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The Therapeutic Alliance in Cognitive-Behavioral Therapy for Children with Autism and
Anxiety

A thesis submitted in partial satisfaction of the requirements for the degree Master of Arts in
Education

by

Sami Klebanoff

2015

ABSTRACT OF THE THESIS

The Therapeutic Alliance in Cognitive-Behavioral Therapy for Children with Autism and Anxiety

by

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Master of Arts in Education

University of California, Los Angeles, 2015

Professor Jeffrey J. Wood, Chair

The present study sought to explore the strength of the therapeutic alliance as well the association between alliance and outcome in Cognitive Behavioral Therapy (CBT) for youth with Autism Spectrum Disorder (ASD) and clinical anxiety. The TAS-C was administered to a sample of school-aged youth with ASD and anxiety (N=60; ages 7 to 14) as well as their parents and therapists. A sample of typically developing (TD) youth with anxiety (N=36, ages 5 to 11) served as a comparison group. Therapist reports of positive alliance predicted post-treatment reductions in anxiety severity. According to therapist report, the strength of the therapeutic alliance was weaker for youth with ASD than TD youth. The therapeutic alliance can be measured reliably in children with ASD and it appears to be associated with anxiety treatment outcome in this population, although this effect appears to be limited to therapist report of the alliance. These findings suggest that therapeutic alliance may be an important component of CBT for youth with ASD and anxiety.

The thesis of Sami Klebanoff is approved.

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2015

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The Therapeutic Alliance in Cognitive-Behavioral Therapy for Children with Autism and Anxiety

Autism spectrum disorders (ASD) are lifelong neurodevelopmental conditions characterized by deficits in social communication and repetitive behaviors (American Psychiatric Association, 2013). However, several decades of research have produced numerous interventions that are capable of remediating core symptoms (i.e., evidence-based interventions [EBIs]). While these advances have led to a significantly improved long-term prognosis for individuals with ASD, it remains unclear *why* certain interventions are efficacious. As yet, very little is known about the underlying mechanisms and core components of efficacious interventions for ASD.

Recently, the field has become increasingly concerned with translating EBIs from university settings to school and community settings where more children will be able to access them (Kasari & Smith, 2013). Investigations into these efforts reveal that when teachers and community practitioners use EBIs, elements tend to be omitted or combined with other techniques and approaches (e.g., Stahmer, 2007). This may be because many EBIs are overly complex and not yet adapted to school and community settings. In order to facilitate successful dissemination of EBIs, it may be necessary to simplify and distill EBIs down to their core components (Kasari & Smith, 2013; Wood, McLeod, Klebanoff, & Brookman-Frazee, 2015). However, studies aiming to identify core components of EBIs for youth with ASD are sparse. An important initial step in this process is to examine the literature on core components in EBIs for typically developing youth. These already established core components may or may not function similarly in EBIs for ASD.

The therapeutic alliance, defined as the emotional and collaborative elements of the relationship between client and therapist, has long been viewed as a core component in many

types of psychotherapy (e.g., McLeod, 2011). Conceptualizations of the therapeutic alliance have had various permutations, but, a modern definition consists of three dimensions: (1) the bond or affective aspects of the relationship; (2) the therapists' ability to engage the client in therapeutic tasks; (3) agreement between client and therapist about the goals of therapy (Bordin, 1979). When all components of the alliance are present, clients are more engaged in the therapeutic process (Chiu, Mcleod, Har, & Wood, 2009).

Several meta-analyses have found that the therapeutic alliance consistently predicts outcome across various types of treatments and measurements in both adult and child psychotherapy (e.g., Horvath & Bedi, 2002; McLeod, 2011). Effect sizes found in adult psychotherapy have been moderate ($r=.27$) (Horvath, Del Re, Fluckiger, & Symonds, 2011). Slightly smaller effects have been found in child psychotherapy ($r=.14-.22$) (McLeod, 2011; Shirk & Karver, 2003). However, this may be due to factors such as methodological flaws, inconsistent measurement of alliance and the existence of multiple, important moderators of the alliance-outcome association (McLeod, 2011). While there is less research on the alliance in child psychotherapy, a comprehensive meta-analysis has revealed that child- and parent-therapist alliances were similarly related to outcomes and that the strength of the relationship varied across type of treatment (i.e., individual versus family-based), child characteristics and method of assessment (McLeod, 2011). For example, the alliance-outcome association was found to be stronger for children versus adolescents ($ES=.20$), treatment seeking families ($ES=.27$), and youth with externalizing ($ES=.20$) or a mixture of presenting problems ($ES=.24$) (McLeod, 2011).

Given the variation in the predictive power of the alliance across treatments and child characteristics, examining the particular effects of the alliance in an evidence-based

psychotherapeutic treatment for families of youth with ASD, multimodal cognitive behavioral therapy (MCBT), is warranted. In the past decade, researchers have begun to explore the use of cognitive-behavioral psychotherapy approaches with children with ASD. CBT approaches have continued to gain ground, demonstrating efficacy in treating both core symptoms as well as frequently occurring comorbidities (e.g., Danial & Wood, 2013). In particular, MCBT for youth with ASD and comorbid anxiety, which combines traditional CBT techniques, adaptations for youth with ASD and parent and teacher involvement, has met criteria for a probably efficacious treatment (Danial & Wood, 2013).

