

THE RELATIONSHIP AMONG INSIGHT, ACTION, AND TREATMENT
OUTCOMES FOR YOUTHS IN USUAL CARE

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DEDICATION

I dedicate this dissertation to my husband Dan Copp, to my mother Ana Lorena Kearns, and to my late father Dale Francis Kearns.

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THE RELATIONSHIP AMONG INSIGHT, ACTION, AND TREATMENT OUTCOMES FOR YOUTHS IN USUAL CARE

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ABSTRACT

Although insight and action have been featured prominently in theories of therapeutic change with adults, the relationship between the two constructs and their relationship with treatment outcomes has been largely understudied, particularly in the mental health treatment of youths. In the current study I examined the longitudinal relationship among insight, action, and internalizing symptoms, externalizing symptoms, and life satisfaction using hierarchical linear modeling. Data for the study came from 150 youths who received usual care clinical services at a large national mental health provider. I found that insight and action predict one another both at baseline and over time and that there are no age related differences. I found that increases in insight are associated with increases in internalizing symptoms and that increases in action are associated with decreases in externalizing symptoms. I also found that while baseline insight is associated with youth baseline life satisfaction, neither baseline insight nor changes in insight are associated with increases in life satisfaction. In contrast, baseline action is associated with both youth baseline life satisfaction and increases in life satisfaction. Additionally, increases in action are associated with increases in life satisfaction. These findings suggest that insight and action play a role in youth treatment outcomes that merit further research.

INTRODUCTION

Despite an abundance of research supporting the effectiveness of psychotherapeutic interventions for youth mental health problems, we know surprisingly little about the change process. Not only do we do not know how, when, or why symptoms improve during even the most researched psychosocial interventions (Kazdin & Nock, 2003), we also do not know what kinds of helpful intraindividual changes youths experience during therapy. Thus, even when using treatments with demonstrated effectiveness, it is not clear what types of changes the youth is experiencing or whether the most important changes occur during sessions or between sessions. Hence, it is not clear whether a youth is feeling better because he or she gained a new perspective during a session, because he or she engaged in a more adaptive behavior outside of session, or for another reason altogether. This lack of understanding makes it difficult to flexibly tailor treatments because it is unclear what should be emphasized or what can be skipped. Therefore, instead of focusing our efforts exclusively on treatment efficacy, it would also be helpful to identify the kinds of intraindividual changes youths experience as their symptoms improve and to link these changes to outcomes. Identifying intraindividual changes that relate to outcomes could, in turn, lead to more effective and streamlined treatments by providing specific targets for intervention. Strategies for helping clinicians and parents identify and facilitate these changes in youths may ultimately prove easier to disseminate and implement than specific treatment packages.

Two intraindividual factors that have been traditionally associated with treatment outcomes in individual therapy with adults are *insight*, the client's attainment of a new

understanding of his or her problems, and *action*, the client's adoption of new and more adaptive behaviors. Indeed, insight and action are featured prominently in theories of change (Prochaska, DiClemente, & Norcross, 1992; Stiles et al., 1990). The relationship among insight, action, and treatment outcome, however, has been infrequently studied and has never been examined in youths. It is, therefore, unclear whether experiencing insight within a therapy session or making behavior changes outside of sessions, or neither, are actually associated with treatment outcomes (Gelso & Harbin, 2007).

Consider the evidence-based approach for the treatment of youth anxiety, cognitive-behavioral therapy or CBT. It is not clear whether (a) realizing there is nothing to fear, (b) confronting the feared stimulus, (c) both, or (d) neither, are associated with improved treatment outcomes during CBT. Consequently, it is not clear what should be most emphasized during CBT treatment.

While both insight and action can presumably occur both in and out of session, the current study focuses on insight gained within therapy sessions and action that occurs outside of sessions. In the current study, I examine the relationship among insight, action, and treatment outcomes in a sample of 150 youths receiving usual clinical care. Before, I describe the methodology and results of my study, I will first provide an overview of insight and action as defined by different theoretical orientations and describe the research that has been done examining the role of insight and the role of homework completion as a proxy for action in treatment outcomes.

Insight

Broadly defined, insight is a type of meta-awareness involving a learning of new associations or a development of a new understanding (Castonguay & Hill, 2007). Insight is also an important component of therapy found across multiple theoretical orientations (Wampold, Imel, Bhati, & Johnson-Jennings, 2007). Its definition varies somewhat across orientations. For example, in the psychodynamic view, insight refers to the client developing a new understanding with respect to his or her presenting problem by (1) recognizing patterns or connections between current and past relationships, (2) observing his or her own internal processes, personality, psychopathology, (3) revising his or her pathological beliefs, (4) recognizing his or her own motives, and (5) recognizing the motives of others (Messer & McWilliams, 2007). In the humanistic or process-experiential perspective, insight is defined as (1) a client's awareness of a previous unnoticed experience, (2) an acceptance of previously unaddressed aspects of the self, (3) a meta-awareness of experience, and a (4) linking together of concepts or experiences (Pascual-Leone & Greenberg, 2007). In the cognitive behavioral orientation, insight is the gaining of a new understanding (e.g., recognizing and challenging unhelpful thoughts or beliefs) and is considered a core process in cognitive behavioral therapy (Grosse Holtforth et al., 2007). Much of the cognitive component of CBT is focused on the attainment of insight, e.g., *cognitive change*, *cognitive restructuring*, *rational restructuring*, *cognitive realignment*, *rational re-evaluation*, *discovery of irrationality* (Grosse Holtforth et al., 2007). Finally, although some family systems perspectives explicitly reject the idea that insight plays an important role in treatment outcomes, (see Hazelrigg, Cooper, & Borduin, 1987 for a review), or suggest that insight can interfere

with treatment outcomes by inhibiting change (e.g. Haley, 1987), others suggest that helpful insights can be gained within a family therapy context that include the development of an understanding (a) about the self, others and the functioning of the family unit as a whole, (b) about similarities between their problems or behaviors and those of others in the family, and (c) about how the thoughts, feelings, and behaviors of family members influence one another (Heatherington & Friedlander, 2007). Given that insight is central to multiple therapeutic orientations, some (e.g. Wampold et al., 2007) have suggested that it may be a transtheoretical change process essential to success in therapy.

In addition to describing insight as essential, some researchers have also made a distinction between baseline insight (i.e., the level of self-awareness with which a person enters therapy, thought to be a type of personality trait), and the changes in insight that a person experiences during therapy (Connolly Gibbons, Crits-Christoph, Barber, & Schamberger, 2007). Baseline insight levels are thought to reflect an individual's capacity for self-awareness (Connolly Gibbons et al., 2007). This capacity for insight may in turn be affected by overall cognitive functioning, executive functioning, and diagnosis (Aleman, Agrawal, Morgan, & David, 2006). Although most of the research linking lower baseline insight to clinical diagnoses has been conducted on adults with schizophrenia, researchers have also found lower baseline insight levels in adults with Obsessive Compulsive Disorder and Bipolar Disorder (e.g. Ghaemi, Boiman, & Goodwin, 2000; Ghaemi & Pope, 1994). In contrast, adult patients with comorbid depression and schizophrenia have on average higher baseline insight levels than patients with schizophrenia alone (Murri et al., 2015). Higher levels of baseline insight have also been

linked to higher risk for suicidality in patients with schizophrenia (Barrett et al., 2015; Barrett et al., 2010; Foley, Goldston, Costello, & Angold, 2006; Robinson et al., 2010).

In addition to disorder specific differences in insight, there may also be developmental differences in insight among youths. The capacity for understanding the self and others increases and becomes more differentiated as youths get older. In early childhood, children's self-awareness is mainly defined in terms of their physical characteristics (Damon & Hart, 1982). Near the end of childhood, however, children begin to define themselves in more complex psychological terms (Damon & Hart, 1982). By adolescence, youths also develop a capacity for reflecting on their own mental states (Damon & Hart, 1982). Similarly, over the course of development, children develop a theory of mind, the awareness that others have different mental states from themselves (Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991). This awareness helps children to better understand the feelings and behaviors of others and to understand appropriate display rules for emotions (Carroll & Steward, 1984). This knowledge in turn helps them to be more socially competent (Bosacki & Astington, 1999). In fact, emotional knowledge not only predicts social competence but also internalizing and externalizing symptoms (Trentacosta & Fine, 2010). Indeed researchers have theorized that both having an awareness of areas of the self that need improvement and the ability to recognize emotions in the self and others helps youths gain the confidence to overcome challenges (Payton et al., 2000). The fact that the understanding of the self and others increases over the course of childhood and that these increases are important to social development has important implications. First, it suggests that there may be developmental differences associated with insight due to age. Second, it suggests that

insight may also be important for youth treatment outcomes. Although the role of insight in youth treatment outcomes is unclear, its role in adult treatment outcomes is hypothesized by a popular theory of therapeutic change.

The assimilation model of psychotherapy, inspired by Piaget's theory of cognitive adaptation (Stiles et al., 1990), was originally developed as a transtheoretical theory of how increases in insight lead to therapeutic change in adults. It may also be useful in explaining how insight relates to treatment outcomes in youths. Given that Piaget's theory, on which the assimilation model is based, was developed to explain how children learn, it follows that the assimilation model may also explain how youths change in therapy. In the assimilation model of psychotherapy, insight and action are conceptualized as stages in the change process (Stiles & Brinegar, 2007). In Piaget's original theory, learning and development are triggered by inconsistencies between an individual's schemas, or preexisting world views, and the environment--a cognitively and emotionally unpleasant state called disequilibrium (Miller, 2002). In order to regain a sense of equilibrium with the environment, individuals must adapt to the environment via the two complimentary processes of assimilation and accommodation (Miller, 2002). Assimilation occurs when individuals filter information to better fit the existing world view and accommodation occurs when individuals change cognitive structures to better fit reality (Miller, 2002). The assimilation model of psychotherapy applies Piaget's theory of cognitive adaptation to psychotherapy and suggests that a successful course of therapy depends upon a client recognizing, understanding, and eventually resolving his or her problematic experiences through the assimilation and accommodation of new schemas into old schemas (Stiles et al., 1990). Insight occurs as a stage in this process and allows the client to move from

being unaware or disassociated from the problem (or inconsistency) to recognizing the problem to eventually solving the problem and using the solution as a resource for other problems (Stiles, 2002). In this manner, the person's experience of insight leads to action which, in turn, allows him or her to solve the problem. Although this theory could potentially also explain the role of insight in youth psychotherapy this assertion has not yet been investigated empirically. In fact, the research on insight and outcomes has been extremely limited even with adults.

Research on Insight

Although insight has been discussed for over 50 years, the research to date is flawed by methodological issues, a poor operationalization of the insight construct, and measures that lack validity (Connolly Gibbons et al., 2007). Most studies examining the relationship among insight and treatment outcomes have been conducted with interventions that have a limited evidence-base. Although this may raise concern, as long as the individual experiences positive change, it may matter very little whether the intervention itself has demonstrated consistent positive benefit across multiple clinical trials. Indeed, examining the relationship between insight and change in any situation where an individual experiences a change in the outcome variable can illuminate the relationship between insight and outcomes. After all individuals can experience change even in the absence of an active intervention (Rosenthal & Frank, 1956). What follows is a discussion of the research examining the development of insight within the context of therapy and the relationship between insight and treatment outcomes.

First, available research consistently indicates that insight is a malleable variable that can be improved during treatment. For example, in what may well be one of the earliest randomized clinical trials, a 1959 study comparing the efficacy of group discussion, task-oriented study group, and group-centered role-playing in 96 graduate students randomly assigned to groups (3 discussion, 3 task-oriented study, and 6 role-playing), with 8 people each, researchers found individuals from all groups demonstrated increases in insight during treatment; they did not, however, find group differences in insight or a relationship between increases in insight and individual adjustment (Mann & Mann, 1959). This study however does not specify whether they examined the effect of baseline insight or change in insight with respect to group differences and individual adjustment.

The distinction between baseline insight and changes in insight over the course of therapy is important both conceptually and because the two variables may have different effects on treatment outcomes. For example, in one study examining the effects of baseline insight in patients with Obsessive Compulsive Disorder receiving exposure and response prevention therapy--an intervention that primarily works to change clients' behavior--researchers found that patients who had higher baseline insight into their problems had better treatment outcomes than those with lower baseline insight (Foa, Abramowitz, Franklin, & Kozak, 1999). Similarly, in a sample of 110 adolescent patients with recent onset psychosis, researchers found that lower baseline insight predicted worse functioning 6 months and 12 months later (Parellada et al., 2009).

Other studies have examined the relationship between increases in insight and treatment outcomes. For example, in a study examining the relationship between insight

and treatment outcomes over time in 12 clients who received 20 weeks of psychoanalytic psychotherapy, researchers found that (a) insight increased over the course of psychotherapy, (b) increases in insight were associated with decreases in symptoms, and (c) increases in insight preceded decreases in symptoms (Kivlighan, Multon, & Patton, 2000). Another study, examining the long-term outcomes of 49 patients receiving psychodynamically-oriented inpatient treatment, found that patients who had higher levels of insight at the time of discharge and those who experienced more gains in insight during treatment made greater changes in their external lives at a 6 months follow-up (Grande & Pauli-Magnus, 2003). In another study, researchers found that increases in insight were related to overall improvement in functioning in a sample of 43 patients undergoing psychoanalysis (Høglend, Engelstad, Sørbye, Heyerdahl, & Amlø, 1994). Another study examining the mediating effects of insight on transference in a sample of 100 patients receiving psychodynamic psychotherapy found that (a) increases in insight were associated with increases in interpersonal functioning, (b) increases in insight preceded increases in interpersonal functioning, and (c) increases in insight mediated the relationship between transference and interpersonal functioning (Johansson et al., 2010).

Not all studies, however, have found a relationship between increases in insight and treatment outcomes. For example, in a study examining the psychotherapeutic change sequence in 34 patients receiving a nonspecific multimodal group treatment and another study examining the psychotherapeutic change sequence in 32 patients receiving eclectic individual psychotherapy, researchers found that while symptoms improved and insight increased, there was no relationship between increases in insight and treatment outcomes (Sexton, 1993, 1996). Explaining the null findings, Sexton (Sexton, 1996)

suggested that insight may not directly relate to treatment outcome but may instead occur as a parallel process that helps to solidify treatment outcome.

Although predominantly associated with psychotherapy, a few studies have also found insight linked with improvement from psychopharmacological treatment. In a study assessing the relationship between insight and long-term treatment outcomes for people with bipolar disorder, depression, or anxiety, researchers found that in 103 clients receiving unspecified psychopharmacological treatment, (1) patients with bipolar disorder or depression had lower levels of insight at baseline than those with anxiety disorders, (2) baseline insight levels were not associated with treatment outcomes, but (3) increases in insight during treatment were associated with greater improvement in treatment outcomes overall (Ghaemi et al., 2000). In another study that examined whether increases in insight coincided with treatment outcomes in 71 patients with Obsessive Compulsive Disorder (OCD), researchers found that insight improved over the course of treatment with sertraline and improvement in OCD symptoms coincided with increases in insight (Eisen et al., 2001). Baseline insight levels, however, did not predict treatment response (Eisen et al., 2001). These findings suggest that insight levels can co-occur with treatment outcome and can increase even in the absence of a psychosocial intervention. It is unclear, however, whether insight serves as trigger for treatment outcomes, or simply as a marker of those outcomes.

Although the evidence regarding whether experiencing insight is related to adult treatment outcomes is mixed, clients do self-report the experience of insight to be helpful (Elliott, 1985). Indeed, clients have reported that making progress into a presenting problem during a session, by experiencing insight or figuring out how to solve a problem,

is one of the most helpful within-session events (Elliott & Wexler, 1994). Similarly, experiencing a therapeutic realization, such as clarifying a problem, achieving insight, or gaining an increased capacity to cope within a session is associated with clients' perceptions of having made progress (Kolden 1996; Kolden et al. 2006; Kolden and Howard 1992), which has in turn been found to be related to treatment outcomes (e.g., Kolden 1996; Kolden and Howard 1992). As noted above, however, it is unclear, whether the perception of insight leads to treatment outcome or simply co-occurs with treatment outcomes. Furthermore, none of the existing research is with youth samples. Consequently, it is unclear whether changes in insight relate to treatment outcome in youth psychotherapy. It is also unclear how insight relates to action.

Action

Action, broadly defined in the context of psychotherapy, refers to the client's adoption of more adaptive behaviors. While action can occur both in and out of therapy sessions (Scheel, Seaman, Roach, Mullin, & Mahoney, 1999), action that occurs outside of sessions are of particular interest because they suggest an internalization of therapeutic material (Orlinsky, Roonestad, & Willutzki, 2004 Mallinckrodt, 1994). In fact, the success of a therapeutic intervention may depend on clients generalizing and applying skills learned in therapy to their lives outside of therapy (Scheel, et al., 1999). Consequently, the current study focuses on the effects of actions completed outside of sessions.

Learning more about the role of action in youth psychotherapy is of particular interest given the increased capacity for goal-directed action that occurs during

adolescence (Ernst, Pine, & Hardin, 2006). Indeed, adolescent youths experience growth and development in several brain regions such as the medial prefrontal cortices, the anterior cingulate, the ventral prefrontal cortex, and the orbital frontal cortex that increases their ability to engage in motivated action (Ernst et al., 2006). It is not, clear, however, how this growing capacity impacts treatment outcomes.

Although the role of action in treatment outcomes is not clear, as with insight, helping the client engage in action is a goal of most therapies. As such, it is considered by many to be a common or transtheoretical change factor (Lambert, 2013; Lambert & Ogles, 2004). Action is also considered the most important stage in the transtheoretical Stages of Change Theory, a prominent theory of self-change initially developed to explain change in adults with addictions (Prochaska et al., 1992). According to this theory, self-change progresses through five stages: (1) precontemplation, (2) contemplation, (3) preparation, (4) action, and (5) maintenance. The first three stages involve the client readying him or herself to make a change. The fifth and final stage involves maintaining the changed behavior. The fourth stage, the action stage, is considered critical for genuine, sustained change. During this stage, individuals change their behaviors or circumstances in relation to an acceptable criterion in order to triumph over their problems (Prochaska et al., 1992). Prochaska and colleagues (1992) hypothesize that progressing from contemplation to action is essential for having a positive treatment outcome, regardless of whether or not the therapy is more insight-oriented or more action-oriented. Furthermore, higher levels of action have been associated with greater treatment outcomes. Indeed, researchers have found that progressing into the action stage earlier in treatment is the best predictor of treatment

outcome, with stage of change scores being the second best predictor (Prochaska, Norcross et al., 1992).

