	O	A
15. Is inattentive.	N	S	O	A

Never exhibits behavior N	Seldom exhibits behavior S	Often exhibits behavior O	Almost always exhibits behavior A	
16. Fights with others.	N	S	O	A
17. Says bad things about self.	N	S	O	A
18. Disobeys rules or requests.	N	S	O	A
19. Has low energy or is lethargic.	N	S	O	A
20. Gets distracted easily.	N	S	O	A
21. Talks back to adults.	N	S	O	A
22. Acts sad or depressed.	N	S	O	A
23. Lies or does not tell the truth.	N	S	O	A
24. Acts anxious with others.	N	S	O	A

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APPENDIX I

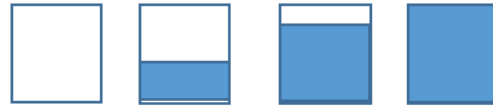
SSIS-PREOBLEM BEHAVIOR STUDENT REPORT



1	I'm afraid of a lot of things.	Not true	Little true	A lot true	Very true
2	I make people do what I want them to do.	Not true	Little true	A lot true	Very true
3	I often do things without thinking.	Not true	Little true	A lot true	Very true
4	I often feel sick.	Not true	Little true	A lot true	Very true
5	I swear or use bad words.	Not true	Little true	A lot true	Very true
6	I find it's hard to focus on what I am doing.	Not true	Little true	A lot true	Very true
7	I get embarrassed easily.	Not true	Little true	A lot true	Very true
8	I hurt people when I am angry.	Not true	Little true	A lot true	Very true
9	I have temper tantrums.	Not true	Little true	A lot true	Very true
10	I think bad things will happen to me.	Not true	Little true	A lot true	Very true



11	I lie to others.	Not true	Little true	A lot true	Very true
12	I often get distracted.	Not true	Little true	A lot true	Very true
13	I can't sleep well at night.	Not true	Little true	A lot true	Very true
14	I do not let others join my group of friends.	Not true	Little true	A lot true	Very true
15	I find it hard to sit still.	Not true	Little true	A lot true	Very true
16	I feel lonely.	Not true	Little true	A lot true	Very true
17	I cheat when playing games.	Not true	Little true	A lot true	Very true
18	I make careless mistakes in schoolwork.	Not true	Little true	A lot true	Very true
19	I think no one cares about me.	Not true	Little true	A lot true	Very true



20	I try to make others afraid of me.	Not true	Little true	A lot true	Very true
21	I break things when I'm angry.	Not true	Little true	A lot true	Very true
22	I often get tired.	Not true	Little true	A lot true	Very true
23	I talk back to adults.	Not true	Little true	A lot true	Very true
24	I waste a lot of time.	Not true	Little true	A lot true	Very true
25	I feel nervous with my classmates.	Not true	Little true	A lot true	Very true
26	I say things to hurt people's feelings.	Not true	Little true	A lot true	Very true
27	I fight with others.	Not true	Little true	A lot true	Very true
28	I feel sad.	Not true	Little true	A lot true	Very true
29	I break the rules.	Not true	Little true	A lot true	Very true

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