There has long been controversy over the importance of alliance in CBT, with some arguing that alliance is less relevant than technique (e.g., Castonguay, Constantino, McAleavey, & Goldfried, 2010). However, in a recent meta-analysis, the effect of alliance in CBT was not found to be smaller than the effect found in other types of treatments (Fluckiger, Del Re, Wampold, Symonds, & Horvath, 2012). Therapeutic alliance may be especially important in child CBT because youth participants are often not self-selecting, so alliance is needed to engage them in therapy (Marker, Comer, Abramova, & Kendall, 2013). Furthermore, because CBT requires active participation on the part of youth, engagement is critical and a trusting relationship between youth and therapist may be key to facilitating exposure tasks, an important and challenging aspect of CBT (Chiu et al., 2009).

As yet, very little is known about the role of therapeutic alliance in interventions for school-aged youth with ASD. To date, there have been a few empirical studies on therapeutic alliance in interventions for youth with ASD and all have focused exclusively on parent-therapist alliance. In a dissertation study on the impact of working alliance between parents and therapists on consultation and treatment in an early intensive behavioral intervention for children with autism,

Myers (2008) found that higher parent-reported ratings of alliance were associated with increased parent and child progress. Another dissertation study on alliance between mothers of toddlers with autism and behavioral intervention providers revealed that maternal reports of stronger alliances were associated with lower levels of distress and higher levels of well-being (Davis, 2008).

All that is currently known about child-therapist alliance in interventions for school-aged youth with ASD originates from qualitative case studies. Although it is difficult to draw firm conclusions from case studies on therapy with youth with ASD, several key themes have emerged. The first is that forming an alliance with children and adolescents with ASD is possible, but can be challenging (Benda, 2002; Pope, 1993; Ramsay et al., 2005). Other themes are that alliance is important in psychotherapy with individuals with ASD because it serves as a model for relationships with others (Pope, 1993), provides a “laboratory” to learn and practice social skills and receive feedback (Ramsay et al., 2005), and helps clients with ASD to improve their overall functioning by providing them with a better understanding of themselves and others (Ramsay et al., 2005). Taken together, extant literature on child and parent-therapist alliance suggests that therapeutic alliance may be an important factor in interventions for youth with ASD, but more research is necessary in order to address this question.

Although there is not a great deal of research on therapeutic alliance and ASD, there is some research on therapeutic alliance in clinical populations similar to ASD that has possible implications for the current study. For example, a review of psychotherapy for individuals with schizophrenia, a disorder that shares several phenotypic characteristics with ASD (Konstantareas & Hewitt, 2001), has demonstrated that the strength of the therapeutic relationship is related to outcomes for individuals with schizophrenia (Priebe, Richardson, Cooney, Adedeji, & McCabe,

2011). In addition, the strength of the alliance has been shown to be associated with CBT outcomes for children with disorders that are commonly comorbid for youth with ASD, such as oppositional defiant disorder (ODD), conduct disorder (CD) (Gerstein et al., 2011; Kazdin & Durbin, 2012) and anxiety disorders (Chiu et al., 2009; McLeod, 2011). While research on alliance is also sparse in these areas, it provides support for the predicted association between alliance and outcome in CBT for youth with ASD in the present study.

The Current Study

In order to assess the nature and function of the therapeutic alliance in MCBT for youth with ASD, we compared a sample of youth with ASD and an anxiety disorder receiving MCBT to a sample of typically developing (TD) youth with an anxiety disorder receiving a comparable MCBT program. We explored the strength of the therapeutic alliance in MCBT for youth with ASD and anxiety in order to determine whether it differs meaningfully from that of the alliance in MCBT for TD youth with anxiety. There is little empirical research in this area to guide hypotheses, however, qualitative case study findings indicate that formation of an alliance with youth with ASD is sometimes difficult, can take longer and may require more effort on the part of the therapist (Pope, 1993; Ramsay et al., 2005). Therefore, it is possible that the strength of the therapeutic alliance will be weaker for children with ASD and anxiety than for typically developing children with anxiety, at least when measured early in treatment. A second goal of the current study was to determine whether the therapeutic alliance predicts reductions in anxiety severity for children with autism spectrum disorder and anxiety in MCBT. Based on prior research on therapeutic alliance in TD and clinical populations similar to ASD, we hypothesized that the therapeutic alliance would predict reductions in anxiety severity for children with ASD and anxiety.

Another question related to the potentially unique function of therapeutic alliance for youth with ASD concerns differential associations of child-therapist and parent-therapist alliance with treatment outcome. As previously stated, in therapy for TD children, child-therapist and parent-therapist alliance were not differentially related to therapy outcome (McLeod, 2011). However, there is reason to suspect that this may not be the case in MCBT for youth with ASD. It has long been recognized that in behavioral interventions for ASD, parent involvement is critical (Frankel & Myatt, 2003; RUPP Autism Network, 2007). In fact, children with moderate levels of ASD symptomatology demonstrated significantly greater improvements in family CBT than they did in child-focused CBT (Puleo & Kendall, 2011). This could indicate that while parent involvement is important in therapy for many childhood disorders, it may be particularly important for youth with ASD, who often have low self-awareness, low intrinsic motivation for change, and difficulties generalizing skills to new settings.

In preparation for evaluating these substantive questions, we began by exploring the psychometric properties of self-report measures of therapeutic alliance for youth with ASD as well as the relationship between youth and therapist perceptions of alliance. Studies have shown that children with ASD often do not self-report accurately, possibly due to a lack of insight and awareness of their own feelings (Barnhill et al. 2000; Nicpon, Doobay, & Assouline, 2011). Therefore, it is unclear whether or not youth with ASD will be able to accurately report on the alliance they have with their therapists. Based on extant findings on self-report and ASD, we hypothesized that child-report measures of therapeutic alliance would be less reliable for youth with ASD than for typically developing youth.