To encourage patients to progress into action, therapists often offer clients prescriptions or recommendations for behavior changes in the form of homework assignments, suggestions, or directives (Scheel, Seaman, Roach, Mullin, & Mahoney, 1999). A client's compliance with these directives by completing homework assignments suggests that the client is generalizing material learned in session to everyday life (Kazantzis, Whittington, & Dattilio, 2010). Homework completion can therefore be viewed as good proxy for action because it involves independently applying newly learned skills or behaviors outside of session. Although a client may also implement a therapist's suggestion in the absence of an explicit homework assignment or may spontaneously engage in a more adaptive behavior outside of therapy session, the existing research on action has focused primarily on homework completion. Consequently, the research review that follows will focus on the effects of homework completion as a proxy for action.

Research on Action

Data from both correlational and experimental studies of adults receiving CBT suggest that completion of out of session homework activities is associated with treatment outcome across a wide range of disorders. For example, in a meta-analysis of 27 studies assessing the effects of homework on treatment outcomes in clients undergoing CBT, researchers found that both homework assignment and homework completion had significant, albeit modest, associations with treatment outcome ($r=0.36$

for the 11 studies assessing homework assignment; $r=0.22$ for the 16 studies assessing homework completion; (Kazantzis, Deane, & Ronan, 2000). A follow-up meta-analysis with 46 studies focusing just on homework assignment (not completion) found that therapy conditions including homework showed significantly larger pre-post effect sizes than those without homework ($d=1.08$ vs $d=.63$; (Kazantzis, Whittington, & Dattilio, 2010). Furthermore, when authors examined between-group differences for the 9 studies where clients were randomly assigned to either therapy with homework or identical therapy but without homework; they found that homework had a medium effect on treatment outcome ($r = 0.48$). In other words, 62% of clients who received homework improved versus 38% of clients who did not receive homework (Kazantzis et al., 2010). They concluded that homework assignments provided clients with benefits over and above those they received with therapy alone (Kazantzis et al., 2010).

While studies in adults have found a relationship between homework and treatment outcome, the few studies that have examined this relationship in youths have failed to find a significant effect. For example, in a correlational study examining the relationship between homework compliance and child outcomes for 138 children receiving CBT for anxiety (all of whom were assigned homework), researchers did not find a relationship between homework compliance and outcomes either at post-treatment or at one year follow up (Hughes & Kendall, 2007). A second correlational study, examining how homework compliance related to treatment outcome in a group of 59 adolescents receiving CBT for depression, also failed to find a relationship between homework compliance and outcome (Clarke et al., 1992).

Most studies that have examined the relationship between homework completion and treatment outcome have assessed compliance by averaging across sessions (Gaynor, Lawrence, & Nelson-Gray, 2006). This method of averaging across sessions has been criticized on the grounds that it treats homework completion, and therefore action, as a stable construct (Gaynor et al., 2006). People may instead vary in their levels of action over the course of treatment. Research with adults has found low intercorrelations between rates of homework completion during early, middle, and late phases of therapy (Addis & Jacobson, 1996). Similarly, a case study of adolescents undergoing treatment for depression also found that homework completion varies between sessions (Gaynor et al., 2006).

The timing of homework compliance in treatment, however, may be an important predictor of treatment outcomes. For example, homework adherence during the first few sessions may be more strongly associated with treatment outcome than compliance later in treatment (Westra, Dozois, & Marcus, 2007). For example, one of the only studies that has examined the effects of treatment outcomes on a session by session basis, found that in a sample of 59 adults receiving group CBT for an anxiety disorder, homework compliance within the first few sessions was related to both an initial decrease in symptoms and overall treatment outcomes (Westra et al., 2007). In another study examining predictors of treatment outcomes for 56 patients with Obsessive Compulsive Disorder who were all assigned exposure plus response prevention homework, researchers found that homework compliance during the first week was the strongest predictor of symptom reduction both at the end of treatment (9 weeks) and at follow-up (32 weeks) (De Araujo, Ito, & Marks, 1996). They concluded that those who comply with

homework from the beginning are more likely to respond to treatment. Consequently, as in insight, the baseline levels of action with which a person begins treatment may be an important treatment predictor. It may also reflect an underlying propensity toward engaging in action.

These studies suggest that creating an average homework completion score may mask important variability in clients' enactment of behavioral changes outside of session. They also suggest that examining the person's initial levels of action may be important. As with insight, there may be a distinction between their baseline levels of action with respect to homework completion, and the changes they make over time. Also, examining treatment outcomes exclusively at the end of treatment may also mask potential variability in symptom levels throughout the therapeutic process. For example, some out of session action may result in a short term increase in symptoms even if the cumulative effects of homework completion ultimately result in long term symptom reduction (Gaynor et al., 2006). Examining the longitudinal relationship between session level homework completion and short term treatment outcomes, is necessary to obtain a more nuanced picture of how action achieves its effects over time.

As a whole, although several studies have found a relationship between action in the form of homework assignment or completion and treatment outcomes, there are several limitations on the inferences that can be made from existing literature. First, most studies have been done in adult patients receiving cognitive-behavioral or behavioral therapies, and therefore do not address potential benefits of having clients engage in extra-session actions in other orientations (Kazantzis et al., 2010). Thus, it is difficult to determine whether the association between homework and treatment outcome extends to

youths or to other therapies. Second, homework provides a very narrow view of action in that it does not account for more spontaneous engagement in therapeutic action that the client may perform outside of session (Kazantzis et al., 2010). Indeed, clients have been found to spontaneously engage in action in the absence of being assigned homework (Kornblith, Rehm, O'Hara, & Lamparski, 1983). Third, existing studies have only looked for differences between individuals with respect to homework and outcomes.

Understanding how action affects changes within the individual is also important. The effects of such spontaneous between-session actions on treatment outcomes, however, are not known.

Relationship among Insight, Action, and Treatment Outcomes

The relationship among insight, action, and treatment outcomes has also been discussed and proposed by the major theoretical orientations. In the psychodynamic perspective, insight is critical for symptom reduction. Insight allows clients to face painful truths about themselves or their childhoods in the context of a strong therapeutic relationship, and symptom reduction occurs directly as the result of facing those painful truths (Messer & McWilliams, 2007). Symptom reduction is hypothesized to be greater and to occur faster for clients with a greater capacity for insight (Messer & McWilliams, 2007). This perspective suggests that patients with higher baseline levels of insight would have a faster rate of symptom improvement than youths with lower levels of insight.

Action (e.g., through homework) may help clients extend in-session gains outside of the session, achieve generalization of gains, and become responsible for their own changes; as such, action can also promote further action and further insight (Stricker, 2006). Thus,

according to this perspective, insight should lead directly to symptom improvement.

Insight may also promote action and, likewise, action may promote insight, but symptom reduction is a direct result of insight rather than action.

Insight is also critical in process-experiential therapies. Here, therapists attempt to evoke emotion in their clients in an attempt to help them experience insight (Pascual-Leone & Greenberg, 2007). This insight then leads to action (e.g., helping clients engage in new and more adaptive ways of responding to situations; (Pascual-Leone & Greenberg, 2007). Through homework assigned to clients during “teachable moments,” clients can consolidate and extend the experiential learning and intrapersonal changes they have made within sessions to other contexts (Greenberg & Warwar, 2006). Unlike psychodynamic theory, insight itself is insufficient to produce treatment outcomes; rather, insight leads to action which, in turn, leads to symptom improvement (Pascual-Leone & Greenberg, 2007). From this perspective insight predicts action, but only action predicts treatment outcomes.

In CBT, both insight and action lead to symptom improvement. Insight purportedly creates a change in schemas, or mental structures that influence how information about the self and others is retrieved and encoded (Grosse Holtforth et al., 2007). This change in schemas can provide positive reinforcement (e.g., a promise for new opportunities or a sense of mastery) or negative reinforcement (e.g., the promise of solving an emotional problem; Grosse Holtforth et al., 2007). For example, insight may provide positive reinforcement that leads to treatment outcomes if the client experiences a reduction in anxiety symptoms after having the recognition that the same relaxation exercises she learned in therapy may also help her relax before speaking in public.

Alternatively, a client may experience a reduction in his symptoms of depression via negative reinforcement if he feels better after having the realization that his negative view of himself is really due to a cognitive distortion. Actions also play an important role in promoting symptom reduction in CBT. For example, homework allows clients to generalize the learning of new skills that occurs in therapy to real life situations and to gather information about how the target problem manifests itself across settings (Beck, 1995). Activities both in and out of session may also promote symptom reduction via practice effects and habituation to aversive situations (Hudson & Kendall, 2002). Application of these skills outside of session is hypothesized to also help clients gain additional insight into the presenting problem (Schottenbauer, Glass, & Arnkoff, 2007). In the cognitive behavioral perspective, therefore, either insight or action can lead to treatment outcomes independently or synergistically. Insights may lead to changes in behavior and changes in behavior may lead to additional insights; both may lead directly to symptom reduction.

Summary

Historically, both insight and action have been viewed as important factors in the treatment process. Although there are different ideas about which is more critical for treatment outcome, most theories suggest that insight and behavior change work together and promote future gains in the other. The extent to which insight or action predict short term symptom reduction during therapy has not been examined in the mental health treatment of youths. Understanding whether insight and/or action are related to treatment outcomes in the mental health treatment of youths could have important implications for

immediate treatment delivery and for suggesting future areas for investigation. Such understanding could suggest important intraindividual changes for clinicians to target during therapy. Because parents often participate in the intervention process either directly or indirectly in youth treatments (Hudson & Kendall, 2002), it may also suggest what types of intraindividual changes parents can help foster in their children.

Study Aims

In the current study, I aim to clarify the relationship among insight, action, and treatment outcomes in youths after controlling for age, gender, parent participation in sessions, baseline treatment severity, and baseline treatment motivation. I intend to test 8 primary research questions. The first two involve the relationship between insight and action:

- (1) Does insight predict action in youth psychotherapy?
 - (1a) Does baseline insight predict baseline action?
 - (1b) Does baseline insight predict final action?
- (2) Does action predict insight in youth psychotherapy?
 - (2a) Does baseline action predict baseline insight?
 - (2b) Does baseline action affect the rate of change in insight?
 - (2c) Does change in action predict change in insight over time?
 - (2d) Does youth age predict baseline levels of insight after controlling for action?

Given that most of the psychological theories reviewed ascribe some sort of synergistic relationship between insight and action, I predict that insight and action will predict each other, both at baseline and over time. I do not, however, predict that there will be age related differences in insight even after controlling for action, given the restricted age range in the sample, and findings from a previous study that did not find age related differences in either insight or action (Kearns, Athay, & Riemer, 2012).

The next research questions examine the relationship between baseline insight and change in insight, and internalizing symptoms and externalizing symptoms.

(3) Does insight predict internalizing symptom severity?

(3a) Does baseline insight predict baseline internalizing symptom severity?

(3b) Does baseline insight predict rate of change in internalizing symptom severity?

(3c) Does change in insight predict change in internalizing symptom severity over time?

(3d) Does age predict baseline internalizing symptoms?

(4) Does insight predict externalizing symptom severity?

(4a) Does baseline insight predict baseline externalizing symptom severity?

(4b) Does baseline insight predict rate of change in externalizing symptom severity?

(4c) Does change in insight predict change in externalizing symptom severity over time?

(4d) Does age predict baseline externalizing symptoms?

Given that most research has attributed lower levels of insight to a variety of clinical diagnoses, I expect that lower levels of baseline insight will predict higher levels of baseline internalizing and externalizing symptom severity. Also, since some of the studies reviewed described a relationship between insight and outcomes, I predict that baseline insight and changes in insight will predict improvements in internalizing and externalizing symptoms.

The next research questions examine how baseline action and changes in action may relate to the same treatment outcomes:

(5) Does action predict internalizing symptom severity?

(5a) Does baseline action predict baseline internalizing symptom severity?

(5b) Does baseline action predict rate of change in internalizing symptom severity?

(5c) Does change in action predict change in internalizing symptom severity over time?

(6) Does action predict externalizing symptom severity?

(6a) Does baseline action predict baseline externalizing symptom severity?

(6b) Does baseline action predict rate of change in externalizing symptom severity?

(6c) Does change in action predict change in externalizing symptom severity over time?

As with insight, I predict that baseline action will predict baseline internalizing and externalizing symptom severity. Also, given the findings that homework is associated with better treatment outcomes, I predict that both baseline action and changes in action will predict improvements in internalizing and externalizing symptoms.

The last set of questions examine how baseline insight and changes in action, and baseline action and changes in action may separately relate to the youth life satisfaction over time.

(7) Does insight predict life satisfaction?

(7a) Does baseline insight predict baseline youth life satisfaction?

(7b) Does baseline insight predict rate of change in youth life satisfaction?

(7c) Does change in insight predict change in youth life satisfaction over time?

(7d) Does age predict baseline life satisfaction?

(8) Does action predict life satisfaction?

(8a) Does baseline action predict baseline youth life satisfaction?

(8b) Does baseline action predict rate of change in youth life satisfaction?

(8c) Does change in action predict change in youth life satisfaction over time?

Based on the findings that patients report the experience of insight as being helpful, I expect that baseline insight will predict baseline life satisfaction and that increases in insight will predict increased life satisfaction. I also expect that baseline action will predict baseline life satisfaction, and that baseline action and increases in action will predict increased life satisfaction.

METHOD

Overview

Data for the current investigation come from a larger study examining the effects of providing usual care clinicians with ongoing systematic feedback on youth treatment outcomes (Bickman, Kelley, Breda, Vides de Andrade, & Riemer, 2011). Regular, systematic feedback is an evidence-based approach to treatment that has demonstrated improved client outcomes, independent of a specific treatment manual or theoretical orientation (Bickman, Kelley, Breda, de Andrade, & Riemer, 2011; Lambert et al., 2002). Data were collected between September 27, 2006 and January 1, 2008 in collaboration with a national provider of home-based mental health services with 28 regional offices in 10 states.

Agency clinicians provided a variety of behavioral health services consistent with usual care psychotherapy including: cognitive-behavioral therapy, behavioral therapy, family systems therapy, individual and family in-home counseling, intensive in-home services, substance abuse treatment, crisis intervention, life-skills training, case management, play therapy, and integrative-eclectic therapy to youths between the ages of 11 and 18 (Riemer, Athay, Bickman, Breda, Kelley, & De Andrade, 2012). No case-by-case data were collected on the specific theoretical orientation used. Data from the Peabody Treatment Progress Battery (PTPB), however, were collected on a case-by-case basis. The research team developed the Peabody Treatment Progress Battery (PTPB) to assess a variety of therapeutic process and outcome variables including: symptoms and functioning, life satisfaction, hopefulness, treatment process and outcomes expectancies, counseling impact (insight and action), service satisfaction, therapeutic alliance, and

treatment motivation (Riemer, Athay, Bickman, Breda, Kelley, & De Andrade, 2012). Clinicians, youths, and caregivers completed an assortment of measures from the PTPB at intake and again after each (weekly) session. In order to reduce participant burden, the research team developed a suggested administration schedule assigning completion of different subsets of measures on different weeks. Given the schedule, some combinations of measures were never administered concurrently (Bickman et al., 2007). Also, clinicians, not the research team, collected all data. This data collection method allowed the study to match how a measurement and feedback system could work in ongoing usual care, but also resulted in substantial missing data and variability in the timing of actual measure administration. Also related to the usual care aspect of the study design, youths began and ended treatment at different times leading to variability in sample size and composition across time. Consequently, the resulting dataset has elevated missing data levels, and is both time-unstructured and unbalanced, (i.e., it has variably-spaced waves of data and varying number of measurement occasions for each respondent).

Participants

In the current study, I examined a subsample of youths, their caregivers, and counselors from the larger study who had completed: (1) the Insight or Change subscale of the Youth Counseling Impact Scale v2 and (2) the Symptoms and Functioning Scale (SFSS). This inclusion criteria permitted evaluation of the relationship among insight, action, symptoms and functioning. These measures are described in detail below.

There were 150 youths who met criteria for inclusion in the current study. Some 56.8% of these youths were male; 43.2% were female. They were on average 14.65 years

old (SD=1.89) and ranged in age from 11 to 18 years. Almost half of the sample 45.5% was in the middle adolescent age range: between the ages of 13 and 15 years. The sample was ethnically diverse with 58.9% of youths identified as Caucasian, 22.5% identified as African American, 12.4% identified as more than one race, 3.9% identified as other, 1.6% identified as American Indian, and 0.8% identified as Hawaiian or Pacific Islander. Some 12% of youths identified as being Hispanic. The majority of youths (82.6%) had a current DSM-IV diagnosis. The 3 most common presenting mental health problems were Depression (48.7%), Oppositional Defiant Disorder (47.3 %), and Anxiety (33.3%). Youths also had high rates of comorbidity with a mean of 6.59 (SD=3.45) problems at intake. Youths in the study also had high rates of delinquent behaviors. Over two thirds of study youths (71.3%) had a history of school suspension. Almost one third of youths (29.5%) had a history of arrest and one quarter of youths (24.5%) had spent time in a detention center or reform school. Some 42.3% of youths had been previously removed from the home due to behavioral problems. Most youths in the study had prior experience with behavioral health services. Some 69% of youths had had an evaluation done before the initial intake evaluation for the study. Almost 2/3 (63.1%) had received a DSM diagnosis prior to intake. Over half (54.3%) received services from school and before intake. Over two thirds of youths (70.9%) had previously received psychological services outside of the school setting. Over a third (34.6%) had stayed overnight in an institutional setting. Most youths (57.1%), had also previously received psychotropic medication; over two thirds of these youths (67.1%) had received psychotropic medications within the last year. A sizable minority of these youths (42.3%) had also previously used tobacco, drugs, or alcohol.

