

THE RELATIONSHIP BETWEEN THERAPEUTIC ALLIANCE AND CLIENT  
PROGRESS IN PREDICTING PREMATURE TERMINATION IN COUNSELING

A Dissertation

by

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## ABSTRACT

The purpose of the current study was to explore how client perceptions of the therapeutic alliance and client functioning develop over the course of therapy as they relate to premature termination. Adolescents and adults ranging in age from 13 to 73 years old completed the Outcome Rating Scale (ORS) and Session Rating Scale (SRS) during each therapy session. At the end of treatment, therapists indicated whether or not clients made sufficient progress and who initiated the termination. Clients making unilateral decisions to terminate without making sufficient progress were designated as terminating prematurely. For both therapeutic alliance and client functioning, a quadratic growth curve best captured change over time. Clients reporting a stronger therapeutic alliance at the end of the first therapy session and clients entering therapy without a clinical diagnosis were less likely to terminate prematurely; however, there was a significant interactive effect such that a stronger therapeutic alliance mitigated the increased risk associated with entering therapy with a clinical diagnosis. Over the course of the first ten sessions, the therapeutic alliance at intake was the strongest predictor of premature termination with clients who reported a stronger alliance being at decreased risk for premature termination. In terms of client functioning over the first ten session, the fourth session was the strongest predictor of premature termination with clients who reported poorer overall functioning being at increased risk for premature termination. The overall model for client functioning, age, and diagnostic status was not statistically significant. When considering both the main effects and potential interactive effects of therapeutic alliance and client functioning, main effects for client functioning and therapeutic alliance at intake demonstrated the anticipated negative relationship with premature termination such that increases in functioning or a stronger alliance

at intake were associated with a lower probability of premature termination; however, their interaction term was positive. When both client functioning and therapeutic alliance increased at intake, the risk for premature termination also increased. Overall, results demonstrate the importance of monitoring both therapeutic alliance and client functioning starting with the very first therapy session in order to inform therapists when clients are at greater risk of premature termination.

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# CHAPTER I

## INTRODUCTION

Premature termination, a client's unilateral termination of therapy services before achieving sufficient change, is a pervasive problem that has deleterious consequences for clients, therapists, healthcare agencies, and society as a whole (Swift & Greenberg, 2015). Premature termination estimates range anywhere from 20 to 47 percent with ripple effects that start with the client (Swift & Greenberg, 2012; Wierzbicki & Pekarik, 1993). Clients who terminate prematurely have poorer client outcomes (Cahill et al., 2003) and report higher treatment dissatisfaction (Lebow, 1982) with effects that then ripple on to therapists in the form of loss of revenue and time, as well as feelings of rejection and demoralization (Barrett, Chua, Crits-Christoph, Gibbons, & Thompson, 2008). These effects then continue to ripple on to healthcare agencies by draining resources (Carpenter, Gaudio, & Morrow, 1979; Ogrodniczuk, Joyce, & Piper, 2005) and to society as a whole due to the continued burden of unmet mental health needs (Barrett et al., 2008). Given the severity of its consequences, understanding and preventing premature termination has been the focus of extensive research over the past 50 years with notable progress made in terms of identifying risk factors (Anderson, 2016; Swift & Greenberg, 2012; Swift, Greenberg, Whipple, & Kominiak, 2012) and developing outcome monitoring systems to warn therapists when clients are at risk for premature termination (Amble, Gude, Stubdal, Andersen, & Wampold, 2015; Miller et al., 2006).

Risk factors for premature termination can be thought of both in terms of client versus therapist factors as well as fixed (e.g., age, presence of a diagnosis at intake) versus malleable factors that are more amenable to change (e.g., therapeutic alliance; Swift & Greenberg, 2012).

Examples of client risk factors include ethnic minority group membership (Greenspan & Kulish, 1985), low socioeconomic status (Wierzbicki & Pekarik, 1993), age (Arnold et al., 2007), or having a clinical diagnosis at intake (Wang, 2007). In terms of therapist risk factors, there is more mixed evidence regarding demographic variables (Anderson, 2016), but relatively consistent support for lower levels of experience being a risk factor for client premature termination (Anderson, Tambling, Yorgason, & Rackham, 2018; Baekeland & Lundwall, 1975; Reis & Brown, 1999).

In addition to looking at the client and therapist risk factors, there is also a protective factor that takes into account the relationship between the client and therapist known as the therapeutic alliance (Swift & Greenberg, 2015). Unlike demographic risk factors that are fixed, the therapeutic alliance *is* amenable to change and can help maximize client outcomes and prevent premature termination. Clients reporting a stronger therapeutic alliance were less likely to terminate prematurely and made more statistically and clinically significant progress over the course of treatment. Client risk factors for premature termination, such as high distress levels, are mitigated by a strong alliance (Anderson et al., 2018)

The therapeutic alliance is broadly defined as the relationship that develops between a client and therapist over the course of treatment and is one of the most frequently cited “common factors” present across treatment modalities and theoretical orientations (Wampold & Imel, 2015, p. 37). It also has been identified as one of the strongest and most consistent predictors of counseling treatment success across theoretical orientations (Flückiger, Del Re, Wampold, Symonds, & Horvath, 2012; Martin & Davis, 2000). Alliance measures typically assess how well a therapist and client are working together and evaluates factors such as whether or not the client feels understood, whether or not the client feels that they are working collaboratively with

the therapist toward a common goal, and their perception of the relationship as a whole. One possible reason therapeutic alliance plays such a critical role in clients' treatment outcomes is because it facilitates a foundation of trust, encouraging client engagement and commitment to therapy (Hatcher, 2010).

Although having a strong therapeutic alliance overall is important, small ruptures are to be expected and represent an important aspect of the change process (Muran et al., 2009). It is the ability of the therapist and client to reach a resolution following these ruptures that is critical to preventing premature termination. The first step towards reaching a resolution is accurately identifying potential ruptures and problems in the therapeutic alliance before clients drop out, which requires frequent assessment. This formative assessment can be conducted through the use of outcome management systems, such as the Partners for Change Outcome Management System (PCOMS; Duncan et al., 2003) or Outcome Questionnaire (OQ; Lambert, Harmon, Slade, Whipple, & Hawkins, 2005). These outcome management systems are typically administered at every session and provide therapists with frequent feedback on the client's perception of the therapeutic alliance, as well as overall client functioning. Many systems also include warnings to signal when clients are not making adequate progress or may be at-risk for premature termination. When therapists are provided with this feedback, clients achieve more positive outcomes in a shorter number of sessions and fewer clients drop out of treatment early relative to when therapists are not provided with feedback (Duncan, Sparks, Miller, Bohanske, & Claud, 2006; Harmon et al., 2007). Formative assessment of therapeutic alliance and client functioning informs evidence-based decision-making by providing therapists with greater insight into how various treatments are impacting each individual client. Additionally, therapists are alerted to potential ruptures in the therapeutic alliance that may have otherwise gone unnoticed

and led to premature termination. The current study uses these formative assessments to investigate the development of the therapeutic alliance and client functioning over the course of treatment as it relates to premature termination.