Method

Participants

The sample included 96 children ages 5 to 14 and their primary parents (i.e., the parent primarily responsible for the child who volunteered to attend weekly therapy sessions) residing in an urban area of the western United States. Thirty-six of the children were TD with an anxiety disorder and 60 had both ASD and an anxiety disorder. The sample consisted of a subset of participants in four randomized controlled trials (RCT) of cognitive behavioral therapy for child anxiety (Fujii et al., 2012; Wood, Drahota, Sze, Har et al., 2009; Wood et al., 2015; Wood, Piacentini, Southam-Gerow, Chu, & Sigman, 2006). One of the RCTs included typically developing (TD) children with anxiety and the other three included children with ASD and co-occurring anxiety. In the RCT including TD children with anxiety, children were referred by a medical center-based child anxiety clinic and by school psychologists who received a letter about the study. In the RCTs for children with ASD and anxiety, children were referred by a medical center-based autism clinic, regional centers, school staff and parent support groups. In the ASD plus anxiety group, the average age is 10 years old. In the TD group, the average age is 8 years old (see Table 1 for full sample description).

In order to be included in the RCT for children with anxiety disorders, participants had to (a) meet research criteria for either separation anxiety disorder (SAD), social phobia, generalized anxiety disorder, or obsessive compulsive disorder (OCD) and (b) maintain a stable dosage of psychiatric medication, if on medication at the baseline assessment (i.e., if on medication, waited at least one month at a stable dose before completing the baseline assessment). In order to be included in the RCT for children with ASD and anxiety, participants had to meet the above

criteria while also meeting research criteria for a diagnosis of an ASD on the ADOS and ADI-R (see below). Families of children with ASD were excluded if the child obtained a score of less

Table 1

Participant Demographics

		ASD + Anxiety Group		TD + Anxiety Group	
		Frequency (%)	M (SD)	Frequency (%)	M (SD)
<u>Gender</u>					
	Male	77%		58%	
	Female	23%		42%	
<u>Age</u>			10 (2.0)		8(1.6)
<u>Ethnicity</u>					
	Caucasian	58%		39%	
	Asian	13%		3%	
	Hispanic	5%		19%	
	African-American	5%		17%	
	Other-Mixed	19%		22%	
<u>Parent Education</u>					
	Completed college?	68%		78%	
<u>Annual Family Income</u>					
	<\$40,000	14%		17%	
	\$40,000-\$90,000	31%		24%	
	>\$90,000	55%		59%	

than 70 on the Weschler Intelligence Scale for Children-IV. All participants in the present study also met the following inclusion criteria: (a) availability of measures of therapeutic alliance (TAS-C/P; Shirk & Saiz, 1992) completed by the child, parent or therapist during sessions 3, 7, 8, 11, 15 or 16 (see below); (b) no missing diagnostic measures; (c) family completed all 16 sessions of treatment and provided post-treatment data. All four RCTs have been approved by a university institutional review board. Children gave verbal or written assent and parents gave written informed consent to participate. Families were provided with a \$15 honorarium for their participation in pre- and post-treatment assessments.

Measures

ASD diagnosis. The Autism Diagnostic Interview-Revised (ADI-R; Lord, Rutter, & Couteur, 1994) is a reliable and valid diagnostic assessment of autism spectrum disorders for individuals with a mental age of 2 years and above. It is a 93 item parent-reported standardized interview, which includes assessment of communication, social, and repetitive behavior domains.

The Autism Diagnostic Observation Schedule (ADOS)—Module 3 (Lord, Rutter, DiLavore, & Risi, 2000) is a semi-structured observational assessment with excellent psychometric properties (Lord et al., 2000). It is administered to youth by trained independent evaluators to allow for observation of social interaction, stereotyped behaviors, and atypical language use. In the current study, module 3 of the ADOS was used, which is designed for children and adolescents who are verbally fluent.

Therapeutic alliance. The Therapeutic Alliance Scale for Children-Revised (TAS-C/P; Shirk & Saiz, 1992) is a 12-item Likert scale measure administered to child, parent and therapist. It assesses agreement between the therapist and the youth or parent regarding the goals of therapy (6 items) and youth and parent affect toward the therapist (6 items). A total TAS-C/P score is calculated based on a composite of all 12 items and can range from 12 to 48, with higher scores indicating stronger therapeutic alliance. Children and therapists rated the child-therapist alliance, while parents rated the parent-therapist alliance. While the reliability of the parent ($\alpha = .81$) and child ($\alpha = .88$) TAS-C/P has been established in typical populations, its psychometric properties have yet to be established in ASD samples (Shirk & Saiz, 1992).

Anxiety severity. The Multidimensional Anxiety Scale for Children- Child and Parent (MASC-P, March, 1997) is a 39-item parent-report Likert-scale measure of youth anxiety severity administered to the parent. It consists of four subscales assessing physical symptoms, social anxiety, harm/avoidance and separation/panic. Preliminary evidence suggests favorable

psychometric properties in ASD samples for parent report ($\alpha = .88$; Bellini, 2004). There is also evidence of treatment sensitivity of the MASC-P in ASD populations (Wood, Drahota, Sze, Har, et al., 2009). In the current study, total MASC-P scores were used as a measure of anxiety severity.