Youths in the current study participated in treatment with 184 of their caregivers. Three quarters of caregivers were youths' biological (70.9%) or adoptive parents (4.3%). A sizable minority of caregivers were grandparents (12.8%) or other family members (6.0%). The vast majority of caregivers (90.7%) lived with the youths most of the time and most (90.8%) participated in at least one therapy session with the youths. Most caregivers were female (85.7%). They ranged in age between 24 to 71 years and were an average age of 42.96 (SD=9.99) years old. 68.4% of caregivers self-identified as Caucasian, 25.4% identified as African American, 1.8% respectively identified as American Indian or other, 0.9% respectively identified as Asian, Hawaiian /Pacific Islander, or more than one race. Some 9.2% of caregivers self-identified as being Hispanic. Over half of caregivers (60.7%) had only a high school diploma or GED and a full quarter (25%) did not have a high school degree. Almost one third (29.3%) of caregivers earned less than the federal poverty threshold during the data collection period, with a household income of less than \$10,000 annually. Only one quarter of caregivers (25.2%) earned \$35,000 or more. Half of caregivers were either currently married (46.6%) or living with someone as if they were married (3.4%). The other half of caregivers were either never married (14.4%), divorced (22%), separated (8.5%), or widowed (5.1%). Caregivers reported that during the past year 37.1% had themselves been diagnosed with an emotional, behavioral, alcohol, or drug problem and 34.3% were receiving treatment for this diagnosis.

Youths in the sample participated in psychotherapy with 95 counselors employed either full time (80.2%) or part time (19.8%) at a large national for profit mental health organization. Counselors ranged in age between 22 to 68 years and were an average age

of 37.9 (SD=11.08) years old. Some 71.6% counselors were female. 67.1% of counselors were Caucasian; the remaining 32.9% were African American. 4.9% of counselors self-identified as Hispanic. A little over half of counselors (51.7%) had 6 or fewer years of experience working in human services. The remaining 48.2% had 7 or more years of experience working in human services. Almost two thirds of (61.1%) of counselors had 1 to 3 years of experience working in current region/office of the organization. Educationally, 72.2% of counselors had master's degrees, 22.8% had bachelor's degrees, and 5.1% had associate's degrees. Although most youths in the study had a single counselor for the duration of the study (62.3%), 26.3% had 2 counselors and 10.5% had 3 counselors. Counselors had an average of 4.43 (SD=3.78) patients participate in the study. Data for the current sample came from 26 regional offices in 8 states.

Procedure

Youths, caregivers and clinicians completed background questionnaires prior to starting treatment. They completed the Symptoms and Functioning Severity Scale (SFSS), the Brief Multidimensional Students' Life Satisfaction Scale-PTPB (BMSLSS-PTPB), and The Motivation for Youth Treatment Scale (MYTS) during their first session. They were then scheduled to complete the SFSS every other session. The BMSLSS-PTPB was flexibly scheduled to be completed either every two weeks or once a month. Youths were scheduled to complete the Youth Counseling Impact Scale (YCIS) (v.2) during their second session and every other session thereafter. Finally, counselors were scheduled to complete the Session Report Form (SRF) after each session. As noted above, respondents did not always complete measures when they were scheduled. Thus, youths have a

varying number of measurements depending on the initiation and frequency of treatment. See Table 1 for a description of the number of records per youth for each measure. To encourage candid responses, participants were asked to complete paper versions of the measures and place them in a sealed envelope. They then gave the sealed envelopes to data administrators at the clinical sites who entered completed measures into Contextualized Feedback Systems (CFS™), a computer based system which automatically generated feedback reports for the clinicians. The data then had all personal identifiers removed, were sent to the researchers, and were processed using a rigorous protocol in preparation for use in research. All study procedures were approved by the relevant institutional review boards and the principal investigator granted permission to use this dataset.

Measures

Youth and caregiver pretreatment characteristics. Information about youths' and caregivers' background characteristics came from background questionnaires completed by youths, caregivers, and clinicians prior to starting treatment. The youth version of the background form contains 14 questions that ask youths about their demographic characteristics such as age, gender, and ethnicity. The caregiver version of the background form contains 21 questions that ask caregivers about both their child's and their own demographic characteristics such as age, educational attainment, marital status, and household income and about their own mental health history. The clinician version of the background form contains 14 questions that ask clinicians about the youth's presenting problems, treatment history, referral source, and diagnosis if applicable.

Insight and action. Youths' responses to the Youth Counseling Impact Scale (YCIS) provided estimates of insight gained during sessions and action performed between sessions. It was scheduled for completion immediately following session every two weeks. The YCIS examines youths' perceptions of having made treatment progress with respect to (1) gaining insight into themselves, their feelings, and their problems following individual therapy sessions and (2) making behavioral changes outside of session (Riemer & Kearns, 2010). The YCIS has shown good psychometric properties in two prior samples, including strong internal consistency (Kearns et al., 2012; Riemer, Athay, Bickman, Breda, Kelley, & Vides de Andrade, 2012). It contains 6 youth appropriately-worded items that load onto a hierarchical G-factor model with one primary general factor, Counseling Impact, and two secondary factors, Insight ($\alpha = 0.87$) and Change ($\alpha = 0.82$; Kearns et al., 2012; Riemer & Kearns, 2010). The insight dimension assesses the extent to which youths perceive themselves to experience increases in self-awareness, problem recognition, and understanding of their emotions following a therapy session. Items for this factor were derived from the task impact dimension of the Session Impact Scale (SIS), an adult session impact measure described by Elliott and Wexler (1994). For this subscale, youths are asked to reflect on the therapy session they had just had, think about what the session "did" for them, and indicate their agreement with the following three statements: "I now understand my feelings better;" "I now have a better idea about how I can deal with my problems;" and "I now understand better what my strengths are." They were asked to place an X under the response option that best matched their level of agreement with the statement. The

response options were “Not At All,” “Only A Little,” “Somewhat,” “Quite A Bit,” or “Totally.”

The Change dimension assesses the extent to which youths’ perceive that they made behavioral changes outside of sessions in the past two weeks. These behavioral changes correspond directly to the action construct examined in the current study. Items for this measure were originally generated from interviews with clinicians and clinical supervisors, employed by the service provider involved in the larger feedback study (Bickman et al., 2007, 2010). Clinicians and supervisors created a list of the most typical positive behavioral changes they would expect to occur as a consequence of a treatment session. In this list they reported the actions they believed would best help them to assess whether treatment was having a positive short term impact. The research team conducted pilot tests with the resulting items in a sample of youths receiving mental health treatment. They then retained the items with the best psychometric properties and that most strongly loaded onto a common factor. For this subscale, youths were asked to reflect on what may have happened in the two weeks since the previous therapy session and indicate their agreement on whether the following three statements occurred in the past two weeks: “I tried things my counselor suggested;” “I used things that I learned in counseling;” and “I improved my behavior in my home.” They were then asked to place an X under the response option that best reflected their level of agreement with the statement. The response options were “Not At All,” “Only A Little,” “Somewhat,” “Quite A Bit,” or “Totally.”

Established cutoff scores classify both insight and action scores into low, medium, and high categories (Bickman et al., 2010). Insight scores can be interpreted as follows:

Low: < 3; Medium: 3.0 - 4.67; High > 4.67. Change (Action) scores can be interpreted as follows: Low: < 3; Medium: 3.0 - 4.67; High > 4.67.

Symptoms and Functioning. Youth, caregiver, and clinician ratings on the Symptoms and Functioning Scale (SFSS) provided measurements of treatment outcome in terms of symptom improvement. The SFSS, with a suggested administration schedule of every two weeks beginning with the first session, prompts youths, caregivers, and clinicians to rate the frequency with which they have noticed youths display a variety of symptoms and behaviors in the past two weeks on a Likert-type scale ranging from 1- Never to 5-Very Often. Higher scores suggest higher levels of symptoms and poorer functioning. The youth and caregiver versions of the SFSS contain 26 items while the clinician version contains 27 items. Based on previous research findings, the SFSS has good internal consistency across versions (Athay, Riemer, & Bickman, 2012). The SFSS provides a measure of total symptom severity and can be subdivided into Internalizing (ranging from $\alpha = 0.88-0.89$) and Externalizing ($\alpha = 0.89 - 0.93$) subscales. For the Internalizing dimension, it asks if youths have experienced any of the following in the last two weeks: "feeling unhappy or sad," "having little or no energy," "worrying about a lot of things," "feeling worthless," "having a hard time having fun," "feeling afraid others laugh," "feeling nervous/shy," "having a hard time sleeping," "feeling tense," or "crying easily." For the externalizing dimension it asks whether youths have done any of the following in the past two weeks: "throw things when mad," "get into trouble," "disobey adults," "interrupt others," "lie to get things," "hard time controlling temper," "threaten or bully others," "hang out with kids in trouble," "have a hard time paying attention," "get into fights with family/friends," "have a hard time sitting still," "annoy others on

purpose," "argue with adults," "have a hard time waiting turn." Finally, two remaining items ask about whether they "use drugs" or "drink alcohol" and do not load onto either dimension. Established cutoff scores classify both internalizing and externalizing scores into low, medium, and high categories for youth, caregiver, and counselor respondents (Bickman et al., 2010). Internalizing scores can be interpreted as follows for youths: Low: < 41; Medium: 41 - 58; High > 58; caregivers: Low: < 40; Medium: 40- 55; High > 55; and counselors: Low: < 41; Medium: 41- 56; High > 56. Externalizing scores can be interpreted as follows for youths: Low: < 42; Medium: 42- 57; High > 57; caregivers: Low: < 43; Medium: 43- 59; High > 59; and counselors: Low: <43; Medium: 43- 59; High > 59.

Life Satisfaction. The Brief Multidimensional Students' Life Satisfaction Scale-PTPB (BMSLSS-PTPB) provided a measure of youth life satisfaction. On the BMSLSS-PTPB youths rated their current level of satisfaction in 6 areas: (1) family life, (2) friendships, (3) school, (4) themselves, (5) where they live, and (6) overall life on a Likert-type scale ranging from 1-Very Dissatisfied to 5-Very Satisfied. Higher scores suggest that the youth has a higher level of life satisfaction. Based on previous research, the BMSLSS-PTPB has satisfactory internal consistency ($\alpha = 0.77$). The suggested administration of the BMSLSS is every two to four weeks beginning with the first session. Established cutoff scores classify youth life satisfaction scores into low, medium, and high categories (Bickman et al., 2010). Youth life satisfaction scores can be interpreted as follows: Low: < 3.3; Medium: 3.3 - 4.5; High > 4.5.

Treatment motivation. The Motivation for Youth Treatment Scale (MYTS) provided a measure of initial motivation for treatment (Breda & Riemer, 2012). Although

a caregiver version of this measure exists, this study only examined data from the youth version. The MYTS has good internal consistency ($\alpha = 0.82$ youth). It provides an overall motivation score and can be subdivided into two subscales: (1) problem recognition ($\alpha = 0.84$ youth) and (2) readiness for treatment ($\alpha = 0.83$ youth). The MYTS asks youths to rate on a 5 point Likert-type score the extent to which they agree with 8 items that describe how they might feel about their lives and about counseling. Possible ratings range from 1-Strongly Disagree to 5- Strongly Agree. Higher scores suggest stronger intrinsic motivation for treatment. Established cutoff scores classify treatment motivation into low, medium, and high categories (Bickman et al., 2010). Youth treatment motivation scores can be interpreted as follows: Low: < 2.50 ; Medium: $2.50 - 3.75$; High > 3.75 .

Session characteristics. Information about session level variables including who attended session, the location of the session, clinician's ratings of each session, and the main focus of each session was obtained through clinician ratings on the Session Report Form (SRF). The SRF is a clinician report measure developed for use after each session of any type of youth mental health treatment--to provide a standardized record of what occurred during the session (Kelley, de Andrade, Bickman, & Robin, 2012).

Data Analysis

I used hierarchical linear modeling, a robust method for testing nested and longitudinal data that can handle variably-spaced waves of data, varying number of measurement occasions, and missing data (Singer, 1998; Singer & Willett, 2003). Despite the robustness of this method, in severely unbalanced datasets, such as the one

used in the current study, boundary constraints and convergence problems can occur (Singer & Willett, 2003). When such issues occurred, I simplified models as recommended by Singer and Willett (2003) in order to fit the models.

In the study, time was nested within youths, and youths were nested within counselors. Preliminary analysis revealed, however, that there was no significant variance at the counselor level. Consequently, I used two level models of time nested within youths, using full information maximum likelihood estimation to test all hypotheses. I analyzed all models using proc mixed in SAS version 9.4 software (SAS Institute, Cary, NC). I followed a sequence of recommended strategies to fit each individual growth model (Singer & Willett, 2003). First, I fit unconditional means models, models without predictors, to (a) determine the appropriate level of nesting and (b) to partition the variance into between person and within person components. Second, I fit unconditional linear growth models, models that include only time as a predictor, to examine intraindividual (within persons) and interindividual (between persons) changes over time. Third, I fit models including both the time variable, and the time-varying covariates: *change in insight* and *change in action*--examined separately—to assess whether they improved prediction in explaining intra-individual differences in the outcome variable at each measurement occasion above and beyond the unconditional growth models. To quantify this improvement in prediction, I calculated Pseudo R^2_{error} statistics and evaluated the results. Pseudo R^2_{error} statistics provide an estimate of the proportional reduction of the within person variance in the outcome variable at each measurement occasion provided by the addition of a new level 1 variable (Singer & Willett, 2003). Larger Pseudo R^2_{error} statistics suggest a higher reduction of the within person variance.

Fourth, I added additional predictors to the models individually and assessed for fit with the overall model. Finally, I evaluated these nested models for fit using deviance statistics, the Akaike Information Criterion (AIC), and the Bayesian Information Criterion (BIC) and I dropped variables that were not significant and that did not improve model fit. For example, because there were no differences between youths in their rates of change over time as a function of age, I dropped the interaction between age and time from all models. The final models I will present provided the best fit and interpretability.

RESULTS

Descriptive Data

Youths began treatment with medium levels of treatment motivation ($M = 3.02$, $SD = 0.92$, range: 1-5). On average, youths in the study received 13.61 sessions ($SD = 9.07$; range 2-48 sessions), spread over 20.41 weeks ($SD = 14.21$; range 1-74 weeks). Length of sessions ranged from 30 minutes or less (3.3%) to over two hours (18.4%). Over half of all sessions (58.1%), however, were between 31 and 90 minutes; 20.2% of sessions were between 91 and 120 minutes. Most sessions (65.4%) took place in clients' homes with a smaller percentage of sessions occurring at clients' schools (9.4%), at outpatient clinics (13.6%), or other community locations (11.6%). Approximately half of all sessions focused on individual issues (50.3%) and the other half of all sessions focused family issues (49.7%). The three most common topics addressed during treatment were family problems (85.2%), behavioral problems (82.1%), and emotional problems (76.7%). Clinicians also frequently discussed youths' treatment progress during sessions (73.6%), youths' hopes about the future (58.4%), their motivation for treatment (46%), and their perceptions about what they were learning in counseling (39.3%).

Across all sessions, only a tiny percentage (1.8%) involved a youth or family crisis. Over half of sessions (53.7%) involved a meeting with both the youth and the caregiver, 42.8% were with youth alone, and a small percentage of sessions (3.5%) involved meeting with the caregiver alone. Some 15.2% of youths had sessions involving other family members and school staff participated in 1.2% of sessions.

Does insight predict action?

I used an alternative specification of the HLM model to test the following research questions: (1a) Does baseline insight predict baseline action? and (1b) Does baseline insight predict final action?(Singer & Willett, 2003). I used this model instead of a standard individual growth model because, despite showing significant variability over time, the change subscale on the YCIS, used to measure action, does not change linearly in this study population (Kearns et al., 2012). There were also not enough data to test curvilinear change models. Consequently, I used a model that allowed me to test whether earlier levels of insight predict later levels of action. This model is similar to traditional pre-post models but is more appropriate when using longitudinal data, because it uses all of the available longitudinal data and increases statistical power (Singer & Willett, 2003). It eliminates the need for traditional intercept and slope parameters and instead produces parameters that describe the influence of one variable, in this case baseline insight, on the initial and final status of another, in this case action. In order to fit this model, I recentered time so that the parameters represent initial and final status.

Here is an example of the level 1 model:

$$\text{Action}_{ti} = \pi_{oi} \left(\frac{\text{max time} - \text{Time}_{ti}}{\text{max time} - \text{min time}} \right) + \pi_{1i} \left(\frac{\text{Time}_{ti} - \text{min time}}{\text{max time} - \text{min time}} \right) + \varepsilon_{ti} \quad (1)$$

In the level 1 model, minimum time refers to the youth's first measurement occasion and maximum time refers to the youth's last measurement occasion. When Time = 0, as it

does on the first measurement occasion, the second term cancels out and the remaining parameters $\pi_{0i} + \varepsilon_{ti}$ represent the initial action score of person i . In contrast, when Time = final measurement occasion (e.g. 20 weeks), the first term cancels out and the remaining parameters, $\pi_{1i} + \varepsilon_{ti}$ represent the final action score of person i .

Here is an example of the Level-2 model:

$$\pi_{0i} = \gamma_{00} + \gamma_{01}(\textit{Baseline Insight}) + r_{0i} \quad (1a)$$

$$\pi_{1i} = \gamma_{10} + \gamma_{11}(\textit{Baseline Insight}) + r_{1i} \quad (1b)$$

In the Level 2 model, I grand mean centered baseline insight. Consequently, γ_{00} represents the initial action scores for people who began treatment with average levels of insight and γ_{01} represents the differential in initial status for those who began treatment either above or below the sample's average insight score. Correspondingly, γ_{10} represents the final action score for people who began treatment with average insight scores and γ_{11} represents the differential in final status for those who began treatment either above or below the group average of insight. For both γ_{00} and γ_{11} , positive numbers indicate that above average insight scores are associated with higher initial and final action scores respectively.