Much of the therapeutic alliance and client functioning research literature is based on single points in time (e.g., intake, termination) or a small handful of time points when exploring premature termination (Muran & Barber, 2010). The current study capitalizes on the rich longitudinal data available when using formative assessments taken at each therapy session using the PCOMS to investigate how therapeutic alliance and client functioning develop over the course of treatment. In addition to looking at therapeutic alliance and client functioning in isolation, the current study explores the potential benefit of modeling both concurrently. Potential moderators, including client age and diagnosis status at intake, will also be explored as they may influence the relationship between therapeutic alliance, client functioning, and premature termination. As the understanding of factors predicting premature termination improves, therapists can be provided with earlier warnings for clients at risk for dropping out and can make the treatment adjustments needed to prevent premature termination.

## CHAPTER II

### LITERATURE REVIEW

#### **Premature Termination**

**What is it?** Premature termination occurs when a client makes the unilateral decision to drop out of treatment before making sufficient progress towards goals; however, there is considerable disagreement amongst researchers regarding how to best capture it from a methodological perspective (Swift & Greenberg, 2012). For example, researchers may consider all clients who do not attend a predetermined minimum number of sessions as having terminated prematurely. Using a cutoff is based on the dose-effect literature findings that suggest clients make the most growth during early sessions (Lambert, 2007); therefore, setting a predetermined number of sessions assumes adequate growth was made if the client attended at least that number of sessions. Another duration-based method of operationalization includes labeling any client who does not complete the full treatment protocol as terminating prematurely, which aligns more with clinical trial and manualized treatment approaches (Swift & Greenberg, 2012). Duration and completion-based methods also can include cutoffs for number of missed appointments. As easy and objective as these approaches may be to calculate, their potentially fatal flaw is the underlying assumption that each client attending a set number of sessions has indeed made sufficient growth during those sessions. There is no direct measure of client functioning, who initiated the termination, or whether or not clients achieved their goals.

Hatchett and Park (2003) posited an alternative approach for operationalizing premature termination that emphasized clinically significant and reliable change. Using this approach, clients not scoring within the normal range at termination or demonstrating statistically reliable

growth on an outcome measure are classified as premature termination. This approach improves upon duration and completion-based methods by taking into account whether or not the client actually improved over the course of the treatment, but it does not take into consideration whether or not the termination decision was made unilaterally by the client when the therapist thought the client could benefit from continuing in therapy. In addition, some higher functioning clients may have appropriate terminations but may be mislabeled as premature termination due to a ceiling effect on the outcome measure. If they entered into therapy with high scores for overall functioning, then there simply was not enough room for them to grow on the outcome measure to achieve the needed amount of change to be considered statistically significant change.

Put simply, there is no single formula that appropriately captures all of the nuances involved in determining whether or not a client terminated prematurely because it requires using clinical judgment (Pekarik, 1985). Experienced therapists can take into consideration a multitude of factors when determining whether or not a client terminated prematurely, such as symptom severity, progress towards goals, rate of progress, discussions surrounding termination, and whether the decision was made unilaterally by the client or in mutual agreement with the therapist. An inherent limitation in any subjective assessment that relies on clinical judgment is the potential for bias and flawed judgment (Garb, 2005); however, this limitation may be mitigated when therapists are provided with regular feedback directly from clients on their functioning and the therapeutic alliance.

As one test of the value added by incorporating therapist judgment, Pekarik (1985) directly compared therapist judgment of premature termination to a duration based operational definition. There were no significant group differences between clients that terminated

prematurely and those that did not using a duration-based definition; however, the majority of expected group differences emerged (e.g., therapist experience) only when considering therapist judgment. Although this comparison does not definitively identify therapist judgment as the superior method, it does provide some support for therapists being able to identify more nuanced differences between those clients who terminated prematurely versus those who terminated appropriately.

Overall, these notable differences between operational definitions are detrimental for the field of premature termination. When Hatchet and Park (2003) applied four different operational definitions to the same set of clients, the rates for premature termination varied from 17 to 53%. These wild fluctuations alone highlight the potential variability in research findings that are attributable to differences in definitions. These findings were further corroborated by Swift and Greenberg's (2012) meta-analysis finding that premature termination rates differed significantly based on operational definition. Studies using therapist judgment reported higher rates of premature termination than both duration-based and clinically significant change definitions. The field of premature termination will continue to be rife with contradictory findings and failed replications until a consensus can be made towards a gold standard for how to operationally define premature termination. Examples of these inconsistencies are present throughout the research identifying potential risk factors for premature termination.

**Client Risk Factors.** Swift and Greenberg (2012) conducted a meta-analysis of the adult psychotherapy literature for studies using premature termination as an outcome with the goal of identifying significant predictors of premature termination. In terms of client risk factors, they identified significant effect sizes for age and education such that younger clients or those with less education have higher rates of premature termination. It is interesting to note that no

significant relationships were identified for many commonly studied demographic characteristics, including gender, race, marital status, or employment. For example, ethnic minority group membership had been considered a relatively consistent risk factor for premature termination (Anderson, 2016). The benefit of a meta-analysis is that it can take into account the magnitude of effect sizes and summarize the variability across studies (Fagard, Staessen, & Thijs, 1996), which includes published studies that found no relationship for the above demographic characteristics (e.g., Brogan, Prochaska, & Prochaska, 1999; Edlund et al., 2002; Sledge, Moras, Hartley, & Levine, 1990) as well as those that found significant relationships (e.g., Arnow et al., 2007; Greenspan & Kulish, 1985; Richmond, 1992; Wang, 2007).

Looking more closely at the moderator of age, it becomes apparent that many of the studies include either adults (Swift & Greenberg, 2012) or adolescents and children (Wamser-Nanney & Steinzor, 2016), but not both within a single study. This limits the understanding of how age influences premature termination across the lifespan. Within the adult therapy literature, younger clients have tended to have higher premature termination rates than older clients (Edlund et al., 2002; Swift & Greenberg, 2012). Within the child and adolescent literature, older adolescents had higher premature termination rates than younger adolescents and children (Miller, Southam-Gerow, & Allin, 2008; Wamser-Nanney & Steinzor, 2016). Overall, these findings suggest more of a U-shaped curve in terms of the relationship between client age and premature termination, but a single study using the same measure across the lifespan is needed. Barrett and colleagues (2008) highlight the rich complexity of the cultural, attitudinal, and experiential differences across demographic groups that may contribute to differences in premature termination rates. For example, parents may have a stronger influence over younger adolescents when encouraging them to continue with therapy, whereas older adolescents and

young adults begin to fully exert their independence. As clients age, they may be more settled, have better access to the financial resources or insurance needed to attend as many therapy sessions as needed to achieve goals, or may be more engaged in therapy.