Procedure

Initial contact and baseline assessment. Research staff made initial contact with families, conducting phone screens with parents to determine the child's age, symptoms of anxiety, IQ and prior ASD diagnosis. The families who appeared to meet eligibility criteria based on the phone screen were scheduled for an intake assessment. During the assessment, families completed consent and assent forms, diagnostic interviews and self-report measures. Trained doctoral students and clinical psychologists blind to treatment condition administered the ADIS, MASC-P, ADOS, and ADI-R at the intake assessment.

Randomization and post-treatment assessment. Families who met inclusion/exclusion criteria based on the intake assessment were block randomized to either immediate (IT) treatment or waitlist (WL) condition by research staff aware of treatment assignment using a computer randomization program. Block randomization was used to stratify children based on gender and age so that various age and gender groups would be represented in both conditions. Post-treatment assessments, consisting of re-administering all anxiety measures, were completed within the last week of treatment and post-waitlist assessments were completed three months after baseline assessment.

Intervention phase: typically developing children with anxiety. Typically developing children with anxiety and their primary parents received 12 to 16 therapy sessions lasting 60-80 minutes. Therapists followed the *Building Confidence* treatment manual (Wood, McLeod,

Hiruma, & Phan, 2008). The therapists were nine clinical psychology doctoral students and one clinical psychologist. Training consisted of reading the treatment manual, participating in a workshop, conducting a supervised training case and attending weekly group supervision meetings. The treatment consisted of three primary components: (1) training the child in skills such as, relaxation strategies, emotion recognition, cognitive reframing of feared situations; (2) training the parents in skills such as, utilization of a reward system and communication techniques; (3) graded exposure to feared situations paired with rewards (Wood et al., 2006).

Intervention phase: children with ASD and anxiety. Children with ASD and anxiety and their primary parents received a slightly longer course of treatment, 16 weeks, with weekly therapy sessions lasting 90 minutes (30 minutes with the child and 60 minutes with the parent). Therapists followed a version of *the Building Confidence* treatment manual adapted for children with ASD and co-occurring anxiety. The therapists were two doctoral-level psychologists and eleven doctoral students in clinical or educational psychology. Training consisted of reading the treatment manual, 8 hours of initial training, listening to recordings of treatment sessions conducted by a model therapist, and attending weekly group supervision meetings. The intervention components were similar to those used in the *Building Confidence* intervention for children with anxiety, with added components addressing social and adaptive skill deficits, circumscribed interests and repetitive behaviors, deficits in attention and motivation, co-occurring conditions (e.g., disruptive behavior disorders) and school-related issues.

TAS-C/P collection. In all but one of the studies, TAS-C/P measures were collected during sessions 3, 7, 11 and 15 or 16. In one of the RCTs for adolescents with ASD and anxiety, TAS-C/P measures were administered during sessions 8 and 16. Parents completed the TAS-C/P in a private room separated from both the child and the therapist. Children completed the TAS-

C/P in a private room with an undergraduate research assistant present to answer questions and provide clarification of items, if necessary.

Results

Psychometric properties of the TAS-C/P. In order to test the reliability of youth self-report measures of alliance, internal consistency was assessed for both youth with ASD and TD youth. Cronbach's alpha coefficients were calculated to assess internal consistency. The reliability of the TASC has been previously established in typically developing children ages 7 to 12 years. While three five-year-olds and two six-year-olds were included in the analyses, they were present only in the TD group. In order to determine whether or not children under 7 should be excluded from the analyses, a reliability analysis of only the five and six-year-olds' TAS-C responses was conducted. The internal consistency of the typically developing five and six-year-olds responses ($\alpha=.85$) was highly consistent with that of the typically developing group as a whole ($\alpha=.84$); therefore, they were included in subsequent reliability analyses.

For the ASD group, internal consistency of child-report TAS-C scores ($\alpha=.89$) was higher than the level typically deemed acceptable ($\alpha\geq.70$; see Table 1; Nunnally & Bernstein, 1994). Internal consistency of child-report TAS-C scores for the typically developing group ($\alpha=.84$) was also greater than the acceptable level and similar to that of the ASD group. In addition, internal consistency of both TD and ASD therapist report TAS-C ($\alpha=.93$) was relatively high for both groups. Internal consistency of TD parent TAS-P ($\alpha=.75$) was lower than that of ASD parent TAS-P ($\alpha=.84$), but still above .70.

Although reliability of the TAS-C has been established in typically developing 7 to 12 year old children, developmental delays in younger children with ASD may render them less reliable reporters. In order to determine the reliability of the TAS-C for children under 10 years old with

ASD, we conducted separate reliability analyses for children 7 to 10 years old and 10 to 14 years old with ASD. Internal consistency of the 7 to 9 year old group ($\alpha=.83$) was lower than that of the 10 to 14 year old group ($\alpha=.92$), but still considerably higher than the acceptable level.

Group differences in alliance. Because the TD group did not contain adolescents over 12, the 12 to 14 year olds were removed from the ASD group for the group comparison analyses. The groups also differed slightly in the timing of TAS-C/P collection, so instead of using an average of all possible TAS-C/P scores for these analyses, alliance measures collected during session 3 were used because both groups collected the TAS-C/P during session 3. We used a two-way ANOVA to examine the effect of group on TAS-C/P scores as well as possible interactions between group and age. The difference in TAS-C/P for younger and older children in each group was examined by including age in the models as a categorical variable (under 10 years old versus 10 years and older).