As presented in Table 2, youths on average began treatment with medium levels of action (γ_{00}) according to the measure's manual (Bickman et al., 2010). Higher baseline levels of insight were significantly associated with higher baseline levels of action (γ_{01}) and higher final levels of action (γ_{11}). Also, while youths increased on average 0.12

points in action from their initial to final measurements, their final levels of action remained in the medium range (γ_{10}).

Does action predict insight?

I used individual growth modeling with insight as my outcome variable, age as a fixed predictor of insight, and action as a time-varying predictor of insight to test the following research questions: (2a) Does baseline action predict baseline insight? (2b) Does baseline action affect the rate of change in insight? (2c) Does change in action predict change in insight over time? (2d) Does youth age predict baseline levels of insight?

When using a continuous time-varying predictor in an HLM model, such as action, Singer and Willet (2003) recommend using centering to deconstruct the variable into fixed and time-varying components. Doing so allows one to simultaneously assess the separate the effects of the baseline level of that covariate from the changes in that variable over time. Indeed, Athay and her colleagues used this method to deconstruct baseline symptom severity from change in symptom severity and predictors of youth life satisfaction (Athay, Kelley, & Dew-Reeves, 2012). Using the aforementioned study as an example, I separated the action variable into: (1) a time-invariant component: baseline action and (2) a time-varying component: change in action. In order to facilitate interpretation, I centered baseline action at the grand mean so that scores reflect individuals' baseline levels of action relative to the overall sample. Thus, individuals with positive scores have above average baseline action scores relative to the study sample, individuals with scores equal to 0 have average baseline action scores relative to the

study sample, and individuals with negative scores have below average baseline action scores relative to the study sample. Similarly, I computed change in action by subtracting each youth's action score for each observation from his or her baseline score. Thus, individuals with positive scores made gains in action during that assessment period relative to their baseline action scores, individuals with scores equal to 0 had no change in action relative to their baseline action scores, and individuals with negative scores decreased in action during that assessment period relative to their baseline scores. I also centered age at the sample mean of 14.65. Consequently, positive numbers for age refer to youths older than 15 years and negative numbers refer to youths younger than 15 years of age. The time variable refers to time in fortnights, a two week period, that best corresponded to the YCISv2's administration schedule.

Below is the Level 1, within youth model I used:

$$\text{Insight}_{ti} = \pi_{0i} + \pi_{1i}(\text{Time})_{ti} + \pi_{2i}(\text{Change in Action})_{ti} + e_{ti} \quad (2)$$

In Equation 2 Insight_{ti} represents the self-reported insight of youth i at time t . Time_{ti} represents the time in fortnights (a two week period) the youth has been in treatment. $\text{Change in Action}_{ti}$ represents the change in the youth's action score since baseline as rated by youth i at time t and e_{ti} represents the portion of youth i 's insight score that remains unpredicted at time t .

The Level-2 model used is specified as follows:

$$\pi_{0i} = \beta_{00} + \beta_{01}(\text{Age}) + \beta_{02}(\text{Baseline Action}) + r_{0i} \quad (2a)$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(\text{Baseline Action}) \quad (2b)$$

$$\pi_{2i} = \beta_{20} \quad (2c)$$

Equation 2a captures mean baseline insight when all other level 1 predictors are zero (β_{00}), the relationship between the youth's baseline insight score and centered youth age (β_{01}), the relationship between the youth's baseline insight scores and baseline action scores (β_{02}). Equation 2b captures the two week conditional linear rate of change in youth insight after controlling for the effect of change in action (β_{10}) and the association between the rate of change in youth insight and baseline action (β_{11}). Equation 2c captures the average difference over time in insight scores for youths who increased or decreased in action during therapy versus those who did not (β_{20}). The level 2 residual r_{0i} in Equation 2a is a random effect for the intercept that represents the deviation of each youth's initial insight ratings from the overall mean. The r_{0i} is assumed to be normally distributed, with a mean of 0, and variance of τ_{00} . Problems with model convergence prevented the estimation of the variances for either time π_{1i} or change in action π_{2i} . Consequently, I fixed τ_{11} and τ_{22} within the level 1 Equation.

As can be seen in Table 3, the addition of change in action to the insight unconditional insight growth model, reduced the unexplained within person variance (τ_e) and improved model fit as measured by the Deviance Statistic, AIC, and BIC criterion. Also, based on the results of Pseudo R^2_{error} statistic, 28% of the total within person variation in insight is associated with changes in action.

In the final model presented in Table 4, youths on average began treatment with medium levels of insight (β_{00}). Youths with above average levels of baseline action,

however, began treatment with baseline insight levels that were 0.75 points higher (β_{02}). Also, while youths on average increased 0.03 points in insight every two weeks during therapy (β_{10}), youths who made larger increases in their action scores, also made greater increases in insight (β_{20}). There was not, however, a significant relationship between baseline action and the rate of change in insight (β_{11}). Youth age was also not associated with baseline levels of insight (β_{01}). There was significant variability between youths (τ_{00}) in their baseline insight scores and within youths (τ_{ϵ}) in their insight scores at each measurement occasion.

Insight, Action and Internalizing/Externalizing Symptom Severity

I fit 12 individual growth models with two separate outcome variables: (1) Youth Internalizing Symptoms and Functioning and (2) Youth Externalizing Symptoms and Functioning. I fit two sets of models for each of these outcome variables. One set of models examined the effect of insight on each of the outcome variables and tested the following research questions: (3a) Does baseline insight predict baseline internalizing symptom severity? (3b) Does baseline insight predict rate of change in internalizing symptom severity? (3c) Does change in insight predict change in internalizing symptom severity over time? (3d) Does age predict baseline internalizing symptoms? (4a) Does baseline insight predict baseline externalizing symptom severity? (4b) Does baseline insight predict rate of change in externalizing symptom severity? (4c) Does change in insight predict change in externalizing symptom severity over time? (4d) Does age predict baseline externalizing symptoms?

Another set of models examined the effect of action on each of the outcome variables and tested the following research questions: (5a) Does baseline action predict baseline internalizing symptom severity? (5b) Does baseline action predict rate of change in internalizing symptom severity? (5c) Does change in action predict change in internalizing symptom severity over time? (6a) Does baseline action predict baseline externalizing symptom severity? (6b) Does baseline action predict rate of change in externalizing symptom severity? (6c) Does change in action predict change in externalizing symptom severity over time?

Youths, caregivers, and counselors all provided ratings of youth internalizing and externalizing symptoms. Consequently, I ran separate models for each group of respondents. Models all had identical predictors other than the inclusion of either insight or action. Therefore, in addition to the aforementioned variables--and a variable for time--all of the models had the following predictors as control variables: age, gender, parent participation in session, baseline treatment severity, and baseline treatment motivation. As in the previous model for research question 2, I deconstructed insight and action into (1) time-invariant components: baseline insight and baseline action (2) time-varying components: change in insight and change in action. In order to facilitate interpretation, I centered baseline insight and baseline action at the grand mean so that scores reflect individuals' baseline insight or action scores relative to the overall sample. Thus, individuals with positive scores have above average baseline insight or action scores and individuals with negative scores have below average baseline insight or action scores. Similarly, I computed change in insight and change in action by subtracting each youth's corresponding insight or action score at each measurement occasion from his or

her baseline score. Thus, individuals with positive scores made gains in insight or action, individuals with scores equal to 0 had no change, and individuals with negative scores decreased in insight or action during that measurement occasion. For the 12 models with internalizing or externalizing symptom severity as the outcome variable, I scaled time in fortnights (a two week period) since the start of treatment, with 0 referring to the beginning of treatment. Measuring time in fortnights matched the measures' respective administration periods and allowed scores for the SFSS and YCIS, which had been administered on alternating weeks, to overlap. The results for all models presented should be considered as being conditional on controlling for the aforementioned variables.

To clarify the analyses I conducted for research questions 3a-3d, I provide an example of the model I used below. The Level 1, within youth model, predicts the effect of change in insight on youth self-rated internalizing symptoms:

$$YSFSSINT_{ti} = \pi_{0i} + \pi_{1i}(\text{Time})_{ti} + \pi_{2i}(\text{Change in Insight})_{ti} + \pi_{3i}(\text{Parentpart})_{ti} + e_{ti} \quad (3)$$

In Equation 3 YSFSSINT_{ti} represents the self-rated internalizing symptom and functioning severity of youth *i* at time *t*. Time_{ti} represents the time in fortnights the youth has been in treatment. Change in Insight_{ti} represents the change in the youth's insight since baseline as rated by youth *i* at time *t*. Parentpart_{ti} represents whether a parent participated in a session as for youth *i* at time *t* and e_{ti} represents the portion of youth *i*'s internalizing symptom severity score that remains unpredicted at time *t*.

An example of the Level-2 model is specified below:

$$\pi_{0i} = \beta_{00} + \beta_{01}(\text{Age}) + \beta_{02}(\text{Gender}) + \beta_{03}(\text{Severity}) + \beta_{04}(\text{Motivation}) + \beta_{05}(\text{Baseline Insight}) + r_{0i} \quad (3a)$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(\text{Baseline Insight}) + r_{1i} \quad (3b)$$

$$\pi_{2i} = \beta_{20} + r_{2i} \quad (3c)$$

$$\pi_{3i} = \beta_{30} \quad (3d)$$

Equation 3a captures mean baseline youth internalizing symptom severity when all other level 1 predictors are equal to 0 (β_{00}), the relationship between mean baseline youth internalizing symptom severity and centered youth age (β_{01}), the relationship between mean baseline youth internalizing symptom severity and youth gender (β_{02}), the differential in mean baseline internalizing symptom severity scores for youths who began treatment with symptom severity scores above or below the group average (β_{03}), the relationship between mean baseline youth internalizing symptom severity and baseline treatment motivation (β_{04}), and the relationship between mean baseline youth internalizing symptom severity and baseline insight (β_{05}). Equation 3b captures the conditional rate of change in youth internalizing symptom severity in fortnights after controlling for the effects of change in insight (β_{10}) and the association between the rate of change in youth internalizing symptom severity and baseline insight (β_{11}). Equation 3c captures the average difference over time in internalizing symptom severity scores between youths who increased or decreased in insight and those who did not (β_{20}). Finally, equation 3d captures the average difference over time in internalizing symptoms severity scores between sessions where parents participated and those where they did not (β_{30}). The level 2 residuals r_{0i} , r_{1i} , and r_{2i} in equations 3a through 3c represent random

effects for the intercept and the two slopes. The r_{0i} represents the deviation of each youth's initial internalizing symptom severity ratings from the overall mean. The r_{1i} represents each youth's deviation from the mean linear rate of change. The r_{2i} represents each youth's deviation from the mean change in insight. The level 2 residuals r_{0i} , r_{1i} , and r_{2i} are assumed to be normally distributed, with means of 0, and variances of τ_{00} , τ_{11} , τ_{22} respectively. I did not estimate the r_{3i} random effect for parent participation and thus fixed τ_{33} within the level one model.

To clarify the analyses I conducted for research questions 4a-4d, I provide an example of the model I used. The Level 1, within youth model, predicts the effect of insight on youth self-rated externalizing symptoms:

$$YFSSEXT_{ti} = \pi_{0i} + \pi_{1i}(\text{Time})_{ti} + \pi_{2i}(\text{Change in Insight})_{ti} + \pi_{3i}(\text{Parentpart})_{ti} + e_{ti} \quad (4)$$

In Equation 4 $YFSSEXT_{ti}$ represents the self-rated externalizing symptoms and functioning severity of youth i at time t . Time_{ti} represents the time in fortnights the youth has been in treatment. $\text{Change in Insight}_{ti}$ represents the change in the youth's insight since baseline as rated by youth i at time t . Parentpart_{ti} represents whether a parent participated in a session as for youth i at time t and e_{ti} represents the portion of youth i 's externalizing symptom severity score that remains unpredicted at time t .

An example of the Level-2 model is specified below:

$$\pi_{0i} = \beta_{00} + \beta_{01}(\text{Age}) + \beta_{02}(\text{Gender}) + \beta_{03}(\text{Severity}) + \beta_{04}(\text{Motivation}) + \beta_{05}(\text{Baseline Insight}) + r_{0i} \quad (4a)$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(\text{Baseline Insight}) + r_{1i} \quad (4b)$$

$$\pi_{2i} = \beta_{20} + r_{2i} \quad (4c)$$

$$\pi_{3i} = \beta_{30} \quad (4d)$$

Equation 4a captures mean baseline youth externalizing symptom severity when all other level 1 predictors are equal to 0 (β_{00}), the relationship between mean baseline youth externalizing symptom severity and centered youth age (β_{01}), the relationship between mean baseline youth externalizing symptom severity and youth gender (β_{02}), the differential in mean baseline externalizing symptom severity scores for youths who began treatment with symptom severity scores above or below the group average (β_{03}), the relationship between mean baseline youth externalizing symptom severity and baseline treatment motivation (β_{04}), and the relationship between mean baseline youth externalizing symptom severity and baseline insight (β_{05}). Equation 4b captures the conditional rate of change in youth externalizing symptom severity in fortnights after controlling for the effects of change in insight (β_{10}) and the association between the rate of change in youth externalizing symptom severity and baseline insight (β_{11}). Equation 4c captures the average difference over time in externalizing symptom severity scores between youths who increased or decreased in insight and those who did not (β_{20}). Finally, equation 4d captures the average difference over time in externalizing symptoms severity scores between sessions where parents participated and those where they did not (β_{30}). The level 2 residuals r_{0i} , r_{1i} , and r_{2i} in equations 4a through 4c represent random effects for the intercept and the two slopes. The r_{0i} represents the deviation of each youth's initial externalizing symptom severity ratings from the overall mean. The r_{1i} represents each youth's deviation from the mean linear rate of change. The r_{2i} represents

each youth's deviation from the mean change in insight. The level 2 residuals r_{0i} , r_{1i} , and r_{2i} are assumed to be normally distributed, with means of 0, and variances of τ_{00} , τ_{11} , τ_{22} respectively. I did not estimate the r_{3i} random effect for parent participation and thus fixed τ_{33} within the level one model.

To clarify the analyses I conducted for research questions 5a-5c, I provide an example of the model I used. The Level 1, within youth model, predicts the effect of change in action on youth self-rated internalizing symptoms:

$$Y_{SFSSINT_{ti}} = \pi_{0i} + \pi_{1i}(Time)_{ti} + \pi_{2i}(Change\ in\ Action)_{ti} + \pi_{3i}(Parentpart)_{ti} + e_{ti} \quad (5)$$

In Equation 5 $Y_{SFSSINT_{ti}}$ represents the self-rated internalizing symptom and functioning severity of youth i at time t . $Time_{ti}$ represents the time in fortnights the youth has been in treatment. $Change\ in\ Action_{ti}$ represents the change in the youth's action since baseline as rated by youth i at time t . $Parentpart_{ti}$ represents whether a parent participated in a session as for youth i at time t and e_{ti} represents the portion of youth i 's internalizing symptom severity score that remains unpredicted at time t .

An example of the Level-2 model is specified below:

$$\pi_{0i} = \beta_{00} + \beta_{01}(Age) + \beta_{02}(Gender) + \beta_{03}(Severity) + \beta_{04}(Motivation) + \beta_{05}(Baseline\ Action) + r_{0i} \quad (5a)$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(Baseline\ Action) + r_{1i} \quad (5b)$$

$$\pi_{2i} = \beta_{20} + r_{2i} \quad (5c)$$

$$\pi_{3i} = \beta_{30} \quad (5d)$$

Equation 5a captures mean baseline youth internalizing symptom severity when all other level 1 predictors are equal to 0 (β_{00}), the relationship between mean baseline youth internalizing symptom severity and centered youth age (β_{01}), the relationship between mean baseline youth internalizing symptom severity and youth gender (β_{02}), the differential in mean baseline internalizing symptom severity scores for youths who began treatment with symptom severity scores above or below the group average (β_{03}), the relationship between mean baseline youth internalizing symptom severity and baseline treatment motivation (β_{04}), and the relationship between mean baseline youth internalizing symptom severity and baseline action (β_{05}). Equation 5b captures the conditional rate of change in youth internalizing symptom severity in fortnights after controlling for the effects of change in action (β_{10}) and the association between the rate of change in youth internalizing symptom severity and baseline action (β_{11}). Equation 5c captures the average difference over time in internalizing symptom severity scores between youths who increased or decreased in action and those who did not (β_{20}). Finally, equation 5d captures the average difference over time in internalizing symptoms severity scores between sessions where parents participated and those where they did not (β_{30}).

The level 2 residuals r_{0i} , r_{1i} , and r_{2i} in equations 5a through 5c represent random effects for the intercept and the two slopes. The r_{0i} represents the deviation of each youth's initial internalizing symptom severity ratings from the overall mean. The r_{1i} represents each youth's deviation from the mean linear rate of change. The r_{2i} represents each youth's deviation from the mean change in action. The level 2 residuals r_{0i} , r_{1i} , and r_{2i} are assumed to be normally distributed, with means of 0, and variances of τ_{00} , τ_{11} , τ_{22} respectively.

Although I estimated the r_{2i} 's for both youths and counselors, I was unable to estimate the r_{2i} 's in this model for caregivers due to problems with model convergence. Consequently, in order to run this model for caregivers, I had to simplify it by fixing the τ_{22} within the level 1 model. I also did not estimate the r_{3i} random effect for parent participation and thus fixed τ_{33} within the level one model.