The inconsistencies in how client diagnostic status is operationalized have contributed to contradictory findings in the literature. Some researchers categorize by the specific diagnosis (e.g., anxiety, depression) while others look at the presence versus absence of any diagnosis (Swift & Greenberg, 2012; Wierzbicki & Pekarik, 1993). When looking at treatments targeting specific diagnoses, Swift and Greenberg's (2012) meta-analysis found that personality and eating disorder clients had higher rates of premature termination relative to mood, psychotic, or trauma-related disorders. Many of the studies from the meta-analysis specifically targeted clients with particular disorders in order to evaluate the efficacy of a particular treatment, such as depression (Arnou et al., 2007) or anxiety (Ledley et al., 2005). This narrow target population is not representative of the wide range of clients seen in most community clinics or private practices. Studies that did include a broader range of diagnoses, such as community clinics, did report higher dropout rates (Swift & Greenberg, 2012). Not only do the types of diagnoses vary tremendously in community settings, but the severity of clients' symptoms does as well. Community settings can accept clients seeking treatment for problems that do not meet the clinical threshold warranting an official diagnosis, whereas such clients would be excluded from many clinical trials. An epidemiological study drawing from more diverse client populations chose to define diagnosis as the presence or absence of any clinical diagnosis as a dichotomous proxy for symptom severity and found those with any diagnosis at intake had higher rates of premature termination than those who did not (Wang, 2007). When Edlund and colleagues (2002) conducted a similar epidemiological study but only included clients with a diagnosis,

there was no difference in premature termination rates based on the Diagnostic and Statistical Manual of Mental Disorder, Revised Third Edition (DSM-III-R; American Psychiatric Association, 1987) diagnosis. This pattern of findings suggests that the relationship between client diagnosis and premature termination may be best captured using a dichotomous categorization of presence or absence of a clinical diagnosis rather than any specific diagnosis.

**Therapist Risk Factors.** With regard to demographic characteristics, therapist characteristics are studied less often than client (Anderson, 2016). The handful of studies exploring how the gender of the therapist relates to premature termination have contradictory findings. Baekland and Lundwall (1975) reported lower premature termination rates for female therapists; however, Epperson, Bushway, and Warman (1983) later reported lower rates for male therapists. The majority of studies found no significant effects regarding therapist gender (Hatchett & Park, 2004; Werbart, Andersson, & Sandell, 2014). A recent meta-analysis exploring the impact of the match between the racial and ethnic background of the client and therapist to have an influence on client preferences when selecting a therapist and a tendency to perceive therapists more positively when the client and therapist were from the same racial background; however, there was no difference across groups regarding premature termination rates or treatment outcomes (Cabral & Smith, 2011).

Research into therapist risk factors tends to focus more on factors directly tied to treatment, such as theoretical orientation and therapist experience. Swift and Greenberg's (2012) meta-analysis found no relationship between the therapist's theoretical orientation and premature termination rates, which has been used as support for the notion of common factors in therapy being more important than specific treatment techniques (Wampold, 2015). On the other hand, therapist experience did consistently predict premature termination rates with less experienced

therapists having higher rates on average (Baekeland & Lundwall, 1975; Reis & Brown, 1999; Swift & Greenberg, 2012). University-based training and counseling clinics had the highest rates of premature termination, emphasizing the importance of further exploring and targeting interventions addressing premature termination in these settings. Although therapist experience cannot be directly targeted with intervention in the sense that only the passage of time and additional years of experience providing therapy can directly increase therapist experience, its negative influence on premature termination may be mitigated by interventions targeting protective factors. Swift and Greenberg (2012) argued for focusing on the therapeutic alliance as a protective factor that *is* amenable to change.

**Summary.** The field of premature termination is plagued by inconsistent operational definitions that contribute to contradictory findings. Although there is currently no gold standard regarding an operational definition, taking into account therapist judgment enables researchers to capture more of the nuances of therapy (Pekarik, 1985). In spite of these differences in definitions, a handful of relatively consistent findings regarding client and therapist risk factors for premature termination have emerged (Swift & Greenberg, 2012).

In terms of client risk factors, age and client diagnosis status at intake are associated with premature termination rates. The relationship between age and premature termination may approach more of a U-shaped curve with younger and older clients having lower rates of premature termination relative to older adolescents and young adults (Anderson, 2016). How to best capture client diagnosis also varies, but there is support for using a more general dichotomous definition that separates clients by presence versus absence of any clinical diagnosis at intake (Wang, 2007). Clients with a clinical diagnosis at intake have significantly high premature termination rates than those with subclinical symptoms.

In terms of therapist risk factors, therapist experience is associated with premature termination such that therapists with less experience have higher rates of premature termination (Swift & Greenberg, 2012). The highest rates overall were found in university-based training and counseling clinics, making it an ideal setting to further explore premature termination and possible protective factors. Two of the most influential protective factors are the therapeutic alliance and outcome monitoring (Lambert, 2007; Muran & Barber, 2010), which are explored further in the following sections.

### **Therapeutic Alliance**

**What is it?** Therapeutic alliance is broadly defined as the relationship that develops between a therapist and client over the course of treatment. Given the importance of therapeutic alliance in therapy, it has been the focus of extensive research over the past 50 years and researchers have identified numerous factors that influence its development and effectiveness in terms of client treatment outcomes. For example, research highlights the importance of the therapeutic alliance in preventing premature termination as well as the amount of progress clients make over the course of treatment (Sharf, Primavera, & Diener, 2010). A review of the origins of therapeutic alliance research and current theories provides insight into both what the alliance is and why it is so critical for the change process.

Therapeutic alliance has its origins in the psychoanalytic work of Freud with a focus on the bond between the therapist and client as being based on an “unobjectionable” or “positive” transference (Mariane, Carolina, & Adam, 2011). Freud viewed this bond as critical to keeping the client in treatment and he focused on ways for the therapist to address any of the client’s potentially interfering interpersonal patterns or defenses. Although the terminology Freud used to describe issues surrounding the alliance may be specific to psychoanalysis, such as

transference or ego, the underlying concepts laid the foundation for transtheoretical therapeutic alliance work for decades to come (Hatcher, 2010). The foundational concepts included a focus on clients being engaged in therapy because of an alliance between the therapist and the client. This alliance is built on a positive feeling towards the therapist, belief that the therapist and the treatment can lead to desired changes, and a sense of trust. Equally important was the concern for developing techniques to get clients back on track when their engagement faltered.