In the ANOVA models including child TAS-C and parent TAS-P, all main and interaction effects were not significant. In the model including therapist TAS-C/P as the dependent variable, group (TD versus ASD) was statistically significant ($F(1,44)=4.38, p=.04, \eta_p^2=.09$). Age group was not significant, but the interaction between group (TD versus ASD) and age group was marginally significant ($F(1,44)=3.11, p=.08, \eta_p^2=.07$). The therapist TAS-C means of the TD under 10 group ($M=36.73, SD=7.69$) and the ASD group ($M=35.9, SD=7.29$) are similar. However, there is a larger divergence in the means of the over-9 years TD group ($M=40.40, SD=5.08$) and the over-9 years ASD group ($M=30.20, SD=8.55$).

Alliance-outcome associations. A series of regression analyses was conducted to examine whether child-report TAS-C, therapist-report TAS-C and parent-report TAS-P were significant predictors of anxiety severity (as measured by MASC-P total scores) at the end of

treatment for the ASD group. TAS-C/P total scores were averaged across all available time-points for each participant and included as predictors in these initial regressions. Post-treatment MASC-P total score was entered as the dependent variable and pre-treatment MASC-P as well as either average child-report TAS-C total score, therapist-report TAS-C total score or parent-report TAS-P total score were entered as the independent variables.

We found that while average child-report TAS-C did not predict post-treatment MASC-P scores ($M=59.41$, $SD=14.33$), average therapist-report TAS-C significantly predicted post-treatment MASC-P scores ($b= -.26$, $p=.03$). Parent-report TAS-P ($M=44.57$, $SD=4.87$) was a marginally significant predictor of post-treatment MASC-P scores ($b= -.28$, $p=.10$). Pre-treatment MASC-P scores ($M=64.88$, $SD=14.78$), and therapist-report TAS-C explained 37% of the variance in post-treatment MASC-P scores ($R^2=.37$, $F(2,43)=12.93$, $p<.001$), while pre-treatment MASC-P scores and parent-report TAS-P explained 25% of the variance in post-treatment MASC-P scores ($R^2=.25$, $F(2,30)=5.04$, $p=.01$).

Discussion

The therapeutic alliance can be measured reliably in children with ASD and it appears to be associated with anxiety treatment outcome in this population, although this effect appears to be limited to therapist report of the alliance. Internal consistency and child-therapist agreement on ratings of the alliance were adequate in our sample of children with ASD. Our findings converge with studies of alliance in typically developing populations demonstrating a consistent link between alliance and treatment outcome (McLeod, 2011; Shirk & Karver, 2003). As the first empirical study of child-therapist alliance in psychotherapy for youth with ASD, the results of the current study provide an initial indication that alliance may be an important component of EBIs for ASD and an area warranting further inquiry.

Our prediction that parent alliance would be a stronger predictor of outcome than child alliance for youth with ASD was not supported. While child-therapist alliance was a significant predictor of post-treatment MASC scores, parent-therapist alliance was only a marginally significant predictor of post-treatment MASC scores. Our findings suggest that while parent-therapist alliance may play a role in therapy for youth with ASD, it may not play as significant a role as child-therapist alliance. Previous studies have found that parent and child alliance are similarly related to treatment outcome (McLeod, 2011). In this case, the finding that child-therapist alliance is more strongly related to treatment outcome may be related to the difficulty and heightened importance of engaging youth with ASD in therapy. Because youth with ASD at times demonstrate little intrinsic motivation for change, a strong child-therapist alliance could be key to facilitating treatment engagement. It is possible that while youth with ASD may not be as focused on symptom amelioration, they may be either motivated by a desire to please their therapists or may need to trust and like their therapists in order to engage in therapeutic tasks. Further research is needed in order to understand the potentially unique mechanisms underlying the alliance outcome association in therapy for youth with ASD.

Contrary to our prediction, youth with ASD were able to reliably report on the alliance with their therapists. Internal consistency of the child-report TAS-C far exceeded the acceptable level for both younger (ages 7 to 9) and older (ages 10 to 14) children with ASD. Although previous studies have found children with ASD to be unreliable reporters in psychosocial domains (Nicpon et al., 2011), the current study suggests that youth with ASD may be reliable reporters of therapeutic alliance and provides support for the use of the TAS-C with this population. Establishing reliability of the TAS-C, a widely used and established measure in child psychotherapy research, for youth with ASD paves the way for further research on the therapeutic process for youth with ASD.

Our hypothesis that the average strength of the child-therapist alliance would be significantly higher for the TD group than the ASD group was partially supported. While the ASD and TD groups did not differ on child and parent-reported alliance, they did differ significantly according to therapist-report. The average strength of the child-therapist early alliance, from the therapist's perspective, was significantly higher for the TD group, particularly for the older children (ages 10 and above). One of the defining features of ASD is difficulty in forming social relationships. The child-therapist alliance is a social relationship and youth with ASD may have greater difficulty than TD children in forming such a relationship.

Limitations

The generalizability of the current study is limited by its highly educated and relatively high SES sample. Future research in samples of various ethnicities could be helpful in determining whether ethnicity and culture have an impact on alliance formation. Previous studies have found that ethnic matching between client and therapist may have an impact on alliance formation (e.g., Cabral & Smith, 2011), but this has yet to be studied in family therapy for youth with ASD. Second, the ASD sample in the current study consists of youth with high-functioning autism. Studies of alliance in samples of non-verbal youth or youth with lesser verbal ability will be needed to determine if alliance functions similarly in this subpopulation of youth with ASD. Lastly, although children with clinical anxiety served as a typically developing comparison group, it is arguable that children with anxiety may not serve as an ideal comparison group given that they may share some phenotypic similarities with children with ASD (Micali, Chakrabarti, & Fombonne, 2004). Children with anxiety also frequently struggle with social relationships (Strauss, Lease, Kazdin, Dulcan, & Last, 1987), which may have some bearing on alliance formation. Future research clarifying the relationship between social competence and alliance

and utilizing comparison groups consisting of youth with other presenting problems may be warranted.