To clarify the analyses I conducted for research questions 6a-6c, I provide an example of the model I used. The Level 1, within youth model predicts the effect of change in action on youth self-rated externalizing symptoms:

$$YFSSEXT_{ti} = \pi_{0i} + \pi_{1i}(\text{Time})_{ti} + \pi_{2i}(\text{Change in Action})_{ti} + \pi_{3i}(\text{Parentpart})_{ti} + e_{ti} \quad (6)$$

In Equation 6 $YFSSEXT_{ti}$ represents the self-rated externalizing symptom and functioning severity of youth i at time t . Time_{ti} represents the time in fortnights the youth has been in treatment. $\text{Change in Action}_{ti}$ represents the change in the youth's action since baseline as rated by youth i at time t . Parentpart_{ti} represents whether a parent participated in a session as for youth i at time t and e_{ti} represents the portion of youth i 's externalizing symptom severity score that remains unpredicted at time t .

An example of the Level-2 model is specified below:

$$\pi_{0i} = \beta_{00} + \beta_{01}(\text{Age}) + \beta_{02}(\text{Gender}) + \beta_{03}(\text{Severity}) + \beta_{04}(\text{Motivation}) + \beta_{05}(\text{Baseline Action}) + r_{0i} \quad (6a)$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(\text{Baseline Action}) + r_{1i} \quad (6b)$$

$$\pi_{2i} = \beta_{20} + r_{2i} \quad (6c)$$

$$\pi_{3i} = \beta_{30} \tag{6d}$$

Equation 6a captures mean baseline youth externalizing symptom severity when all other level 1 predictors are equal to 0 (β_{00}), the relationship between mean baseline youth externalizing symptom severity and centered youth age (β_{01}), the relationship between mean baseline youth externalizing symptom severity and youth gender (β_{02}), the differential in mean baseline externalizing symptom severity scores for youths who began treatment with symptom severity scores above or below the group average (β_{03}), the relationship between mean baseline youth externalizing symptom severity and baseline treatment motivation (β_{04}), and the relationship between mean baseline youth externalizing symptom severity and baseline action (β_{05}). Equation 6b captures the conditional rate of change in youth externalizing symptom severity in fortnights after controlling for the effects of change in action (β_{10}) and the association between the rate of change in youth externalizing symptom severity and baseline action (β_{11}). Equation 6c captures the average difference over time in externalizing symptom severity scores between youths who increased or decreased in action and those who did not (β_{20}). Finally, equation 6d captures the average difference over time in externalizing symptoms severity scores between sessions where parents participated and those where they did not (β_{30}).

The level 2 residuals r_{0i} , r_{1i} , and r_{2i} in equations 6a through 6c represent random effects for the intercept and the two slopes. The r_{0i} represents the deviation of each youth's initial externalizing symptom severity ratings from the overall mean. The r_{1i} represents each youth's deviation from the mean linear rate of change. The r_{2i} represents each youth's deviation from the mean change in action. The level 2 residuals r_{0i} , r_{1i} , and r_{2i} are assumed

to be normally distributed, with means of 0, and variances of τ_{00} , τ_{11} , τ_{22} respectively. Although I estimated the r_{2i} 's for both youths and counselors, I was unable to estimate the r_{2i} 's in this model for caregivers due to problems with model convergence. Consequently, in order to run this model for caregivers, I had to simplify it by fixing the τ_{22} within the level 1 model. I also did not estimate the r_{3i} random effect for parent participation and thus fixed τ_{33} within the level one model.

Results for all models predicting internalizing or externalizing symptom severity are synthesized below to simplify interpretation. As can be seen in Tables 5 through 10, the inclusion of *change in insight* or *change in action* to the unconditional growth models for internalizing and externalizing symptoms, reduced the unexplained within person variance (τ_e) and improved model fit as measured by the Deviance Statistic, AIC, and BIC criteria for all models. Based on the Pseudo R^2_{error} statistics, changes in insight explained between 46-61% of the within person variation in internalizing symptoms and between 46-65% of the within person variation in externalizing symptoms. Similarly, changes in action explained between 50-60% of the within person variation in internalizing symptoms and between 45-53% of the within person variation in externalizing symptoms. These percentages do not total to 100 percent because of the significant shared variance between insight and action.

As presented in the final models seen in Tables 11 through 14, all respondents across all models reported that youths began treatment with medium levels of internalizing symptoms and externalizing symptoms according to the measure's manual (β_{00}) (Bickman et al., 2010). Youth age was not associated with baseline levels of internalizing symptoms (β_{01}). Caregivers and counselors, however, reported that younger

youths began treatment with higher externalizing symptoms (β_{01}). Youths reported that females began treatment with significantly higher baseline internalizing symptoms than males, and counselors reported that boys began treatment with higher levels of baseline externalizing symptoms (β_{02}). Caregivers did not report any gender differences. Youths with above average overall symptom severity began treatment with significantly higher levels of internalizing and externalizing symptoms (β_{03}). Youths with above average overall symptom severity began treatment with internalizing symptoms that were between 0.50 and 0.63 points higher and with externalizing symptoms that were between 0.63 and 0.87 points higher than youths with average symptom severity.

Caregivers reported that youths with higher baseline motivation also began treatment with significantly higher levels of internalizing symptoms; youths and counselors did not report this association (β_{04}). Baseline levels of insight or action were not associated with internalizing or externalizing symptoms for youths (β_{05}). With respect to time, youths reported that they decreased in both internalizing and externalizing symptoms over time (β_{10}). Specifically, they reported improving at a rate of between 0.60 to 0.83 points every two weeks for internalizing symptoms and between 0.97 to 1.16 points every two weeks for externalizing symptoms. Counselors reported that youths decreased in internalizing symptoms at a rate of between 0.48 to 0.52 points every two weeks for internalizing symptoms but did not report a change in externalizing symptoms in the final models. Of note, both counselors and caregivers reported a decrease in externalizing symptoms over time in the unconditional growth models, but the relationship between time and externalizing symptoms was no longer statistically significant after the inclusion of either change in insight or change in action. Unlike

counselors or youths, caregivers did not report a decrease in internalizing symptoms in any of the models. I include time in all caregiver models anyway for the sake of consistency, because the error term for time τ_{11} is significant and thus suggests significant variability in the rate of change, because the inclusion of time reduced the within-person variability in internalizing symptoms severity, and because the inclusion of time improved overall model fit as judged by the deviance statistic, AIC, and BIC indexes. This strategy later proved useful because it revealed that, despite caregivers reporting that the average youth did not decrease in internalizing symptoms over time (β_{10}), they reported that youths who increased in insight during treatment demonstrated a significant increase in internalizing symptoms over time. Caregivers also reported that youths who increased in action during treatment demonstrated a significant decrease in externalizing symptoms over time (β_{20}). Youths and counselors did not report an average difference over time in internalizing or externalizing scores between youths who changed in insight or action and those who did not. None of the respondents reported a significant relationship between either baseline insight or baseline action on the rate of change in internalizing or externalizing symptoms over time (β_{11}). After controlling for insight, youths reported a significant increase in externalizing symptoms over time between sessions where parents participated and those where they did not (β_{30}). This relationship was not present in the externalizing model controlling for action. Neither caregivers nor counselors reported a significant relationship between parental participation in therapy and externalizing symptoms over time.

There was significant variability between youths in their starting levels of internalizing and externalizing symptoms (τ_{00}) and rate of change in internalizing and

externalizing symptoms over time (τ_{11}). There was also significant variability in the differential levels of internalizing and externalizing symptoms between those who increased in insight and action over time and those who did not (τ_{22}), across all models and respondents, with the exception of two models for which I could not estimate the parameters. As mentioned previously, I was unable to estimate the r_{2i} 's in the models examining the relationship between action and caregiver reports of internalizing or externalizing symptoms due to problems with model convergence. Consequently, in order to run these two models, I had to simplify them by fixing the τ_{22} 's for these models within level 1. There was also significant variability within youths across all models in their internalizing symptoms and externalizing symptom scores at each measurement occasion (τ_{ϵ}).

Insight, Action, and Youth Life Satisfaction

I fit 2 individual growth models with youth life satisfaction as the outcome variable: One model examined the effect of insight on youth life satisfaction and another set examined the effect of action on youth life satisfaction. The models tested the following research questions: (7a) Does baseline insight predict baseline youth life satisfaction? (7b) Does baseline insight predict rate of change in youth life satisfaction? (7c) Does change in insight predict change in youth life satisfaction over time? (7d) Does age predict baseline life satisfaction? (8a) Does baseline action predict baseline youth life satisfaction? (8b) Does baseline action predict rate of change in youth life satisfaction? (8c) Does change in action predict change in youth life satisfaction over time?

In addition to the aforementioned variables and a variable for time, both models had the following predictors as control variables: age, gender, parent participation in session, baseline treatment severity, and baseline treatment motivation. As in the previous model for research question 2, I deconstructed insight and action into (1) time-invariant components: baseline insight and baseline action (2) time-varying components: change in insight and change in action. In order to facilitate interpretation, I centered baseline insight and baseline action at the grand mean so that scores reflect individuals' baseline insight or action scores relative to the overall sample. Thus, individuals with positive scores have above average baseline insight or action scores and individuals with negative scores have below average baseline insight or action scores. Similarly, I computed change in insight and change in action by subtracting each youth's corresponding insight or action score at each measurement occasion from his or her baseline score. Thus, individuals with positive scores made gains in insight or action, individuals with scores equal to 0 had no change, and individuals with negative scores decreased in insight or action during that measurement occasion.

For these 2 models examining life satisfaction as a treatment outcome, I scaled the variable for time in months since the beginning of treatment, with 0 referring to the start of treatment, because it most closely matched the monthly administration schedule of the BMSLSS-PTPB. Further, a previous study using this measure, also measured time in months (Athay, Kelley, et al., 2012). I centered age at the sample mean of 14.65, so that positive numbers refer to youths older than 15 years and negative numbers refer to youths younger than 15 years of age. I also centered baseline symptom severity and baseline treatment motivation at the grand mean so that scores refer to individuals who are above

or below average with respect to symptom severity and treatment motivation. I coded gender so that 0 equals male and 1 equals female. I coded parent participation, a time-varying covariate, so that 0 equals no participation in that session and 1 equals parent participation in that session. Given the centering and coding of the aforementioned variables, the intercept's value for each of the models could be interpreted as baseline life satisfaction scores for youths of average age, who are male, have average baseline symptom severity, average baseline treatment motivation, average baseline insight or action scores, and whose parents did not participate in that session. The results for all models presented should therefore be considered as being conditional on controlling for the aforementioned variables.

To clarify the analyses I conducted, I provide an example of the model I used to test research questions 7a-7d. The Level 1, within youth model, predicts the effect of change in insight on youth rated life satisfaction:

$$\text{BMSLSS}_{ti} = \pi_{0i} + \pi_{1i}(\text{Time})_{ti} + \pi_{2i}(\text{Change in Insight})_{ti} + \pi_{3i}(\text{Parentpart})_{ti} + e_{ti} \quad (7)$$

In Equation 7 BMSLSS_{ti} represents the self-rated life satisfaction of youth i at time t . Time_{ti} represents the time in months the youth has been in treatment. $\text{Change in Insight}_{ti}$ represents the change in the youth's insight since baseline as rated by youth i at time t . Parentpart_{ti} represents whether a parent participated in a session as for youth i at time t and e_{ti} represents the portion of youth i 's life satisfaction score that remains unpredicted at time t .

An example of the Level-2 model is specified below:

$$\pi_{0i} = \beta_{00} + \beta_{01}(\text{Age}) + \beta_{02}(\text{Gender}) + \beta_{03}(\text{Severity}) + \beta_{04}(\text{Motivation}) + \beta_{05}(\text{Baseline Insight}) + r_{0i} \quad (7a)$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(\text{Baseline Insight}) + r_{1i} \quad (7b)$$

$$\pi_{2i} = \beta_{20} + r_{2i} \quad (7c)$$

$$\pi_{3i} = \beta_{30} \quad (7d)$$

Equation 7a captures mean baseline youth life satisfaction when all other level 1 predictors are equal to 0 (β_{00}), the relationship between mean baseline youth life satisfaction and centered youth age (β_{01}), the relationship between mean baseline youth life satisfaction and youth gender (β_{02}), the differential in mean baseline youth life satisfaction for youths who began treatment with symptom severity scores above or below the group average (β_{03}), the relationship between mean baseline youth life satisfaction and baseline treatment motivation (β_{04}), and the relationship between mean baseline youth life satisfaction and baseline insight (β_{05}). Equation 7b captures the conditional rate of change in youth life satisfaction in months after controlling for the effects of change in insight (β_{10}) and the association between the rate of change in youth life satisfaction and baseline insight (β_{11}). Equation 7c captures the average difference over time in life satisfaction between youths who increased or decreased in insight and those who did not (β_{20}). Finally, equation 7d captures the average difference over time in life satisfaction between sessions where parents participated and those where they did not (β_{30}). The level 2 residuals r_{0i} , r_{1i} , and r_{2i} in equations 7a through 7c represent random effects for the intercept and the two slopes. The r_{0i} represents the deviation of each

youth's baseline life satisfaction scores from the overall mean. The r_{1i} represents each youth's deviation from the mean linear rate of change. The r_{2i} represents each youth's deviation from the mean change in insight. The level 2 residuals r_{0i} , r_{1i} , and r_{2i} are assumed to be normally distributed, with means of 0, and variances of τ_{00} , τ_{11} , τ_{22} respectively. I did not estimate the r_{3i} random effect for parent participation and thus fixed τ_{33} within the level one model.

To clarify the analyses I conducted, I provide an example of the model used for testing research questions 8a-8c below. The Level 1, within youth model, tests the effect of change in action on youth self-rated life satisfaction:

$$\text{BMSLSS}_{ti} = \pi_{0i} + \pi_{1i}(\text{Time})_{ti} + \pi_{2i}(\text{Change in Action})_{ti} + \pi_{3i}(\text{Parentpart})_{ti} + e_{ti} \quad (8)$$

In Equation 8 BMSLSS_{ti} represents the self-rated life satisfaction of youth i at time t . Time_{ti} represents the time in months the youth has been in treatment. $\text{Change in Action}_{ti}$ represents the change in the youth's action since baseline as rated by youth i at time t . Parentpart_{ti} represents whether a parent participated in a session as for youth i at time t and e_{ti} represents the portion of youth i 's life satisfaction score that remains unpredicted at time t .

An example of the Level-2 model is specified below:

$$\pi_{0i} = \beta_{00} + \beta_{01}(\text{Age}) + \beta_{02}(\text{Gender}) + \beta_{03}(\text{Severity}) + \beta_{04}(\text{Motivation}) + \beta_{05}(\text{Baseline Action}) + r_{0i} \quad (8a)$$

$$\pi_{1i} = \beta_{10} + \beta_{11}(\text{Baseline Action}) + r_{1i} \quad (8b)$$

$$\pi_{2i} = \beta_{20} + r_{2i} \quad (8c)$$

$$\pi_{3i} = \beta_{30} \quad (8d)$$

Equation 8a captures mean baseline youth life satisfaction when all other level 1 predictors are equal to 0 (β_{00}), the relationship between mean baseline youth life satisfaction and centered youth age (β_{01}), the relationship between mean baseline youth life satisfaction and youth gender (β_{02}), the differential in mean baseline youth life satisfaction for youths who began treatment with symptom severity scores above or below the group average (β_{03}), the relationship between mean baseline youth life satisfaction and baseline treatment motivation (β_{04}), and the relationship between mean baseline youth life satisfaction and baseline action (β_{05}). Equation 8b captures the conditional rate of change in youth life satisfaction in months after controlling for the effects of change in action (β_{10}) and the association between the rate of change in youth life satisfaction and baseline action (β_{11}). Equation 8c captures the average difference over time in life satisfaction between youths who increased or decreased in action and those who did not (β_{20}). Finally, equation 8d captures the average difference over time in life satisfaction between sessions where parents participated and those where they did not (β_{30}). The level 2 residuals r_{0i} , r_{1i} , and r_{2i} in equations 8a through 8c represent random effects for the intercept and the two slopes. The r_{0i} represents the deviation of each youth's baseline life satisfaction scores from the overall mean. The r_{1i} represents each youth's deviation from the mean linear rate of change. The r_{2i} represents each youth's deviation from the mean change in action. The level 2 residuals r_{0i} , r_{1i} , and r_{2i} are assumed to be normally distributed, with means of 0, and variances of τ_{00} , τ_{11} , τ_{22} respectively. I

did not estimate the r_{31} random effect for parent participation and thus fixed τ_{33} within the level one model.

As presented in Table 15, the inclusion of either *change in insight* or *change in action* to the unconditional growth model for life satisfaction, reduced the unexplained within person variance in life satisfaction and improved model fit as measured by the Deviance Statistic, AIC, and BIC criteria in both models. Based on the results of the Pseudo R^2_{error} statistics, 83% of the total within person variation in life satisfaction is associated with changes in insight and 61% of the total within person variation in life satisfaction is associated with changes in action. These percentages do not total to 100 percent because of the significant shared variance between insight and action.

Across both final models presented in Table 16 youths began treatment with medium levels of life satisfaction according to the measure's manual (β_{00}). Youths did not report differences in baseline levels of life satisfaction based on youth gender (β_{02}), or treatment motivation (β_{04}) in either model. Younger youths had higher levels of baseline life satisfaction than older youths, in the action model (β_{01}). There were no age related differences in the insight model. Youths with above average overall symptom severity began treatment with baseline life satisfaction scores that were 0.03 points lower than youths with average symptom severity (β_{03}). Youths with either above average baseline levels of insight or above average levels of action began treatment with higher levels of life satisfaction (β_{05}). Youths did not report significant increases in life satisfaction after controlling for change in insight or change in action (β_{10}). In the unconditional growth model of life satisfaction, however, youths increased in life satisfaction at a rate of 0.04 points per month. The parameter for time, however, was no longer significant in either

model after the inclusion of change in insight or change in action to the model. There was also no significant effect of baseline insight on the rate of change in life satisfaction over time; There was, however, a significant effect of baseline action on the rate of change in life satisfaction (β_{11}). Youths who began treatment with above average baseline action scores increased in life satisfaction faster than youths who began with average action scores. Increases in action were also associated with a greater increase in life satisfaction over time; Changes in insight, however, were not associated with changes in life satisfaction over time (β_{20}). No differences were found in life satisfaction over time between sessions where parents participated and those where they did not (β_{30}).