Greenson (1967) continued to develop the concept of the therapeutic alliance within the field of psychoanalysis by focusing in on the collaborative nature of the alliance. The “working alliance” as Greenson labeled it, was based in both trust and goodwill. One of Greenson’s particularly innovative and controversial techniques at the time was directly talking with his clients about alliance issues (Hatcher, 2010). He openly discussed client expectations and reactions to treatment. The field of therapeutic alliance research quickly expanded beyond psychoanalysis in the 1970s as the number of theoretical orientations exploded and recognition for the importance of the alliance on treatment outcomes increased. For example, Rogers (1965) emphasized the centrality of the alliance in the form of unconditional positive regard in humanistic psychotherapies. Anderson and Anderson (1962) began the process of operationalizing rapport and the empathy experienced by the client, which Orlinsky and Howard (1975) then expanded into a full working theory of the alliance. They identified three domains of the alliance: the working alliance, empathic resonance, and mutual affirmation. Luborsky (1984) conceptualized the alliance more from the perspective of the client with ‘Type 1’ and ‘Type 2’ signs that emphasized the clients’ experience of the therapist as helpful and feeling that the client and therapist are working collaboratively towards common goals. Up to this point,

many of the conceptualizations of the alliance were rooted in a specific theoretical orientation with many different names (e.g., working alliance, therapeutic alliance, helping alliance).

Bordin (1979) developed a comprehensive theory of working alliance that unified the interpersonal change process across theoretical orientations. Bordin based the working alliance on four overarching propositions. First, each theoretical orientation has “embedded working alliances” or specific demands made on both clients and therapists. Second, Bordin hypothesized that the effectiveness of any given therapy was almost entirely dependent on the strength of the working alliance. Third, the main differences between theoretical orientations were the differences in demands made on client and therapist. Finally, the strength of the working alliance depended on the fit between the demands of the particular theoretical orientation and the personal characteristics of both client and therapist. Bordin saw the development of the working alliance as a continual negotiation between client and therapist on goal agreement, task collaboration, and the overall bond. Two of Bordin’s key theoretical contributions to the field of therapeutic alliance include viewing the alliance as both negotiated and dyadic in nature (Hatcher, 2010). The field of therapeutic alliance research continues to evolve and improve upon Bordin’s (1979) seminal work, such as Safran and Muran’s (2006) further exploration of negotiation and how to explicitly address when the client disagrees with or doubts the treatment; however, many of the current measures of therapeutic alliance are still built on a variation of Bordin’s original theory of working alliance (Elvins & Green, 2008).

**How do we measure it?** Elvins and Green’s 2008 review of the therapeutic alliance literature identified over 30 different measures that varied on both conceptual basis as well as level of construct, convergent, discriminant, and predictive validity. A detailed review of every measure is beyond the scope of this study (see Elvins & Green, 2008); however, the overarching

commonalities across measures as well as the most commonly used and researched measures will be reviewed.

The most commonly used and researched alliance measures today include the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989), Vanderbilt Therapy Alliance Scale (VTAS; Hartley & Strupp, 1983), Penn Helping Alliance questionnaire (HAq; Luborsky, 1976) and California Psychotherapy Alliance Scales (CALPAS; Gaston & Marmar, 1994) with the more recent addition of the Session Rating Scale (SRS; Duncan, Miller, Sparks, Claud, Beach, et al., 2003) as formative assessments of alliance completed at every session (Elvins & Green, 2008; Hatcher, 2010). Although the conceptual basis for each scale varies dependent on its theoretical roots, Hougard's (1994) review identified more overlapping constructs than unique with dimensions commonly falling into either the "personal alliance" including the bond between the therapist and client or the "task related alliance" including the planning and goals.

***Working Alliance Inventory.*** The Working Alliance Inventory (WAI; Horvath & Greenberg, 1989) is theoretically based on Bordin's (1980) tripartite theory of working alliance including items assessing the bond, goals, and tasks. The inventory is designed for use with adults and includes a client, therapist, and observer form. The original form contains 36 items and includes 7-point Likert type scales. A shorter version is also available with only 12 items (Hatcher & Gillaspay, 2006). Internal consistency measures for the long version range from alphas of 0.85 to 0.88 for subscales and 0.93 for the full scale (Horvath & Greenberg, 1989). DiGiuseppe, Linscott, and Jilton (1996) adapted the WAI by lowering its reading level so that it could be used with adolescents. The revised adolescent measure also demonstrated adequate internal consistency of 0.90 alpha. A notable psychometric difference with the adolescent version is that all of the items load on to one central factor. DiGiuseppe and colleagues

speculated that younger clients may not discriminate between more nuanced aspects of the alliance compared to adults.

***Vanderbilt Therapeutic Alliance Scales.*** The original Vanderbilt Scales originated in psychodynamic theory with a foundation in Orlinsky and Howard's (1975) conceptualization of the alliance. A measure originally designed for use with adults, the Vanderbilt Psychotherapy Process Scale (VPPS; O'Malley, Suh, & Strupp, 1983), is an observer rated assessment consisting of 80 items that emphasizes client and client-therapist interactions more than the therapist perspective. In comparison to other alliance measures, the VPPS includes more items that assesses general outcome and process as well as more traditional alliance items. Items break down into 8 subscales with internal consistency measures ranging from 0.82 to 0.96 alpha and interrater interclass correlation coefficient estimates ranging from 0.79 to 0.94.

The Vanderbilt Therapeutic Alliance Scales (VTAS; Hartley & Strupp, 1983) focuses in more narrowly on the alliance using Bordin's (1979) tripartite conceptualization of alliance (i.e., bonds, goals, tasks). It was designed for use with adolescents in family therapy and both the adolescents themselves and their parents can complete ratings. The original VTAS measure consists of 44 items to be completed by a trained observer using 6-point Likert scales. A shortened version was later developed by Shelef and Diamond (2008) that consists of 5 items. This shortened version demonstrates adequate internal consistency alpha (0.90 – 0.91) and interrater interclass correlation coefficient estimates (0.72 – 0.87).