Conclusions and Future Directions

The current study serves as a first step in better understanding the therapeutic process for youth with ASD. Future studies utilizing larger sample sizes and various measures of outcome should be conducted to further explore the predictive power of the alliance in therapy for youth with ASD. Given that different measurement sources of alliance have been found to have differing relationships with outcomes in therapy for TD children (McLeod, 2011), utilizing other, more objective measures of alliance may be warranted. The Therapy Process Observational Coding System for Child Psychotherapy – Alliance scale (TPOCS-A; McLeod, 2005) is an observational measure of alliance that could be used, though it may need to be adapted for youth with ASD.

In addition to further exploring the role of alliance in MCBT for youth with ASD, it will be important to examine the role of alliance in other commonly used EBI's for youth with ASD, such as Discrete Trial Training and Pivotal Response Training. It may be that the formation of a strong alliance is critical in some forms of therapy for youth with ASD and less important in others. Studying the relative importance of alliance in various EBI's for ASD may provide information that can help improve training for clinicians and deepen understanding of the effectiveness of EBI's. In order to maximize the effectiveness and efficiency of EBIs for ASD, it may be helpful to determine whether or not devoting substantial valuable intervention time on alliance formation is a worthwhile investment. In addition to further research exploring the link between alliance and outcome, examining therapist characteristics and alliance-building behaviors impacting alliance formation is also warranted. This research could ultimately assist in

the formation of training materials for therapists working with youth with ASD.

While further study is needed in order to establish whether or not the therapeutic alliance is a core component in MCBT for youth with ASD, the results of the current study suggest that the therapeutic alliance may play an important role in therapy for school-aged youth with ASD. A more thorough understanding of the therapeutic relationship in interventions for youth with ASD may be helpful in therapist training as well as in future intervention development. Furthermore, examining therapeutic alliance as part of a broader search for core components in EBI's for ASD could support much needed efforts to bring university-based ASD interventions to the community.

References

- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Barnhill, G. P., Hagiwara, T., Myles, B. S., Simpson, R. L., Brick, M. L., & Griswold, D. E. (2000). Parent, Teacher, and Self-Report of Problem and Adaptive Behaviors in Children and Adolescents with Asperger Syndrome. *Assessment for Effective Intervention, 25*(2), 147–167. <http://doi.org/10.1177/073724770002500205>
- Bellini, S. (2004). Social Skill Deficits and Anxiety in High-Functioning Adolescents With Autism Spectrum Disorders. *Focus on Autism and Other Developmental Disabilities, 19*(2), 78–86. <http://doi.org/10.1177/10883576040190020201>
- Benda, J. M. (2002). My journey with Allison in wonderland. *Ethical Human Sciences & Services, 4*(2), 131–138. Retrieved from <http://search.proquest.com/psycinfo/docview/619926195/13BFF4FD8803B6367C2/8?accountid=14512>
- Bickman, L., Andrade, A. R. V. de, Lambert, E. W., Doucette, A., Sapyta, J., Boyd, A. S., ... Rauktis, M. B. (2004). Youth therapeutic alliance in intensive treatment settings. *The Journal of Behavioral Health Services & Research, 31*(2), 134–148. <http://doi.org/10.1007/BF02287377>
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research & Practice, 16*(3), 252–260. <http://doi.org/10.1037/h0085885>
- Cabral, R. R., & Smith, T. B. (2011). Racial/ethnic matching of clients and therapists in mental health services: A meta-analytic review of preferences, perceptions, and outcomes. *Journal of Counseling Psychology, 58*(4), 537–554. <http://doi.org/10.1037/a0025266>

- Castonguay, L. G., Constantino, M. J., McAleavey, A. A., & Goldfried, M. R. (2010). The therapeutic alliance in cognitive-behavioral therapy. In J. C. Muran & J. P. Barber (Eds.), *The therapeutic alliance: An evidence-based guide to practice* (pp. 150–171). New York, NY, US: Guilford Press.
- Chiu, A. W., McLeod, B. D., Har, K., & Wood, J. J. (2009). Child–therapist alliance and clinical outcomes in cognitive behavioral therapy for child anxiety disorders. *Journal of Child Psychology and Psychiatry*, *50*(6), 751–758. <http://doi.org/http://dx.doi.org/10.1111/j.1469-7610.2008.01996.x>
- Creed, T. A., & Kendall, P. C. (2005). Therapist Alliance-Building Behavior Within a Cognitive-Behavioral Treatment for Anxiety in Youth. *Journal of Consulting and Clinical Psychology*, *73*(3), 498–505. <http://doi.org/10.1037/0022-006X.73.3.498>
- Danial, J. T., & Wood, J. J. (2013). Cognitive behavioral therapy for children with autism: review and considerations for future research. *Journal of Developmental and Behavioral Pediatrics: JDBP*, *34*(9), 702–715. <http://doi.org/10.1097/DBP.0b013e31829f676c>
- Davis, N. O. (2008). Working alliance and maternal psychological functioning: Mothers raising toddlers with autism. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *69*(1-B), 671. Retrieved from <http://search.proquest.com/docview/621738067/13BA55F7D7314419DE/20?accountid=145>
- 12
- Flückiger, C., C, A., Wampold, B. E., Symonds, D., & Horvath, A. O. (2012a). How central is the alliance in psychotherapy? A multilevel longitudinal meta-analysis. *Journal of Counseling Psychology*, *59*(1), 10–17. <http://doi.org/10.1037/a0025749>