In both models, there was significant variability between youths (τ_{00}) in their starting levels of life satisfaction (τ_{11}), rate of change in life satisfaction over time, and average difference in life satisfaction over time between those who increased in insight and action those who did not (τ_{22}). There was also significant variability in life satisfaction within youths at each measurement occasion (τ_{ϵ}).

DISCUSSION

In this study, I examined the relationship among insight, action, and treatment outcomes in youths receiving psychotherapy as usual. Specifically, I examined whether insight and action predict one another and whether insight and action independently predict internalizing symptoms, externalizing symptoms, and life satisfaction over time after controlling for age, gender, baseline symptom severity, baseline motivation for treatment, and parent participation in treatment. Overall, the findings support the hypotheses that insight and action predict one another and that insight and action have both indirect and direct effects on treatment outcomes. The results also confirmed my prediction that there would not be age related differences in insight due to youth age.

Specifically, insight and action predicted one another at both baseline and over time. At baseline youths with above average insight scores also had above average action scores. Likewise, youths who began treatment with above average action scores also had above average baseline insight scores. This relationship remained over time. Youths with higher baseline insight scores also had higher action scores at the final measurement occasion. There was not, however, a significant relationship between baseline action and the rate of change in insight. Instead, youths who increased in their levels of action over time increased in insight over time. Changes in action also helped explain within person fluctuations in insight at each measurement occasion.

These findings suggest that youths with higher starting levels of insight are also more likely to make positive behavioral changes at the very beginning of therapy. High levels of baseline action, however, does not in and of itself lead to faster increases in

insight. Instead, increasing in action is a better predictor of increasing in insight than starting levels of action. For example, framed in terms of the CBT approach for the treatment of youth anxiety, this suggests that confronting the feared stimulus leads to realizing there is nothing to fear. Unfortunately, I was unable to test whether the reverse was true due to limitations in the data. However, findings suggest that having greater recognition that there is nothing to fear at baseline is associated with being more likely to confront the feared stimulus by the final measurement occasion. These findings imply that action may help you understand yourself better and that understanding yourself better may make you more likely to do something about your problem. Furthermore, the finding that insight and action promote one another is consistent with the psychodynamic (Stricker, 2006) and the CBT perspectives (Beck, 1995; Grosse Holtforth et al., 2007) discussed in the introduction. This finding, however, is only partially consistent with the assimilation model of psychotherapy and the process-experiential perspective that hypothesize that insight predicts action, but does not hypothesize the reverse (Pascual-Leone & Greenberg, 2007; Stiles et al., 1990).

The study however did not confirm my hypotheses about the relationship between insight or action, on the one hand, and internalizing or externalizing symptoms on the other. I had predicted that both insight and action would predict baseline internalizing and externalizing symptom severity. However, neither baseline insight nor action were associated with baseline internalizing or externalizing symptoms. I had also predicted that both baseline insight and action and changes in each would predict faster and greater improvements in internalizing and externalizing symptoms. Again contrary to my

predictions, there was no relationship between baseline insight or baseline action on the rate of change in internalizing or externalizing symptoms over time.

With respect to changes in insight and action, I had expected that these changes would be associated with decreases in both internalizing and externalizing symptoms. The relationship, however, was more complicated than I predicted. Although all respondents reported that changes in insight and action helped explain within individual fluctuations in internalizing and externalizing symptom severity at each measurement occasion, only caregivers reported that these changes directly affected symptom severity over time.

This discrepancy suggests that while changes in insight and changes in action help to explain intraindividual variation in symptoms and functioning at each measurement occasion, these changes do not affect the average rate of change in symptoms overall by youth and counselor report. One possibility for this discrepancy is that the effects of changes in insight or changes in action as reported by youths and counselors may be short term. Another possibility, is that insight and action as reported by youths and counselors may not directly relate to treatment outcome but may instead occur as parallel processes that help to solidify treatment outcomes (Sexton, 1996). Finally, there may be limitations in the use of hierarchical linear modeling that resulted in an improper solution. Estimation problems can sometimes arise when time-varying covariates are specified at individual measurement occasions (P. Wood, personal communication, July 12, 2015). In fact, researchers are currently developing methods to deal with some these issues (Wood, Steinley, & Jackson, in press).

With respect to direct effects of insight and action, caregivers reported that youths who gained insight during therapy actually showed increases in internalizing symptoms over time. Caregivers, however, did not report a linear change in internalizing symptoms for the average youth. This divergence suggests that caregivers observed different growth trajectories: specifically, a flat trajectory for youths who did not increase in insight, and an increase in internalizing symptoms for youths who did increase in insight. This finding may signal that in contrast to youths and counselors who may be more perceptive in recognizing improvement in internalizing symptoms, caregivers may be more attuned to recognizing deterioration in internalizing symptoms. Alternatively, the trajectory for caregiver reports of growth may have followed a non-linear trajectory, but limitations in the dataset did not permit the examination of higher order models.

The finding that gaining insight could potentially be associated with adverse effects in the form of higher internalizing symptoms is noteworthy. In contrast to the near universal belief that increased insight is beneficial to treatment outcomes, the current findings suggest that gaining insight may actually increase internalizing symptoms, similar to rumination (e.g. Nolen-Hoeksema, 2000). Comparatively, there is research that suggests that schizophrenic patients with higher levels of depressive symptomology have higher levels of insight (Murri et al., 2015) and that higher baseline levels of insight in schizophrenic patients are associated with higher levels of suicidality (Barrett et al., 2015; Barrett et al., 2010; Foley et al., 2006; Robinson et al., 2010). Too much insight may therefore have iatrogenic effects.

As expected, caregivers also reported that youths who engaged in greater amounts of action during therapy showed greater decreases in externalizing symptoms over time.

This finding supports the use of change strategies for dealing with externalizing symptoms. It is also consistent with the Stages of Change model that suggests that changes in action are necessary for symptom reduction (Prochaska et al., 1992) and the predominance of behaviorally oriented treatments among lists of treatments with the greatest research support (Brestan & Eyberg, 1998; Eyberg, Nelson, & Boggs, 2008). The fact that a direct relationship between insight, action, and symptom change was only reported by caregivers also highlights the importance of parent participation in youth therapy. Not only can caregivers potentially help in implementing interventions outside of therapy, but they can also help notice subtle changes in the youth's affect or behavior that they can then report to counselors.

The findings also partially confirmed my predictions that insight and action would independently predict baseline life satisfaction and that increases in insight and action would independently predict increased life satisfaction. Indeed, in contrast to the iatrogenic effects of increasing insight on internalizing symptoms, youths who began treatment with above average levels of insight had higher levels of baseline life satisfaction. Baseline insight levels, however, were unrelated to rate of change in life satisfaction. Changes in insight also did not predict changes in life satisfaction over time. These findings suggests that there may be an optimal level of insight, above which it becomes more a proxy for excessive self-focus or rumination. This question, however, deserves further inquiry. In addition, above average baseline action was associated with higher baseline levels of life satisfaction. Similarly, youths who began treatment with above average action scores also made faster gains in life satisfaction over time. Also, youths who made greater increases in action during therapy also experienced greater

increases in life satisfaction over time. Thus, both baseline action and increases in action are important predictors of life satisfaction.

In addition to having a direct effect on the rate and magnitude of change in life satisfaction, change in insight and change in action explained intraindividual changes in life satisfaction. The inclusion of either *change in insight* or *change in action* to the unconditional growth model for life satisfaction, reduced the unexplained within person variance in life satisfaction at each measurement occasion and improved model fit. In fact, changes in insight explained 80% of the within person variance in life satisfaction while changes in action explained 61% of the within person variance in life satisfaction. As mentioned earlier, these percentages do not total to 100 percent because of the significant shared variance between insight and action.

Although youths did not report a relationship between insight / action and symptom severity, they did report a relationship between insight / action and life satisfaction. While starting therapy with higher levels of insight or action was associated with having higher baseline life satisfaction, only increases in action were associated with increases in life satisfaction. This finding suggests that gaining a better understanding of oneself, ones problems, and ones strengths does not lead to higher life satisfaction. In contrast, trying out more adaptive behavior outside of sessions, seems to help youths live a more satisfying life. Thus, even when actions are unrelated to symptom change, they could still be beneficial in other aspects of a youth's well-being.

With respect to age, there were no age related differences in baseline insight after controlling for action. This is consistent with previous findings (Kearns et al., 2012) and may have been due to restricted age range in this sample. Future work should examine

age related differences in insight with a wider age range and in relation to other developmental constructs such as theory of mind and emotion understanding. There were, however, age related differences with respect to symptom severity. Specifically, after controlling for insight and action, both caregivers and counselors agreed that younger youths began treatment with higher externalizing symptoms. There were also age related differences with respect to baseline life satisfaction. Younger youths reported higher levels of baseline life satisfaction than older youths.

With respect to gender, youths also reported that girls had higher levels of internalizing symptoms while counselors reported that boys had higher levels of externalizing symptoms. With respect to baseline motivation, caregivers reported that youths with higher baseline motivation also began treatment with significantly higher levels of internalizing symptoms. This finding is consistent with previous research that has linked treatment motivation to higher symptom severity (Breda & Riemer, 2012; McMiller & Weisz, 1996). Finally, with respect to parent participation, youths reported having higher externalizing symptoms in sessions where parents participated than in those where they did not. Parents may be more likely to participate in sessions when youths have experienced a significant increase in externalizing symptoms.

Although this study increased our understanding about the relationship among insight, action, and treatment outcomes, it also had several limitations worth noting. First, only linear models were used to test change in treatment outcome. Unfortunately, convergence problems prevented testing of higher order models. Recent research suggests that improvement in youth therapy may actually be curvilinear (Chu, Skinner, & Zandberg, 2013). Forcing the data into a linear model may have thus resulted in the

misspecification of the level 1 model or masked differential effects of predictors at different stages of treatment (Singer & Willett, 2003). Equally, it is possible that there is great variability in the patterns of change between individuals with respect to insight, action, symptoms, and life satisfaction that cannot be adequately modeled with current statistical methods due to their restrictive assumptions about the functional forms of growth (Wood et al., in press). In fact, individuals may have unique patterns of growth trajectories that are not adequately modeled by forcing the data to conform to one average trajectory (Estes, 1956).

Second, the measure administration schedule used in the study may not have been ideal for examining the current research questions. For example, the measures for symptoms and functioning were never administered during the same collection period as measures for insight and action. Consequently, it was not possible to assess the immediate impact of changes in insight or action from a specific session on symptoms and functioning. Instead, the data reflect changes in insight and action that occurred within the same two weeks as the administration of the symptoms and functioning measure. Similarly, baseline insight and action were assessed at the two week mark after the youth had had one previous session. While this schedule was appropriate for action, in that it gave the youth an opportunity to engage in a therapeutic suggestion outside of session, it may not have represented a true baseline for insight given potential increases that a youth could have made during the first session.

Third, the study also lacked information about the treatments used. This information could have provided a more nuanced look at possible differences in the relationship among insight, action, and outcomes across different treatment models.

Finally, it is also worth noting that although youths on average had positive treatment outcomes, the extent to which they sustained these outcomes is unknown because the study did not provide any long-term follow up. Although youths decreased in internalizing and externalizing symptoms and increased in life satisfaction, it is unclear how long they sustained these gains following treatment.

Despite its limitations, this study provided novel findings on a largely understudied topic. Future research should examine how insight and action work together in relation to treatment outcomes. It would also be informative to explore disorder specific differences in insight and action in youths and how the change trajectory may differ by disorder. Equally, it would be helpful to assess how differences in therapeutic techniques may affect the relationship among insight, action, and treatment outcomes.

Future work should also include measurement of the insight and action of caregivers during youth treatment and examine their relationship to youth treatment outcomes. After all, many empirically supported treatments include a parental component that requires that the parent make changes in order to help the child make changes. For example, in Trauma Focused CBT therapists have sessions with the parents alone to help the parent identify and change maladaptive thoughts regarding the child's trauma (Cohen, Mannarino, & Deblinger, 2006). In parent behavioral management, parents are taught planned ignoring and other behavioral strategies to deal with misbehavior (Patterson & Gullion, 1968). Implicit in both of these interventions is an attempt to elicit new insights and actions in the parents. In other words, they support insight in that they must learn something new about themselves, their child, and his or her problems, and action in that they must take the counselor's suggestions and make behavior changes outside of session.

Future studies should examine the extent to which parents gain insight and action during youth psychotherapy and whether these changes are associated with treatment outcomes for their children. Similarly, future research should examine the extent to which parents promote or encourage gains in insight and action in their children.

Forthcoming studies should also focus on developing statistical methods to deal with complex longitudinal datasets and qualitatively differing patterns of change between individuals. As intervention research moves away from research settings to real world treatment settings, the resulting data—particularly longitudinal data—will become more complex given the reduction in experimental control and the large variability in the types of patients seen in usual care. Data analytic methods that can accommodate more complex datasets and patterns of change will be needed to adequately analyze these data.

In summary, this study provides some support for the long held idea that insight and action affect treatment outcomes and extends this finding to youth psychotherapy. It also proposes a novel way to approach intervention research in youth psychotherapy, by suggesting that research also focus on the intraindividual changes associated with positive treatment outcomes. This new approach to intervention research can hopefully build upon existing methods to help us gain a deeper understanding of the change process during therapy. A deeper understanding of the change process can in turn potentially lead to more focused, streamlined, and effective interventions.

REFERENCES

- Addis, M. E., & Jacobson, N. S. (1996). Reasons for depression and the process and outcome of cognitive-behavioral psychotherapies. *Journal of Consulting and Clinical Psychology, 64*, 1417-1424. doi: 10.1037/0022-006x.64.6.1417
- Aleman, A., Agrawal, N., Morgan, K. D., & David, A. S. (2006). Insight in psychosis and neuropsychological function. *The British Journal of Psychiatry, 189*, 204-212.
- Athay, M. M., Kelley, S. D., & Dew-Reeves, S. E. (2012). Brief Multidimensional Students' Life Satisfaction Scale—PTPB Version (BMSLSS-PTPB): Psychometric properties and relationship with mental health symptom severity over time. *Administration and Policy in Mental Health and Mental Health Services Research, 39*, 30-40.
- Athay, M. M., Riemer, M., & Bickman, L. (2012). The Symptoms and Functioning Severity Scale (SFSS): Psychometric evaluation and discrepancies among youth, caregiver, and clinician ratings over time. *Administration and Policy in Mental Health and Mental Health Services Research, 39*, 12-29.
- Barrett, E. A., Mork, E., Færden, A., Nesvåg, R., Agartz, I., Andreassen, O. A., & Melle, I. (2015). The development of insight and its relationship with suicidality over one year follow-up in patients with first episode psychosis. *Schizophrenia research, 162*, 97-102.
- Barrett, E. A., Sundet, K., Faerden, A., Nesvåg, R., Agartz, I., Fosse, R., . . . Melle, I. (2010). Suicidality before and in the early phases of first episode psychosis. *Schizophrenia research, 119*, 11-17.

- Beck, J. S. (1995). *Cognitive behavior therapy: Basics and beyond*. New York: The Guilford Press.
- Bickman, L., Kelley, S. D., Breda, C., de Andrade, A. R., & Riemer, M. (2011). Effects of routine feedback to clinicians on mental health outcomes of youths: Results of a randomized trial. *Psychiatric Services, 62*, 1423-1429.
- Bickman, L., Riemer, M., Kelley, S., Tempesti, T., Brannan, A., Athay, M., . . . (eds.). (2010). *Manual of the Peabody Treatment Progress Battery 2nd edition* [electronic copy]. Nashville, TN: Vanderbilt University.
- Bosacki, S., & Astington, J. W. (1999). Theory of mind in preadolescence: Relations between social understanding and social competence. *Social Development, 8*, 237-255.
- Breda, C. S., & Riemer, M. (2012). Motivation for Youth's Treatment Scale (MYTS): A new tool for measuring motivation among youths and their caregivers. *Administration and Policy in Mental Health and Mental Health Services Research, 39*(1-2), 118-132.
- Brestan, E. V., & Eyberg, S. M. (1998). Effective psychosocial treatments of conduct-disordered children and adolescents: 29 years, 82 studies, and 5,272 kids. *Journal of Clinical Child Psychology, 27*, 180-189.
- Carroll, J., & Steward, M. (1984). The role of cognitive development in children's understandings of their own feelings. *Child Development, 55*(4), 1486-1492.
- Chu, B. C., Skriner, L. C., & Zandberg, L. J. (2013). Shape of change in cognitive behavioral therapy for youth anxiety: Symptom trajectory and predictors of

- change. *Journal of Consulting and Clinical Psychology*, *81*, 573-587. doi:
10.1037/a0033390
- Clarke, G., Hops, H., Lewinsohn, P. M., Andrews, J., Seeley, J. R., & Williams, J. (1992). Cognitive-behavioral group treatment of adolescent depression: Prediction of outcome. *Behavior Therapy*, *23*, 341-354.
- Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2006). *Treating trauma and traumatic grief in children and adolescents*. New York: Guilford Press.
- Connolly Gibbons, M. B., Crits-Christoph, P., Barber, J. P., & Schamberger, M. (2007). Insight in psychotherapy: A review of empirical literature. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 143-165). Washington, DC: American Psychological Association.
- Damon, W., & Hart, D. (1982). The development of self-understanding from infancy through adolescence. *Child Development*, *53*, 841-864.
- De Araujo, L., Ito, L., & Marks, I. (1996). Early compliance and other factors predicting outcome of exposure for obsessive-compulsive disorder. *The British Journal of Psychiatry*, *169*, 747-752.
- Dunn, J., Brown, J., Slomkowski, C., Tesla, C., & Youngblade, L. (1991). Young children's understanding of other people's feelings and beliefs: Individual differences and their antecedents. *Child Development*, *62*, 1352-1366.
- Eisen, J. L., Rasmussen, S. A., Phillips, K. A., Price, L. H., Davidson, J., Lydiard, R. B., . . . Piggott, T. (2001). Insight and treatment outcome in obsessive-compulsive disorder. *Comprehensive Psychiatry*, *42*, 494-497. doi: 10.1053/comp.2001.27898

- Elliott, R. (1985). Helpful and nonhelpful events in brief counseling interviews: An empirical taxonomy. *Journal of Counseling Psychology, 32*, 307-322. doi: 10.1037/0022-0167.32.3.307
- Elliott, R., & Wexler, M. (1994). Measuring the impact of sessions in process-experiential therapy of depression: The Session Impacts Scale. *Journal of Counseling Psychology, 41*, 166-174.
- Ernst, M., Pine, D. S., & Hardin, M. (2006). Triadic model of the neurobiology of motivated behavior in adolescence. *Psychological medicine, 36*, 299-312. doi: 10.1017/S0033291705005891
- Estes, W. K. (1956). The problem of inference from curves based on group data. *Psychological Bulletin, 53*, 134-140.
- Eyberg, S. M., Nelson, M. M., & Boggs, S. R. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child & Adolescent Psychology, 37*, 215-237.
- Foa, E. B., Abramowitz, J. S., Franklin, M. E., & Kozak, M. J. (1999). Feared consequences, fixity of belief, and treatment outcome in patients with obsessive-compulsive disorder. *Behavior Therapy, 30*, 717-724. doi: 10.1016/s0005-7894(99)80035-5
- Foley, D. L., Goldston, D. B., Costello, E. J., & Angold, A. (2006). Proximal psychiatric risk factors for suicidality in youth: The Great Smoky Mountains Study. *Archives of General Psychiatry, 63*, 1017-1024.