***Penn Helping Alliance Questionnaire.*** The original Helping Alliance Questionnaire (HAQ; Luborsky, 1976) is based in psychodynamic theory with items measuring Luborsky's 'Type 1' and 'Type 2' signs of the client's experience of the therapist as helpful and collaboratively working towards common goals. The original HAQ was an 11-item self-report

measure and has since been revised to include 19-items and client, therapist, and observer versions (HAQ-II; Luborsky et al., 1996). Items are scored using a 6-point Likert scale and sum to a single factor. The HAQ-II demonstrates adequate internal consistency (0.93 alpha) and test-retest reliability (0.78 Pearson correlation coefficient). Although the HAQ-II was originally researched with an adult population, it is also often used with the adolescent population (Elvins & Green, 2008).

***California Psychotherapy Alliance Scales.*** The California Psychotherapy Alliance Scales (CALPAS; Gaston & Marmar, 1994) are based in psychodynamic theory and include therapist, client, and observer versions for use with adults. The client version includes 24 items that produces both an overall score as well as 4 subscales. Internal consistency for the subscales ranges from 0.43 to 0.73 alpha, but increases to 0.83 for the overall score (Gaston, 1991). Given the poor internal consistency of some of the subscales and their high intercorrelations, using the CALPAS as a global measure of alliance with the total score is preferable (Elvins & Green, 2008).

***Session Rating Scale.*** The Session Rating Scale (SRS; Duncan, Miller, Sparks, Claud, Beach, et al., 2003) is used in conjunction with the Outcome Rating Scale (ORS; (Miller, Duncan, Brown, Sparks, & Claud, 2003) as part of the Partners for Change Outcome Management System (PCOMS; Miller, Duncan, Sorell, & Brown, 2005). The SRS is based in Bordin's (1979) theory of the working alliance with an emphasis on the client's perspective on the bond, goals, and tasks. It consists of 4 visual analog items asking clients to mark each of the following domains on a 10 cm horizontal line: relationship with the therapist, relevance of the goals and topics discussed, approach, and overall session. The SRS is administered while the therapist is still in the room in order to enable the therapist to address any potential concerns

regarding the therapeutic alliance before the client leaves the session. One of the benefits of the SRS relative to other measures is that it is short enough to be administered in fewer than 5 minutes at the end of every session, thus allowing for the alliance to be monitored over time for overall changes as well as potential ruptures.

The SRS can be used with both adolescents and adults (Duncan et al., 2003) while the Children's Session Rating Scale (CSRS) can be used with children 6 to 12 years of age and includes visual faces on the scale to aide in comprehension. The SRS is best captured as a global indicator of alliance with all four items being summed for a total score. Any score below 36 cm (out of a total of 40 cm) or any single item dropping below 9 cm (out of a total of 10 cm) is considered the cutoff for therapists to address potential problems with the alliance by openly discussing concerns with the client. The SRS has demonstrated adequate internal consistency (0.88 alpha) and test-retest reliability (0.64 Pearson correlation coefficient). The test-retest reliability estimates are expected to be within the moderate range due to the measurement needing to be sensitive to change.

**Therapeutic Alliance and Treatment Outcomes.** The importance of the alliance features prominently across theoretical orientations and remains one of the most commonly studied constructs in psychotherapy (Barber, Khalsa, & Sharpless, 2010). Martin, Garske, and Davis' (2000) meta-analysis of the psychotherapy literature identified an average effect size of 0.22 when considering the impact of alliance on treatment outcome. Although the meta-analysis provides a general overview of the impact the alliance has on treatment outcomes, Barber and colleagues (2010) point to the importance of also taking into consideration the timing of the assessment in order to better understand how the alliance relates to treatment outcomes.

There is mixed evidence regarding how therapeutic alliance develops and its relationship with treatment outcomes. Some researchers have found a stronger relationship between early ratings of therapeutic alliance and treatment outcomes relative to ratings in the middle or end of treatment (Jordan, et al., 2017; Strauss et al., 2006; Yoo, Bartle-Haring, & Gangamma, 2016); however, others have found that the predictive power of the alliance remains stable across treatment (Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000). When looking at the development of the alliance, there is support for a linear relationship with steeper increases in alliance being associated with more positive treatment outcomes (Fitzpatrick, Iwakabe, & Stalikas, 2005; Golden & B, 1990). At the same time, there is also support for more of a U-shaped development of the alliance being associated with more positive treatment outcomes (Patton, Kivlighan, & Multon, 1997) or a rupture repair pattern (Safran & Muran, 1996; Safran, Muran, Samstag, & Stevens, 2001) in line with Mann's (1973) model using three phases of alliance. Still other researchers have approached the relationship between alliance and treatment outcomes using cluster analysis to explore the possibility that there are multiple patterns of development that may be associated with positive treatment outcomes (Kivlighan & Shaughnessy, 2000). Three distinct clusters emerged: stable alliance across sessions, linear growth pattern with alliance increasing over time, and the U-shaped pattern with high scores at the beginning and ending sessions versus lower scores in the middle. Stiles and colleagues (2004) were not able to replicate these clusters; they were only able to identify the linear and stable patterns. Many of these discrepancies are likely due to methodological differences, such as the frequency of measurement as well as the measure being used. Given the long length of many measures, the alliance was oftentimes only measured one to three times across treatment (Stiles & Goldsmith, 2010), thus limiting researchers ability to investigate session-to-session

fluctuations in the shape of its development. This is one of the strengths of the SRS; it is administered at every session and thus provides a more in-depth evaluation of the developmental course of the therapeutic alliance. This frequent assessment also enables the exploration of whether or not the strength of the relationship between the alliance and treatment outcomes varies across the course of treatment.

**Moderators of Therapeutic Alliance and Treatment Outcomes.** Although having a stronger therapeutic alliance has been associated with positive treatment outcomes across a wide range of settings, therapies, and clients (Horvath & Luborsky, 1993); the strength of its relationship with treatment outcomes may be more or less important with particular groups of clients. Sharf and colleagues (2010) explored potential moderators using a meta-analysis of 11 studies and identified client age, symptom severity at intake, and education as well as setting to influence the relationship between therapeutic alliance and premature termination.

Similar to the field of premature termination, therapeutic alliance is typically studied with either the adult population or the child and adolescent population with very few studies spanning the lifespan (Elvins & Green, 2008). This is likely due to the methodological obstacles presented by using the same measure with clients of varying developmental levels (e.g., reading level, cognitive ability). Even the way that the alliance is perceived may vary based on developmental level, such as the research finding that alliance measures tend to more often load onto a single global factor for adolescents as compared to more nuanced subscales with adults (DiGiuseppe et al., 1996). Within the adult literature, age has not moderated the influence of the alliance on treatment outcomes (Lorenzo-Luaces, Derubeis, & Webb, 2014); however, Shirk and Russell (1992) highlighted ways that the alliance may develop differently in children and adolescents such that age may play a moderating role when looking across the whole lifespan. For example,

additional obstacles to building a strong alliance with children and adolescents include rarely choosing to go to treatment themselves, recognizing or acknowledging that there is a problem less often, and being in conflict with their parents about the goals of treatment. In addition, increasing levels of autonomy during adolescence make navigating the alliance more challenging if the therapist is seen as yet another adult exerting control or colluding with parents (DiGiuseppe et al., 1996). All of these factors together account for why Shirk and Saiz (1992) speculated that the therapeutic alliance may be even more important for child and adolescent clients than adult clients. The current study was able to investigate this question using a single measure across adolescent and adult populations.