- Flückiger, C., C. A., Wampold, B. E., Symonds, D., & Horvath, A. O. (2012b). How central is the alliance in psychotherapy? A multilevel longitudinal meta-analysis. *Journal of Counseling Psychology, 59*(1), 10–17. <http://doi.org/10.1037/a0025749>
- Frankel, F., & Myatt, R. (2003). Children's friendship training., xii, 198. Retrieved from <http://search.proquest.com/psycinfo/docview/619985164/C4FBCADB63B4147PQ/1?accountid=14512>
- Fujii, C., Renno, P., McLeod, B. D., Lin, C. E., Decker, K., Zielinski, K., & Wood, J. J. (2012). Intensive Cognitive Behavioral Therapy for Anxiety Disorders in School-aged Children with Autism: A Preliminary Comparison with Treatment-as-Usual. *School Mental Health, 5*(1), 25–37. <http://doi.org/10.1007/s12310-012-9090-0>
- Horvath, A. O., & Bedi, R. P. (2002). The alliance., 37–69. Retrieved from <http://search.proquest.com/psycinfo/docview/620041372/13D2985532C3CF8374F/4?accountid=14512>
- Jacobsen, P. (2004). A Brief Overview of the Principles of Psychotherapy with Asperger's Syndrome. *Clinical Child Psychology and Psychiatry, 9*(4), 567–578. <http://doi.org/http://dx.doi.org/10.1177/1359104504046160>
- Kasari, C., & Smith, T. (2013). Interventions in schools for children with autism spectrum disorder: Methods and recommendations. *Autism, 17*(3), 254–267. <http://doi.org/10.1177/1362361312470496>
- Kazdin, A. E., & Durbin, K. A. (2012). Predictors of child–therapist alliance in cognitive–behavioral treatment of children referred for oppositional and antisocial behavior. *Psychotherapy, 49*(2), 202–217. <http://doi.org/http://dx.doi.org/10.1037/a0027933>
- Kazdin, A. E., Whitley, M., & Marciano, P. L. (2006). Child–therapist and parent–therapist alliance and therapeutic change in the treatment of children referred for oppositional,

- aggressive, and antisocial behavior. *Journal of Child Psychology and Psychiatry*, 47(5), 436–445. <http://doi.org/10.1111/j.1469-7610.2005.01475.x>
- Kendall, P. C., Comer, J. S., Marker, C. D., Creed, T. A., Puliafico, A. C., Hughes, A. A., ... Hudson, J. (2009). In-session exposure tasks and therapeutic alliance across the treatment of childhood anxiety disorders. *Journal of Consulting and Clinical Psychology*, 77(3), 517–525. <http://doi.org/10.1037/a0013686>
- Konstantareas, M. M., & Hewitt, T. (2001). Autistic Disorder and Schizophrenia: Diagnostic Overlaps. *Journal of Autism and Developmental Disorders*, 31(1), 19–28. <http://doi.org/10.1023/A:1005605528309>
- Lord, C., Risi, S., Lambrecht, L., Jr, E. H. C., Leventhal, B. L., DiLavore, P. C., ... Rutter, M. (2000). The Autism Diagnostic Observation Schedule—Generic: A Standard Measure of Social and Communication Deficits Associated with the Spectrum of Autism. *Journal of Autism and Developmental Disorders*, 30(3), 205–223. <http://doi.org/10.1023/A:1005592401947>
- Lord, C., Rutter, M., & Le Couteur, A. (1994). Autism Diagnostic Interview-Revised: a revised version of a diagnostic interview for caregivers of individuals with possible pervasive developmental disorders. *Journal of Autism and Developmental Disorders*, 24(5), 659–685.
- March, J. S., Parker, J. D. A., Sullivan, K., Stallings, P., & Conners, C. K. (1997). The Multidimensional Anxiety Scale for Children (MASC): Factor Structure, Reliability, and Validity. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(4), 554–565. <http://doi.org/10.1097/00004583-199704000-00019>
- Marker, C. D., Comer, J. S., Abramova, V., & Kendall, P. C. (2013). The reciprocal relationship between alliance and symptom improvement across the treatment of childhood anxiety. *Journal of Clinical Child and Adolescent Psychology*, 42(1), 22–33. Retrieved from

<http://search.proquest.com/psycinfo/docview/1269430560/13D2BED96EF10C0456F/1?accountid=14512>

McLeod, B. D. (2011). Relation of the alliance with outcomes in youth psychotherapy: A meta-analysis. *Clinical Psychology Review, 31*(4), 603–616.

<http://doi.org/10.1016/j.cpr.2011.02.001>

McLeod, B. D., & Weisz, J. R. (2005). The Therapy Process Observational Coding System-Alliance Scale: Measure Characteristics and Prediction of Outcome in Usual Clinical Practice. *Journal of Consulting and Clinical Psychology, 73*(2), 323–333.

<http://doi.org/10.1037/0022-006X.73.2.323>

Micali, N., Chakrabarti, S., & Fombonne, E. (2004). The Broad Autism Phenotype Findings from an Epidemiological Survey. *Autism, 8*(1), 21–37. <http://doi.org/10.1177/1362361304040636>

Myers, S. J. (2008). Relationship between the consultant-parent working alliance and ratings of the consultation process with parents of children having autism spectrum disorder.