- Gaynor, S. T., Lawrence, P. S., & Nelson-Gray, R. O. (2006). Measuring homework compliance in cognitive-behavioral therapy for adolescent depression. *Behavior modification, 30*, 647-672.
- Gelso, C. J., & Harbin, J. (2007). Insight, action, and the therapeutic relationship. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 293-311). Washington, DC: American Psychological Association.
- Ghaemi, S. N., Boiman, E., & Goodwin, F. K. (2000). Insight and outcome in bipolar, unipolar, and anxiety disorders. *Comprehensive Psychiatry, 41*, 167-171. doi: 10.1016/s0010-440x(00)90043-9
- Ghaemi, S. N., & Pope, H. G. (1994). Lack of insight in psychotic and affective disorders: a review of empirical studies. *Harvard Review of Psychiatry, 2*, 22-33.
- Grande, T., & Pauli-Magnus, C. (2003). Progressive changes in patients' lives after psychotherapy: Which treatment effects support them? *Psychotherapy, 13*, 43-58.
- Greenberg, L. S., & Warwar, S. H. (2006). Homework in an emotion-focused approach to experiential therapy. *Journal of Psychotherapy Integration, 16*, 178-200. doi: 10.1037/1053-0479.16.2.178
- Grosse Holtforth, M., Castonguay, L. G., Boswell, J. F., Wilson, L. A., Kakouros, A. A., & Borkovec, T. D. (2007). Insight in Cognitive-Behavioral Therapy. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 57-80). Washington, DC: American Psychological Association.
- Haley, J. (1987). *Problem-solving therapy* (2nd ed.). San Francisco: Jossey-Bass.

- Hazelrigg, M. D., Cooper, H. M., & Borduin, C. M. (1987). Evaluating the effectiveness of family therapies: an integrative review and analysis. *Psychological Bulletin*, *101*, 428-442.
- Heatherington, L., & Friedlander, M. L. (2007). Manifestations and facilitation of insight in couple and family therapy. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 81-99). Washington, DC: American Psychological Association.
- Høglend, P., Engelstad, V., Sørbye, Ø., Heyerdahl, O., & Amlo, S. (1994). The role of insight in exploratory psychodynamic psychotherapy. *British journal of medical psychology*, *67*, 305-316.
- Hudson, J. L., & Kendall, P. C. (2002). Showing you can do it: Homework in therapy for children and adolescents with anxiety disorders. *Journal of Clinical Psychology*, *58*, 525-534.
- Hughes, A. A., & Kendall, P. C. (2007). Prediction of cognitive behavior treatment outcome for children with anxiety disorders: Therapeutic relationship and homework compliance. *Behavioural and Cognitive Psychotherapy*, *35*, 487-494.
- Johansson, P., Høglend, P., Ulberg, R., Amlo, S., Marble, A., Bøgwald, K. P., . . . Heyerdahl, O. (2010). The mediating role of insight for long-term improvements in psychodynamic therapy. *Journal of Consulting and Clinical Psychology*, *78*, 438-448.
- Kazantzis, N., Deane, F. P., & Ronan, K. R. (2000). Homework assignments in Cognitive and Behavioral Therapy: A meta-analysis. *Clinical Psychology: Science and Practice*, *7*, 189-202.

- Kazantzis, N., Whittington, C., & Dattilio, F. (2010). Meta-analysis of homework effects in Cognitive and Behavioral Therapy: A replication and extension. *Clinical Psychology: Science and Practice, 17*, 144-156. doi: 10.1111/j.1468-2850.2010.01204.x
- Kazdin, A. E., & Nock, M. K. (2003). Delineating mechanisms of change in child and adolescent therapy: Methodological issues and research recommendations. *Journal of Child Psychology and Psychiatry, 44*, 1116-1129.
- Kearns, M. A., Athay, M., & Riemer, M. (2012). Measuring youths' perceptions of counseling impact: Description, psychometric evaluation, and longitudinal examination of the Youth Counseling Impact Scale v.2. *Administration and Policy in Mental Health and Mental Health Services Research, 39*, 104-117. doi: 10.1007/s10488-012-0414-z
- Kelley, S. D., de Andrade, A. R. V., Bickman, L., & Robin, A. V. (2012). The Session Report Form (SRF): Are clinicians addressing concerns reported by youth and caregivers? *Administration and Policy in Mental Health and Mental Health Services Research, 39*, 133-145.
- Kivlighan, D. M., Jr., Multon, K. D., & Patton, M. J. (2000). Insight and symptom reduction in time-limited psychoanalytic counseling. *Journal of Counseling Psychology, 47*, 50-58. doi: 10.1037/0022-0167.47.1.50
- Kornblith, S. J., Rehm, L. P., O'Hara, M. W., & Lamparski, D. M. (1983). The contribution of self-reinforcement training and behavioral assignments to the efficacy of self-control therapy for depression. *Cognitive Therapy and Research, 7*, 499-527. doi: 10.1007/bf01172888

- Lambert, M. J. (2013). The efficacy and effectiveness of psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change* (2nd ed., pp. 169-218). Hoboken, NJ: John Wiley & Sons.
- Lambert, M. J., & Ogles, B. M. (2004). The efficacy and effectiveness of psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (5th ed., pp. 139-193). New York: Wiley.
- Lambert, M. J., Whipple, J. L., Vermeersch, D. A., Smart, D. W., Hawkins, E. J., Nielsen, S. L., & Goates, M. (2002). Enhancing psychotherapy outcomes via providing feedback on client progress: A replication. *Clinical Psychology & Psychotherapy*, 9, 91-103. doi: 10.1002/cpp.324
- Mann, J. H., & Mann, C. H. (1959). Insight as a measure of adjustment in three kinds of group experience. *Journal of Consulting Psychology*, 23, 91.
- McMiller, W. P., & Weisz, J. R. (1996). Help-seeking preceding mental health clinic intake among African-American, Latino, and Caucasian youths. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35, 1086-1094.
- Messer, S. B., & McWilliams, N. (2007). Insight in Psychodynamic Therapy: Theory and assessment. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 9-29). Washington, DC: American Psychological Association.
- Miller, P. H. (2002). *Theories of developmental psychology*. New York: Worth Publishers.
- Murri, M. B., Respino, M., Innamorati, M., Cervetti, A., Calcagno, P., Pompili, M., . . . Amore, M. (2015). Is good insight associated with depression among patients

- with schizophrenia? Systematic review and meta-analysis. *Schizophrenia research*, 162, 234-247.
- Nolen-Hoeksema, S. (2000). The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. *Journal of abnormal psychology*, 109, 504-511.
- Parellada, M., Fraguas, D., Bombin, I., Otero, S., Castro-Fornieles, J., Baeza, I., . . . Paya, B. (2009). Insight correlates in child-and adolescent-onset first episodes of psychosis: results from the CAFEPS study. *Psychological medicine*, 39(09), 1433-1445.
- Pascual-Leone, A., & Greenberg, L. S. (2007). Insight and awareness in Experiential Therapy. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 31-56). Washington, DC: American Psychological Association.
- Patterson, G. R., & Gullion, M. E. (1968). *Living with children: New methods for parents and teachers*. Champaign, IL: Research Press, Country Fair Station.
- Payton, J., Wardlaw, D., Graczyk, P., Bloodworth, M., Tompsett, C., & Weissberg, R. (2000). Social and emotional learning: A framework for promoting mental health and reducing risk behavior in children and youth. *Journal of School Health*, 70(5), 179-185.
- Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist*, 47, 1102-1114.
- Riemer, M., Athay, M. M., Bickman, L., Breda, C., Kelley, S. D., & De Andrade, A. R. V. (2012). The Peabody Treatment Progress Battery: History and methods for developing a comprehensive measurement battery for youth mental health.

Administration and Policy in Mental Health and Mental Health Services Research, 39, 3-12.

Riemer, M., & Kearns, M. A. (2010). Description and psychometric evaluation of the Youth Counseling Impact Scale. *Psychological assessment*, 22, 259-268.

Robinson, J., Harris, M., Harrigan, S., Henry, L., Farrelly, S., Prosser, A., . . . McGorry, P. (2010). Suicide attempt in first-episode psychosis: A 7.4 year follow-up study. *Schizophrenia research*, 116, 1-8.

Rosenthal, D., & Frank, J. D. (1956). Psychotherapy and the placebo effect. *Psychological Bulletin*, 53, 294-302. doi: 10.1037/h0044068

Scheel, M. J., Seaman, S., Roach, K., Mullin, T., & Mahoney, K. B. (1999). Client implementation of therapist recommendations predicted by client perception of fit, difficulty of implementation, and therapist influence. *Journal of Counseling Psychology*, 46, 308-316.

Schottenbauer, M. A., Glass, C. R., & Arnkoff, D. B. (2007). How insight is developed, consolidated, or destroyed between sessions. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 313-335). Washington, DC: American Psychological Association.

Sexton, H. (1996). Process, life events, and symptomatic change in brief eclectic psychotherapy. *Journal of Consulting and Clinical Psychology*, 64, 1358-1365. doi: 10.1037/0022-006x.64.6.1358

Singer, J. D. (1998). Using SAS PROC MIXED to fit multilevel models, hierarchical models, and individual growth models. *Journal of Educational and Behavioral Statistics*, 23, 323-355.

- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence* (Vol. null).
- Stiles, W. B. (2002). Assimilation of problematic experiences. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients* (pp. 357-365). New York: Oxford University Press.
- Stiles, W. B., & Brinegar, M. G. (2007). Insight as a stage of assimilation: A theoretical perspective. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 101-118). Washington, DC: American Psychological Association.
- Stiles, W. B., Elliott, R., Llewelyn, S. P., Firth-Cozens, J. A., Margison, F. R., Shapiro, D. A., & Hardy, G. (1990). Assimilation of problematic experiences by clients in psychotherapy. *Psychotherapy: Theory, Research, Practice, Training*, 27, 411-420.
- Stricker, G. (2006). Using homework in psychodynamic psychotherapy. *Journal of Psychotherapy Integration*, 16, 219-237. doi: 10.1037/1053-0479.16.2.219
- Trentacosta, C., & Fine, S. (2010). Emotion Knowledge, Social Competence, and Behavior Problems in Childhood and Adolescence: A Meta analytic Review. *Social Development*, 19(1), 1-29.
- Wampold, B. E., Imel, Z. E., Bhati, K. S., & Johnson-Jennings, M. D. (2007). Insight as a Common Factor. In L. G. Castonguay & C. E. Hill (Eds.), *Insight in psychotherapy* (pp. 119-139). Washington, DC: American Psychological Association.

Westra, H. A., Dozois, D. J. A., & Marcus, M. (2007). Expectancy, homework compliance, and initial change in cognitive-behavioral therapy for anxiety.

Journal of Consulting and Clinical Psychology, 75, 363-373.

Wood, P. K., Steinley, D., & Jackson, K. (in press). Right-sizing statistical models for longitudinal data. *Psychological assessment*.

TABLES

Table 1

Number of Observations per Time-Varying Measure or Variable

Measure/Variable	Number of Records per Youth				
	# Youths with Data for that Measure/Variable	Total # of Records	Mean # of Records Per Youth	Standard Deviation	Range of Records per Youth
Parent Participation	137	1661	11.07	9.21	1-47
The Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS-PTPB)	144	351	2.34	1.46	1-9
Symptoms and Functioning Severity Scale (SFSS)					
Youth Self-Report	147	805	5.37	3.28	1-16
Caregiver Report of Youth	142	572	3.82	2.97	1-12
Clinician Report of Youth	144	860	5.73	3.65	1-18
Youth Counseling Impact Scale v.2 (YCIS v.2)					
Insight	150	562	3.74	2.34	1-11
Change (Action)	149	569	3.79	2.47	1-11

Table 2

Relationship between Baseline Insight and Baseline and Final Action

Does Baseline Insight Predict Baseline and Final Action?				
	β	SE	95% CI	
Baseline Action (γ_{00})	3.53**	0.07	3.39	3.67
Final Action (γ_{10})	3.65**	0.10	3.46	3.84
Baseline Action x Baseline Insight (γ_{01})	0.53**	0.06	0.40	0.65
Final Action x Baseline Insight (γ_{11})	0.48**	0.09	0.31	0.65
Goodness of Fit				
Deviance	1377.3			
AIC	1393.3			
BIC	1417.3			

** p<.001; * p<.05.

Table 3

Unconditional Growth Model of Youth Reported Insight plus Action

Unconditional Growth in Youth Reported Insight +				
Change in Action				
	Unconditional Growth in Insight		+ Change in Action	
	β	SE	β	SE
Intercept (β_{00})	3.52**	0.09	3.45**	0.09
Time (β_{10})	0.03*	0.01	0.03*	0.01
Change in Action (β_{20})	NA	NA	0.54**	0.04
Variance Estimates				
Within Person (τ_e)	0.66**	0.05	0.48**	0.03
Intercept (τ_{00})	0.57**	0.09	0.75**	0.11
Goodness of Fit				
Deviance	1561.8		1422.8	
AIC	1569.8		1432.8	
BIC	1581.8		1447.9	
Pseudo R^2_{error}	0.01		0.28	

** $p < .001$; * $p < .05$.

Table 4

Relationship among Baseline Action, Change in Action, and Insight over Time

Does Action Predict Insight Over Time?				
	β	SE	95% CI	
Intercept (β_{00})	3.41**	0.06	3.30	3.53
Age (β_{01})	-0.02	0.02	-0.06	0.02
Baseline Action (β_{02})	0.75**	0.05	0.65	0.86
Time (β_{10})	0.03*	0.01	0.01	0.05
Time x Baseline Action (β_{11})	0.01	0.01	-0.01	0.02
Change in Action (β_{20})	0.70**	0.04	0.62	0.78
Variance Estimates				
Within Person (τ_e)	0.47**	0.03	0.41	0.54
Intercept (τ_{00})	0.10**	0.03	0.05	0.16
Goodness of Fit				
Deviance	1238.5			
AIC	1254.5			
BIC	1278.5			

** p<.001; * p<.05.

Table 5

Unconditional Growth Models of Youth Reported Symptoms plus Insight

Unconditional Growth Models of Youth Reported Symptoms + Change in Insight								
	Unconditional Growth in Internalizing Symptoms		Internalizing Growth + Change in Insight		Unconditional Growth in Externalizing Symptoms		Externalizing Growth + Change in Insight	
	β	SE	β	SE	β	SE	β	SE
Intercept (β_{00})	48.09**	0.96	48.46**	1.32	49.86**	0.80	51.27**	1.25
Time (β_{10})	-0.46**	0.11	-0.78*	0.27	-0.56**	0.09	-1.24**	0.30
Change in Insight (β_{20})	NA	NA	1.01	0.63	NA	NA	0.30	1.01
Variance Estimates								
Within Person (τ_e)	32.06**	1.42	17.19**	1.23	34.43**	1.53	12.13**	0.88
Intercept (τ_{00})	121.57**	15.60	175.82**	27.67	78.86**	10.76	149.95**	23.18
Time (τ_{11})	0.90**	0.20	4.74**	1.09	0.50**	0.14	6.49**	1.30
Change in Insight (τ_{22})	NA	NA	17.46*	5.11	NA	NA	70.32**	13.85
Goodness of Fit								
Deviance	8777.3		4561.9		8801.3		4494.5	
AIC	8789.30		4581.90		8813.30		4514.50	
BIC	8807.30		4611.90		8831.30		4544.60	
Pseudo R^2_{error}	0.28		0.46		0.21		0.65	

** p<.001; * p<.05.

Table 6

Unconditional Growth Models of Youth Reported Symptoms plus Action

Unconditional Growth Models of Youth Reported Symptoms + Change in Action								
	Unconditional Growth in Internalizing Symptoms		Internalizing Growth + Change in Action		Unconditional Growth in Externalizing Symptoms		Externalizing Growth + Change in Action	
	β	SE	β	SE	β	SE	β	SE
Intercept (β_{00})	48.09**	0.96	48.47**	1.36	49.86**	0.80	51.03**	1.25
Time (β_{10})	-0.46**	0.11	-0.89**	0.30	-0.56**	0.09	-1.06*	0.30
Change in Insight (β_{20})	NA	NA	-0.93	0.99	NA	NA	-0.28	0.95
Variance Estimates								
Within Person (τ_{ϵ})	32.06**	1.42	12.95**	0.93	34.43**	1.53	16.28**	1.16
Intercept (τ_{00})	121.57**	15.60	185.98**	28.66	78.86**	10.76	151.82**	24.23
Time (τ_{11})	0.90**	0.20	6.31**	1.22	0.50**	0.14	6.29**	1.28
Change in Action (τ_{22})	NA	NA	62.00**	14.38	NA	NA	54.94**	11.98
Goodness of Fit								
Deviance	8777.3		4515.6		8801.3		4612.7	
AIC	8789.30		4535.60		8813.30		4632.70	
BIC	8807.30		4565.70		8831.30		4662.80	
Pseudo R^2_{error}	0.28		0.60		0.21		0.53	