The initial level of symptom severity has been found to moderate the relationship between the therapeutic alliance and treatment outcomes such that the strength of the alliance is even more critical for clients entering therapy with more severe symptoms at intake (Lorenzo-Luaces et al., 2014). In addition to symptom severity, researchers have also found that the type of presenting problems can moderate the relationship between the alliance and treatment outcomes (Arnow et al., 2007; Falkenström, Granström, & Holmqvist, 2013; Flückiger, Del Re, et al., 2013). A strong alliance was even more critical to preventing premature termination in clients presenting with substance abuse (Flückiger, Del Re, et al., 2013), personality disorders (Falkenström et al., 2013), or depression (Arnow et al., 2007). Similar to the premature termination research, many of these studies recruited clients with a specific diagnosis rather than a broader range of presenting problems more representative of the general population or clients typically seen at community health clinics. Therefore, future research may benefit from using the broader dichotomous definition of presence versus absence of a diagnosis at intake similar to

that used in the epidemiological studies of premature termination (Edlund et al., 2002; Wang, 2007).

The meta-analysis by Sharf and colleagues (2010) identified additional moderating variables to reflect upon when examining the strength of the relationship between therapeutic alliance and treatment outcomes. The relationship between alliance and premature termination tended to be strongest for those clients with less than a high school education. In addition, a stronger relationship between alliance and premature termination emerged for those seen in inpatient settings versus research or community clinics and for those engaged in longer versus shorter treatments.

**Summary.** The therapeutic alliance is one of the most extensively researched psychotherapy constructs that spans across all theoretical orientations (Muran & Barber, 2010). The strength of the relationship between the alliance and treatment outcomes has been demonstrated across both adult (Martin et al., 2000) and child and adolescent populations (Shirk & Karver, 2003) with effect sizes exceeding those found for any unique treatment effects. This has led many to consider the alliance the quintessential integrative variable (Wolfe & Goldfried, 1988). Although there are many different ways of conceptualizing and measuring the alliance, many of the most common measures today are rooted in Bordin's (1979) tripartite theory emphasizing the bond, goals, and tasks of therapy.

The overall positive association of a stronger alliance predicting better treatment outcomes becomes more complex and nuanced when considering the overall development of the alliance over the course of treatment and potential moderators (e.g., client age, presence of a diagnosis at intake). There is contradictory evidence supporting a linear trend, quadratic trend, and stable trend for the development of the alliance over time with differences in the timing and

frequency of assessment likely contributing to the inconsistent findings (Stiles & Goldsmith, 2010). Client age may also moderate the relationship between alliance and treatment outcomes with a strong therapeutic alliance being even more critical with younger clients (DiGiuseppe et al., 1996; Shirk & Saiz, 1992). Lastly, the severity or type of presenting problem at intake also moderates the relationship between therapeutic alliance and treatment outcome with the alliance being most critical for clients presenting with more severe symptoms (Lorenzo-Luaces et al., 2014).

### **Outcome Monitoring Systems**

**What are they and why are they useful?** Outcome monitoring systems consist of brief measures of client functioning and/or therapeutic alliance that are administered at every therapy session (Lambert et al., 2002). This type of formative assessment provides therapists with updated information regarding changes in client functioning and possible ruptures in the alliance that can inform evidence-based decision-making regarding treatment decisions. Clients make more progress in fewer sessions and have lower rates of premature termination when therapists are provided with feedback in the form of outcome monitoring (Lambert, 2007). Therapist and client perceptions of functioning differ and the difference between perceptions is greatest for those clients that terminate prematurely (Westmacott, Hunsky, Best, Rumstein-Mckean, & Schindler, 2010). The overwhelming support and demonstrated effectiveness for outcome management systems has led the Substance Abuse and Mental Health Services Administration (SAMHSA, 2012) and the National Association of School Psychologists (NASP; Harrison, Thomas, & NASP, 2014) to promote their usage as an evidence-based practice (Lambert & Shimokawa, 2011).

**History of outcome monitoring systems.** Monitoring client progress over repeated points during therapy first emerged in the early 1990s with the development of the Integra/COMPASS tracking system (Lueger, 2012) and began by targeting only the assessment of client functioning. The primary goal of the tracking system was to assess whether or not interventions were producing measurable change in a variety of domains. The domains assessed included the client's subjective sense of well being, life functioning, and mental health symptom levels. Over time, the tracking system evolved from a 68-item paper and pencil measure to include multiple options for shorter versions and the ability to administer the measure online with immediate scoring feedback for clinicians. An especially important development was the use of the expected treatment response as a comparison to monitor each client's progress alongside the expected treatment progress of past successful clients. The expected treatment response was developed using thousands of data points across a wide range of clients and provided a graph of how much progress clients made over time for those clients that had had successful treatment outcomes. Comparisons to an expected treatment response curve could then serve as potential warning indicators for when a client was not making sufficient progress and a change in intervention may be warranted. Although usage of the Integra/COMPASS measure declined following the dissolution of the Integra Company, the measure laid the foundation for the development of a variety of increasingly streamlined and sophisticated systems for monitoring client progress based on the concept of an expected treatment response.

The next evolution of systems for monitoring client progress in therapy include measures such as the Outcome Questionnaire (OQ; Lambert et al., 2005), Clinical Outcomes in Routine Evaluation (CORE; Barkham et al., 2010), and the Partners for Change Outcome Management System (PCOMS; Miller et al., 2003). Significant improvements were made overall in terms of

usability, including shorter measures used more frequently, online administration, warning signals for clinicians, and a wider age range of clients that could be monitored. With the increase in usability, systems for monitoring client progress quickly became more widely used across settings (e.g., community mental health clinics, hospital); however, these advancements also came with the increase in associated costs relating to subscriptions for monitoring services used to track client data for the majority of measures.