Dissertation Abstracts International Section A: Humanities and Social Sciences, 69(6-A), 2222. Retrieved from

<http://search.proquest.com/docview/621757780/13BA55BB50776B5512C/2?accountid=14512>

Nicpon, M. F., Doobay, A. F., & Assouline, S. G. (2010). Parent, Teacher, and Self Perceptions of Psychosocial Functioning in Intellectually Gifted Children and Adolescents with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders, 40*(8), 1028–1038.

<http://doi.org/10.1007/s10803-010-0952-8>

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

Pope, K. K. (1993). The pervasive developmental disorder spectrum: A case illustration. *Bulletin of the Menninger Clinic*, 57(1), 100.

Priebe, S., Richardson, M., Cooney, M., Adedeji, O., & McCabe, R. (2011). Does the therapeutic relationship predict outcomes of psychiatric treatment in patients with psychosis? A systematic review. *Psychotherapy and Psychosomatics*, 80(2), 70–77.
<http://doi.org/http://dx.doi.org/10.1159/000320976>

Psychotherapy relationships that work: Therapist contributions and responsiveness to patients. (2002) (Vol. xii). New York, NY, US: Oxford University Press.

Puleo, C. M., & Kendall, P. C. (2011). Anxiety disorders in typically developing youth: Autism spectrum symptoms as a predictor of cognitive-behavioral treatment. *Journal of Autism and Developmental Disorders*, 41(3), 275–286. <http://doi.org/http://dx.doi.org/10.1007/s10803-010-1047-2>

Reichow, B. (2012). Overview of Meta-Analyses on Early Intensive Behavioral Intervention for Young Children with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*, 42(4), 512–520. Retrieved from <http://search.proquest.com/psycinfo/docview/1011396280/140368FBB9029CE1430/6?accountid=14512>

Research Units on Pediatric Psychopharmacology (RUPP) Autism Network. (2007). Parent training for children with pervasive developmental disorders: a multi-site feasibility trial. *Behavioral Interventions*, 22(3), 179–199. <http://doi.org/10.1002/bin.236>

Shirk, S. R., & Karver, M. S. (2011). Alliance in child and adolescent psychotherapy., 70–91. Retrieved from

<http://search.proquest.com/docview/897333137/13BA5E7DA863DCA91CF/4?accountid=14512>

Shirk, S. R., & Saiz, C. C. (1992). Clinical, empirical, and developmental perspectives on the therapeutic relationship in child psychotherapy. *Development and Psychopathology*, 4(04), 713–728. <http://doi.org/10.1017/S0954579400004946>

Silverman, W. K., & Albano, A. M. (1996). The anxiety disorders interview schedule for DSM-IV—child and parent versions. San Antonio, TX: Graywind.

Stahmer, A. C. (2007). The basic structure of community early intervention programs for children with autism: Provider descriptions. *Journal of Autism and Developmental Disorders*, 37(7), 1344–1354. <http://doi.org/http://dx.doi.org/10.1007/s10803-006-0284-x>

Strauss, C. C., Lease, C. A., Kazdin, A. E., Dulcan, M. K., & Last, C. G. (1989). Multimethod Assessment of the Social Competence of Children With Anxiety Disorders. *Journal of Clinical Child Psychology*, 18(2), 184–189. http://doi.org/10.1207/s15374424jccp1802_10

Wood, J. J., Drahota, A., Sze, K., Har, K., Chiu, A., & Langer, D. A. (2009). Cognitive behavioral therapy for anxiety in children with autism spectrum disorders: a randomized, controlled trial. *Journal of Child Psychology and Psychiatry*, 50(3), 224–234. <http://doi.org/10.1111/j.1469-7610.2008.01948.x>

Wood, J. J., Ehrenreich-May, J., Alessandri, M., Fujii, C., Renno, P., Laugeson, E., ... Storch, E. A. (2015). Cognitive Behavioral Therapy for Early Adolescents With Autism Spectrum Disorders and Clinical Anxiety: A Randomized, Controlled Trial. *Behavior Therapy*, 46(1), 7–19. <http://doi.org/10.1016/j.beth.2014.01.002>

Wood, J. J., McLeod, B. D., Hiruma, L. S., & Phan, A. Q. (2008). *Child anxiety disorders: A family-based treatment manual for practitioners* (Vol. xiii). New York, NY, US: W W Norton & Co.

- Wood, J. J., McLeod, B. D., Klebanoff, S., & Brookman-Frazee, L. (2015). Toward the Implementation of Evidence-Based Interventions for Youth With Autism Spectrum Disorders in Schools and Community Agencies. *Behavior therapy*, *46*(1), 83-95.
- Wood, J. J., Piacentini, J. C., Bergman, R. L., McCracken, J., & Barrios, V. (2002a). Concurrent validity of the anxiety disorders section of the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions. *Journal of Clinical Child and Adolescent Psychology*, *31*(3), 335–342. <http://doi.org/http://dx.doi.org/10.1207/153744202760082595>
- Wood, J. J., Piacentini, J. C., Bergman, R. L., McCracken, J., & Barrios, V. (2002b). Concurrent Validity of the Anxiety Disorders Section of the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions. *Journal of Clinical Child & Adolescent Psychology*, *31*(3), 335–342. http://doi.org/10.1207/S15374424JCCP3103_05
- Wood, J. J., Piacentini, J. C., Southam-gerow, M., Chu, B. C., & Sigman, M. (2006). Family Cognitive Behavioral Therapy for Child Anxiety Disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, *45*(3), 314–321. <http://doi.org/10.1097/01.chi.0000196425.88341.b0>