** p<.001; * p<.05.

Table 7

Unconditional Growth Models of Caregiver Reported Symptoms plus Insight

Unconditional Growth Models of Caregiver Reported Youth Symptoms + Change in Insight								
	Unconditional Growth in Internalizing Symptoms		Internalizing Growth + Change in Insight		Unconditional Growth in Externalizing Symptoms		Externalizing Growth + Change in Insight	
	β	SE	β	SE	β	SE	β	SE
Intercept (β_{00})	48.20**	0.94	46.95**	1.25	52.15**	0.96	52.07**	1.38
Time (β_{10})	-0.18	0.10	0.01	0.22	-0.25*	0.11	-0.28	0.21
Change in Insight (β_{20})	NA	NA	1.11	0.62	NA	NA	-0.20	0.73
Variance Estimates								
Within Person (τ_e)	27.11**	1.45	10.50**	0.98	30.91**	1.68	15.12**	1.32
Intercept (τ_{00})	101.38**	14.24	122.38**	20.95	104.99**	15.17	150.69**	25.82
Time (τ_{11})	0.56**	0.14	2.10*	0.66	0.70**	0.20	1.60*	0.52
Change in Insight (τ_{22})	NA	NA	12.05*	5.50	NA	NA	17.88*	6.91
Goodness of Fit								
Deviance	6106.3		2954.1		6265.8		3117.1	
AIC	6118.30		2974.10		6277.80		3137.10	
BIC	6136.40		3004.20		6295.90		3167.10	
Pseudo R^2_{error}	0.23		0.61		0.23		0.51	

** p<.001; * p<.05.

Table 8

Unconditional Growth Models of Caregiver Reported Symptoms plus Action

Unconditional Growth Models of Caregiver Reported Youth Symptoms + Change in Action								
	Unconditional Growth in Internalizing Symptoms		Internalizing Growth + Change in Action		Unconditional Growth in Externalizing Symptoms		Externalizing Growth + Change in Action	
	β	SE	β	SE	β	SE	β	SE
Intercept (β_{00})	48.20**	0.94	47.00**	1.24	52.15**	0.96	52.16**	1.33
Time (β_{10})	-0.18	0.10	0.00	0.20	-0.25*	0.11	-0.33	0.20
Change in Insight (β_{20})	NA	NA	-0.70	0.58	NA	NA	-1.32*	0.65
Variance Estimates								
Within Person (τ_e)	27.11**	1.45	13.59**	1.18	30.91**	1.68	16.93**	1.66
Intercept (τ_{00})	101.38**	14.24	121.79**	21.21	104.99**	15.17	140.56**	24.01
Time (τ_{11})	0.56**	0.14	1.65**	0.53	0.70**	0.20	1.52**	0.57
Change in Action (τ_{22})	NA	NA	8.44	5.15	NA	NA	10.51	7.06
Goodness of Fit								
Deviance	6106.3		3038.2		6265.8		3163.4	
AIC	6118.30		3058.20		6277.80		3183.40	
BIC	6136.40		3088.30		6295.90		3213.50	
Pseudo R^2_{error}	0.23		0.50		0.23		0.45	

** p<.001; * p<.05.

Table 9

Unconditional Growth Models of Counselor Reported Symptoms plus Insight

Unconditional Growth Models of Counselor Reported Youth Symptoms + Change in Insight								
	Unconditional Growth in Internalizing Symptoms		Internalizing Growth + Change in Insight		Unconditional Growth in Externalizing Symptoms		Externalizing Growth + Change in Insight	
	β	SE	β	SE	β	SE	β	SE
Intercept (β_{00})	50.06**	1.01	50.64**	1.27	52.05**	1.06	51.55**	1.22
Time (β_{10})	-0.36*	0.12	-0.36	0.24	-0.31*	0.11	-0.10	0.21
Change in Insight (β_{20})	NA	NA	0.52	0.71	NA	NA	0.82	0.49
Variance Estimates								
Within Person (τ_e)	27.01**	1.14	12.88**	0.92	27.90**	1.15	15.18**	1.01
Intercept (τ_{00})	128.43**	17.59	161.81**	25.43	143.67**	18.91	150.77**	23.18
Time (τ_{11})	1.24**	0.25	3.80**	0.90	0.92**	0.18	2.66**	0.71
Change in Insight (τ_{22})	NA	NA	31.74*	8.86	NA	NA	10.73*	3.44
Goodness of Fit								
Deviance	9529.5		4886.6		9576.4		4906.5	
AIC	9541.50		4906.60		9588.40		4926.50	
BIC	9559.50		4936.60		9606.50		4956.50	
Pseudo R^2_{error}	0.28		0.52		0.28		0.46	

** $p < .001$; * $p < .05$.

Table 10

Unconditional Growth Models of Counselor Reported Symptoms plus Action

Unconditional Growth Models of Counselor Reported Youth Symptoms + Change in Action								
	Unconditional Growth in Internalizing Symptoms		Internalizing Growth + Change in Action		Unconditional Growth in Externalizing Symptoms		Externalizing Growth + Change in Action	
	β	SE	β	SE	β	SE	β	SE
Intercept (β_{00})	50.06**	1.01	49.99**	1.25	52.05**	1.06	51.49**	1.22
Time (β_{10})	-0.36*	0.12	-0.17	0.23	-0.31*	0.11	-0.06	0.23
Change in Insight (β_{20})	NA	NA	0.40	0.83	NA	NA	0.11	0.68
Variance Estimates								
Within Person (τ_e)	27.01**	1.14	12.03**	0.82	27.90**	1.15	13.38**	0.89
Intercept (τ_{00})	128.43**	17.59	152.98**	24.58	143.67**	18.91	147.57**	22.66
Time (τ_{11})	1.24**	0.25	3.47**	0.80	0.92**	0.18	3.49**	0.81
Change in Action (τ_{22})	NA	NA	45.24**	10.70	NA	NA	25.36**	6.50
Goodness of Fit								
Deviance	9529.5		4919.2		9576.4		4942.3	
AIC	9541.50		4939.20		9588.40		4962.30	
BIC	9559.50		4969.20		9606.50		4992.30	
Pseudo R^2_{error}	0.28		0.55		0.28		0.52	

** p<.001; * p<.05.

Table 11

Relationship between Insight and Internalizing Symptom Severity over Time

Final Model of the Relationship between Insight and Internalizing Symptom Severity						
	Youth		Caregiver		Counselor	
	β	SE	β	SE	β	SE
Intercept (β_{00})	46.93**	1.42	45.05**	1.59	51.63**	1.35
Age (β_{01})	0.56	0.44	0.28	0.45	0.61	0.43
Gender (β_{02})	4.74**	1.77	0.64	1.74	0.70	1.59
Baseline Severity (β_{03})	0.55**	0.10	0.57**	0.08	0.63**	0.09
Baseline Motivation (β_{04})	1.88	1.06	2.31*	1.01	1.49	0.88
Baseline Insight (β_{05})	1.04	1.04	0.25	1.23	1.45	1.03
Time (β_{10})	-0.60**	0.21	0.14	0.23	-0.52*	0.21
Time x Baseline Insight (β_{11})	-0.23	0.20	0.14	0.22	-0.05	0.21
Change in Insight (β_{20})	0.83	0.70	1.67**	0.58	0.28	0.61
Parent Participation (β_{30})	0.22	0.57	0.65	0.60	-0.27	0.53
Variance Estimates						
Within Person (τ_{ϵ})	18.14**	1.51	12.42**	1.32	16.51**	1.51
Intercept (τ_{00})	76.32**	16.21	75.62**	16.99	62.61**	15.87
Time (τ_{11})	1.76*	0.62	1.64*	0.59	1.91*	0.63
Change in Insight (τ_{22})	15.47*	5.17	6.53	3.65	12.21*	5.88
Goodness of Fit						
Deviance	3239.1		2109.6		3490.4	
AIC	3273.1		2143.6		3524.4	
BIC	3320.1		2188.9		3571.2	

** p<.001; * p<.05.

Table 12

Relationship between Insight and Externalizing Symptom Severity over Time

Final Model of the Relationship between Insight and Externalizing Symptom Severity						
	Youth		Caregiver		Counselor	
	β	SE	β	SE	β	SE
Intercept (β_{00})	49.76**	1.35	50.56**	1.65	52.33**	1.17
Age (β_{01})	-0.46	0.41	-1.17*	0.49	-1.02*	0.39
Gender (β_{02})	1.43	1.60	-0.78	1.89	-3.01*	1.41
Baseline Severity (β_{03})	0.65**	0.08	0.66**	0.09	0.87**	0.08
Baseline Motivation (β_{04})	-1.55	0.94	-1.19	1.09	-0.04	0.78
Baseline Insight (β_{05})	1.69	1.02	-0.92	1.23	-0.10	0.90
Time (β_{10})	-1.16**	0.27	-0.31	0.25	-0.25	0.23
Time x Baseline Insight (β_{11})	-0.26	0.24	0.08	0.25	0.00	0.21
Change in Insight (β_{20})	1.38	1.08	-0.48	0.80	0.61	0.50
Parent Participation (β_{30})	1.21*	0.50	0.66	0.72	0.41	0.45
Variance Estimates						
Within Person (τ_{ϵ})	13.23**	1.13	17.37**	1.91	11.57**	0.93
Intercept (τ_{00})	72.91**	15.25	66.68**	16.21	45.00**	10.53
Time (τ_{11})	3.63**	1.02	1.83**	0.69	2.68**	0.72
Change in Insight (τ_{22})	61.44**	13.33	15.28	8.25	7.58*	3.03
Goodness of Fit						
Deviance	3209.9		2241.0		3334.0	
AIC	3243.9		2275.0		3368.0	
BIC	3290.9		2320.3		3414.8	

** p<.001; * p<.05.

Table 13

Relationship between Action and Internalizing Symptom Severity over Time

Final Model of the Relationship between Action and Internalizing Symptom Severity						
	Youth		Caregiver		Counselor	
	β	SE	β	SE	β	SE
Intercept (β_{00})	47.28**	1.41	45.02**	1.59	51.20**	1.44
Age (β_{01})	0.79	0.42	0.35	0.43	0.63	0.45
Gender (β_{02})	4.79**	1.72	0.73	1.72	0.66	1.70
Baseline Severity (β_{03})	0.50**	0.09	0.50**	0.08	0.63**	0.09
Baseline Motivation (β_{04})	1.99	1.02	1.95*	0.95	1.29	0.94
Baseline Action (β_{05})	1.67	1.09	0.61	1.17	0.78	1.12
Time (β_{10})	-0.83**	0.27	0.18	0.21	-0.48**	0.21
Time x Baseline Action (β_{11})	-0.41	0.26	0.10	0.21	0.23	0.21
Change in Action (β_{20})	-1.59	1.08	-0.46	0.43	0.37	0.77
Parent Participation (β_{30})	0.34	0.51	0.73	0.66	0.24	0.49
Variance Estimates						
Within Person (τ_e)	13.93**	1.24	16.69**	1.55	14.09**	1.20
Intercept (τ_{00})	78.32**	16.62	75.15	17.66	76.86**	18.99
Time (τ_{11})	3.61**	0.95	1.38*	0.52	2.04**	0.58
Change in Action (τ_{22})	55.24**	15.93	NA	NA	26.04**	8.15
Goodness of Fit						
Deviance	3256.0		2197.7		3534.0	
AIC	3290.0		2225.7		3568.0	
BIC	3336.9		2263.0		3614.8	

** p<.001; * p<.05.

Table 14

Relationship between Action and Externalizing Symptom Severity over Time

Final Model of the Relationship between Action and Externalizing Symptom Severity						
	Youth		Caregiver		Counselor	
	β	SE	β	SE	β	SE
Intercept (β_{00})	49.50**	1.34	50.17**	1.59	52.63**	1.19
Age (β_{01})	-0.13	0.37	-1.20*	0.46	-0.91*	0.38
Gender (β_{02})	1.84	1.51	-0.98	1.80	-3.44*	1.40
Baseline Severity (β_{03})	0.64**	0.08	0.63**	0.09	0.83**	0.08
Baseline Motivation (β_{04})	-1.26	0.87	-0.86	0.99	-0.28	0.77
Baseline Action (β_{05})	0.59	1.03	-1.61	1.13	-1.12	0.95
Time (β_{10})	-0.97**	0.28	-0.24	0.23	-0.25	0.24
Time x Baseline Action (β_{11})	-0.11	0.27	0.15	0.22	0.23	0.23
Change in Action (β_{20})	-0.03	0.98	-1.18*	0.47	-0.31	0.59
Parent Participation (β_{30})	0.76	0.60	0.75	0.74	0.55	0.44
Variance Estimates						
Within Person (τ_{ϵ})	19.72**	1.69	20.98**	1.94	11.59**	0.93
Intercept (τ_{00})	71.08**	16.08	59.27**	14.60	48.37**	11.00
Time (τ_{11})	4.04**	1.13	1.41*	0.56	3.20**	0.78
Change in Action (τ_{22})	41.35**	10.77	NA	NA	12.16*	4.46
Goodness of Fit						
Deviance	3353.7		2286.9		3419.4	
AIC	3387.7		2314.9		3453.4	
BIC	3434.7		2352.2		3500.2	

** p<.001; * p<.05.

Table 15

Unconditional Growth Models of Youth Life Satisfaction plus Insight and Action

Unconditional Growth in Youth Reported Life Satisfaction + Change in Insight/ Change in Action						
	Unconditional Growth in Life Satisfaction		+ Change in Insight		+ Change in Action	
	β	SE	β	SE	β	SE
Intercept (β_{00})	3.83**	0.07	3.86**	0.09	3.82**	0.08
Time (β_{10})	0.04*	0.02	0.06	0.04	0.01	0.04
Change in Insight (β_{20})	NA	NA	0.10	0.18	0.13	0.11
Variance Estimates						
Within Person (τ_e)	0.29**	0.02	0.05**	0.00	0.11**	0.01
Intercept (τ_{00})	0.51**	0.07	0.92**	0.14	0.62**	0.10
Time (τ_{11})	0.01*	0.00	0.13**	0.02	0.09**	0.02
Change in Insight/Action (τ_{22})	NA	NA	2.04**	0.40	0.59**	0.15
Goodness of Fit						
Deviance	1879.1		766.1		1074.9	
AIC	1891.10		786.10		1094.90	
BIC	1909.10		816.20		1124.90	
Pseudo R^2_{error}	0.16		0.83		0.61	

** p<.001; * p<.05.

Table 16

Relationship between Insight or Action and Youth Life Satisfaction over Time

Final Model of the Relationship between Youth Life Satisfaction and Insight or Action				
	Insight		Action	
	β	SE	β	SE
Intercept (β_{00})	3.90**	0.13	3.82**	0.10
Age (β_{01})	-0.01	0.03	-0.10*	0.03
Gender (β_{02})	-0.10	0.14	-0.12	0.13
Baseline Severity (β_{03})	-0.03**	0.01	-0.03**	0.01
Baseline Youth Motivation (β_{04})	-0.15	0.08	-0.11	0.08
Baseline Insight/Action (β_{05})	0.31*	0.10	0.18*	0.07
Time (β_{10})	0.04	0.05	0.01	0.05
Time x Baseline Insight/Action (β_{11})	0.00	0.05	0.13**	0.05
Change in Insight/Action (β_{20})	0.12	0.19	0.26*	0.12
Parent Participation (β_{30})	0.01	0.04	0.09	0.06
Variance Estimates				
Within Person (τ_e)	0.08**	0.01	0.18**	0.01
Intercept (τ_{00})	0.74**	0.14	0.23**	0.07
Time (τ_{11})	0.16**	0.03	0.07**	0.02
Change in Insight/Action (τ_{22})	1.84**	0.43	0.48**	0.14
Goodness of Fit				
Deviance	671.7		832.8	
AIC	705.7		866.8	
BIC	752.9		914.0	

** p<.001; * p<.05.

VITA

Marcia Kearns was born in Thibodaux, Louisiana. She graduated from Metairie Park Country Day High School, in Metairie Louisiana. She then moved to Nashville, TN for college and graduated with a B.S. in Psychology in 2005 and M.Ed. in Child Studies in 2007 from Vanderbilt University. While at Vanderbilt, she became involved in intervention research in the labs of both Drs. Leonard Bickman and Bahr Weiss. Through her work with Dr. Bickman, she began collaboration on the Providence Project and developed the research questions that would later form the basis for her dissertation. After Vanderbilt, Marcia moved to Columbia, MO to pursue a PhD in Child Clinical and Developmental Psychology and a minor in Psychological Statistics and Methods from the University of Missouri. There she continued her work on intervention research with Dr. Kristin Hawley and deepened her understanding of family relationships during adolescence with Dr. Nicole Campione-Barr. In addition to actively being involved in intervention research during graduate school, she also gained extensive clinical experience delivering evidence based interventions to children and families across a variety of settings including inpatient, outpatient, schools, community, juvenile justice, and home-based settings. . In 2014, she completed an APA accredited internship at the University of New Mexico Health Sciences in Albuquerque, NM. After graduate school, Marcia intends to pursue a career focused on mental health prevention, decreasing the fragmentation of services, improving access to culturally and linguistically appropriate services, and transporting effective, evidence-based, and culturally-responsive treatments to pediatric primary care settings.