***Outcome Questionnaire.*** The Outcome Questionnaire 45 (OQ-45; Lambert et al., 1996) is a 45-item self-report assessment monitoring client functioning and overall distress levels at each therapy session with warning systems in place for therapists when clients fail critical items or fail to demonstrate the expected level of growth over time. The items can be summed for an overall indicator of distress or broken down into three subscales including symptom distress, interpersonal problems, and social role performance. The original measure demonstrated adequate consistency (0.91 alpha) and test-retest reliability (0.84 Pearson product-moment correlation coefficient) for the overall scale. The scale developers have continued to research and improve upon the OQ with updated versions (current version OQ 45.2), brief measures (e.g., OQ-10.2, OQ-30.1), multiple languages available (e.g., Dutch, German, Japanese), and a self-report/parent-report version for use with children and adolescents (Y-OQ; Burlingame et al., 2001).

The OQ-45 has been used extensively in research and has laid the foundation for easy to administer, computerized administration that has made outcome monitoring both easy to use and implement across settings (Lambert, 2007). Incorporated into the software are warning messages for clients at risk of poor treatment outcomes based on the work by Finch, Lambert, and Schaalje (2001) using the data from over 11,000 clients. Clients were parsed into 50 groups based on

their intake score with approximately two percent of the total sample in each group. Hierarchical linear modeling was then used to capture the individual recovery curve for each intake score, which was then used as the basis for the therapist warnings for when clients are not making adequate progress in treatment.

***Clinical Outcomes in Routine Evaluation.*** The Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM; Evans et al., 2002) is a self-report assessment of psychological distress consisting of 34 items on a 5-point Likert scale. Scoring includes a total score as well as four subscales: subjective well-being, problems/symptoms, life functioning, and risk to self or others. The measure has demonstrated adequate internal consistency and test-retest reliability estimates ranging from 0.75 to 0.95. The original measure was designed to be used with adults at the beginning of each therapy session. The measure has been adapted for use with children and adolescents (Young Persons-Clinical Outcomes in Routine Evaluation; Twigg et al., 2016) as well as multiple languages (e.g., Spanish, Finnish, Portuguese).

***The Partners for Change Outcome Management System.*** The Partners for Change Outcome Management System (PCOMS; Miller et al., 2003) is one of the next evolutions of systems for monitoring client progress that provides efficient, formative assessment that can be used at little to no cost. The PCOMS offers a paper and pencil measure free of charge to individual providers or a nominal fee for larger groups of providers. An additional benefit of the PCOMS is that it extends monitoring of client progress to include both client functioning using the Outcome Rating Scale (ORS; a measure of client functioning) as well as the client's perspective on the therapeutic alliance using the Session Rating Scale (SRS; a measure of therapeutic alliance).

The PCOMS (Miller et al., 2003) begins with the Outcome Rating Scale (ORS) at the start of each therapy session. The ORS consists of four visual analog scales, each 10 centimeters in length. Clients are asked to mark on a horizontal line where they have been functioning over the past week in terms of their overall sense of well-being, personal, family, and social functioning with higher scores indicating better functioning. The ORS can be used as a jumping off point for the session, highlighting potential domains the client is currently struggling with or celebrating improvements. The Session Rating Scale (SRS) is administered at the end of each therapy session using the same visual analog format and includes four scales assessing the client's perspective of their relationship with the therapist, relevance of the goals and topics discussed, approach, and overall session. The SRS is administered while the therapist is still in the room in order to enable the therapist to address any potential concerns regarding the therapeutic alliance before the client leaves the session. Both the ORS and SRS have demonstrated adequate levels of reliability and concurrent validity across a wide range of client populations and ages (Duncan et al., 2003; Miller et al., 2003).

A recent review of the PCOMS research identified consistent findings in terms of clients making larger overall positive gains in therapy, higher rates of reliable and clinically significant change, faster growth, and decreases in premature termination when therapists were provided feedback using the ORS and SRS following each session (Duncan & Reese, 2015). These findings include five randomized control trials comparing therapists provided with feedback using the PCOMS system to a treatment as usual condition without feedback. Effect sizes ranged from small to medium, which is considerable given that the PCOMS made up such a small portion of the therapy session, typically consisting of 5 minutes or less of discussion regarding the client perceptions of their progress and the therapeutic alliance per session. These

effects were found across treatment modalities and theoretical orientations, lending additional support to the importance of common factors like the therapeutic alliance and giving clients a voice.

**Development of Client Functioning Over Time.** When thinking about how client functioning changes over time, there is support for a dose-effect relationship that most clients make significant gains early in treatment with diminishing returns over time and the lack of early gains as being highly predictive of poor treatment outcomes (Howard, Kopta, Krause, & Orlinsky, 1986; Stulz, Lutz, Kopta, Minami, & Saunders, 2013). In contrast, the good-enough levels model (Baldwin, Berkeljon, Atkins, Olsen, & Nielsen, 2009) suggests that the severity of the presenting problem at intake influences the rate of change and total number of sessions needed because more severe problems lead to slower rates of change and require a greater number of sessions. The current study provides an additional comparison of these two models using the ORS, taking into account how both initial levels of client functioning and rate of change across sessions may be related to premature termination.

**Moderators of Client Functioning and Treatment Outcomes.** Client functioning and premature termination are closely related and oftentimes used as indicators of treatment outcome (Björk, Björck, Clinton, Sohlberg, & Norring, 2009; Lampropoulos, 2010; Pekarik, 1992). Many of the same variables that influence premature termination, such as age and presence of a diagnosis at intake, also influence levels of client functioning (Miller et al., 2003; Mueller, Lambert, & Burlingame, 1998). For example, younger clients tend to report higher levels of distress at intake to the extent that the ORS uses a clinical cutoff of 28 for adolescents versus 25 for adults (Miller et al., 2003). Having a diagnosis at intake can be considered a proxy for symptom severity or client functioning given that an inherent part of any clinical diagnosis is that

symptoms are significantly interfering with functioning (Wang, 2007). Client age and presence of a diagnosis at intake are related to client functioning as well as premature termination; however, researchers have yet to examine whether client age or diagnosis moderate the strength of the relationship between client functioning over the course of treatment and premature termination.

**Summary.** Outcome monitoring systems, such as the PCOMS and OQ, help prevent premature termination and improve client treatment outcomes (Lambert, 2007). Outcome monitoring systems provide session-by-session formative assessment of client functioning and the therapeutic alliance to therapists, enabling them to make informed and evidence-based decisions regarding treatment. In terms of the development of client functioning, there are two competing theories for the dose-effect relationship emphasizing early treatment gains (Howard et al., 1986; Stulz et al., 2013) versus the good-enough model emphasizing that the severity at intake should dictate the length of treatment (Baldwin et al., 2009). In terms of potential moderators of client functioning and treatment outcomes, younger clients tend to report higher levels of symptoms (Miller et al., 2003) and clients with more severe symptoms at intake have higher rates of premature termination (Mueller et al., 1998); however, more research is needed to understand if age or presence of a diagnosis at intake influence the strength of the relationship between client functioning over the course of treatment and premature termination.

### **Interaction of Therapeutic Alliance and Client Functioning**

Although there are extensive lines of research that have studied the role of monitoring client functioning (e.g., Lambert et al., 2003) and therapeutic alliance (e.g., Orlinsky & Howard, 1975) on treatment outcomes, so far these lines of research have been conducted largely independent of each other and researchers have not adequately considered the potential for

interaction effects. Knowledge of either developmental course in isolation may not provide therapists with the full picture regarding client treatment progress and possible warning signs of clients dropping out early. For example, early treatment gains that may be a result of factors external to the therapy (Flückiger, Holtforth, Del Re, & Lutz, 2013) could hide a weak therapeutic alliance. If the therapist is only monitoring the client's functioning, then that client may terminate prematurely without any warnings ever being triggered for the therapist to check in with the client. The current study evaluates the relative predictive power of client functioning and therapeutic alliance in isolation as well as their interactive effects when utilizing both the ORS and SRS measures at each therapy session. Simultaneously accounting for both client functioning and therapeutic alliance could improve the predictive ability of monitoring systems and enable therapists to make more informed evidence-based decisions regarding interventions.

### **The Present Study**

**Study Objective.** This study seeks to better understand how client functioning and therapeutic alliance develop over the course of treatment, with the overarching goal of improving client outcomes and encouraging clients to stay in therapy until they have made sufficient progress. This study also extends the existing literature base by evaluating potential moderators and integrating the formative assessment of both client functioning and therapeutic alliance when modeling client premature termination. Having a better understanding of how client functioning and therapeutic alliance develop could lead to more accurate models being used to predict premature termination and enable earlier warnings for therapists to consider making adjustments to treatment with the ultimate goal of preventing premature termination.

## Research Questions

1. What is the relationship between how therapeutic alliance develops over the course of treatment and premature termination in counseling?
  - a. Does the therapeutic alliance change over the course of treatment? If so, is that change best captured by a linear or quadratic model of change?
  - b. Is there a relationship between how the therapeutic alliance changes over the course of treatment and premature termination?
  - c. Does the relationship differ by age?
  - d. Does the relationship differ by the presence or absence of a clinical diagnosis at intake?
  - e. Does the strength of the relationship between therapeutic alliance and premature termination differ over the course of treatment?
2. What is the relationship between how client functioning develops over the course of treatment and premature termination in counseling?
  - a. Does client functioning change over the course of treatment? If so, is that change best captured by a linear or quadratic model of change?
  - b. Is there a relationship between how client functioning changes over the course of treatment and premature termination?
  - c. Does the relationship differ by age?
  - d. Does the relationship differ by the presence or absence of a clinical diagnosis at intake?
  - e. Does the strength of the relationship between client functioning and premature termination differ over the course of treatment?

3. Is the interaction between how client functioning and therapeutic alliance change over the course of treatment a stronger predictor of premature termination in therapy than either main effect of client functioning or therapeutic alliance in isolation?

## CHAPTER III

### METHODS

The current study was descriptive in nature and utilized data previously collected during the normal course of treatment at a university-based community-counseling clinic. The clinic is housed within a community health center and provides psychological services for children, adolescents and adults using a sliding scale fee. The clinic also serves as the training site for doctoral students in the school psychology and counseling psychology programs. The extant data were used to gain information on how client functioning and therapeutic alliance develop over the course of treatment as it relates to premature termination. Formative assessment of client functioning and therapeutic alliance was collected using extant data from self-report measures completed by clients at each session, while data on premature termination was obtained from therapist records at the end of treatment. A combination of hierarchical linear modeling and logistic regressions were conducted to address the research questions.

#### **Participants**

As a community mental health clinic, the community-based clinic serves a wide age range of clients from diverse ethnic and socioeconomic backgrounds. Doctoral students in their first and second years of their graduates program serve as therapists under the supervision of a licensed psychologist. The supervision process involves weekly individual and group supervision sessions during which counselors and supervisors carefully review each client's progress.

Participants for the current study included clients that began and ended their counseling services between August of 2015 and December of 2017 ( $N = 152$ ). Clients were referred from

local counseling agencies, local school districts, physician offices, and using television commercials. Each prospective client completed a brief phone screening with an advanced doctoral student to ensure that novice therapists could adequately address the client’s presenting concerns. Clients presenting with active psychosis, open Child Protective Custody investigations, or who were imminently suicidal were referred to outside specialists or the emergency room. In addition, clients that began receiving services at the clinic would be referred to outside specialists or agencies if any of the aforementioned exclusion criteria presented at any point during the course of treatment or the supervisor determined that a novice therapist could not meet client’s needs. Common presenting concerns addressed at the clinic include depression, anxiety, oppositional defiant disorder, personality disorders and adjustment disorders, as well as clients who presented with symptoms below the clinical cutoff for any official diagnosis.

Participants self-reported their age, race, and gender. Overall sample demographic characteristics are reported in Table 1. Participants’ average age was 27.96 years old ( $SD = 13.99$ ) with a range of 13 to 73 years old. The number of counseling sessions was positively skewed (2.13) and leptokurtic (8.08) with a median number of 5 total counseling sessions per participant.

**TABLE 1** PARTICIPANT DEMOGRAPHIC CHARACTERISTICS

	Frequency	Percent
Gender		
Male	55	36.18
Female	97	63.82
Age		
13 to 17 years	42	28.00
18+ years	108	72.00
Race		55.26

**Table 1 Continued**

	Frequency	Percent
Caucasian	84	
Black	21	13.82
Asian	3	1.97
Hispanic	41	26.97
Other	3	1.97
Clinical Diagnosis at Intake		
Yes	88	57.89
No	41	26.97
Unknown	23	15.13

### **Procedures**

Following standard clinic procedures, during each client's initial session, the counselor carefully reviewed clinic policies and procedures, as well as obtained an informed consent for the clinic to use data collected during counseling sessions for general research purposes. Counselors emphasized that the client had the right to not have their data used for research purposes, that they could withdraw their participation at any time, and that choosing not to participate in research would not impact the services that they receive. For adult clients 18 years of age and older, the clients themselves completed the informed consent. For adolescent clients 13 to 17 years of age, informed consent was completed by the client's parent or guardian and verbal assent was provided by the adolescent. No clients chose to withhold their consent for their data to be used for research purposes during the current study's data collection period.

Following informed consent, the counselor explained the Outcome Rating Scale (ORS) to each client individually and provided an opportunity to answer any questions. The ORS was then completed by the client and then again at the beginning of each subsequent session while the client waited in the front lobby. At the outset of each counseling session, the counselor quickly reviewed the ORS form and discussed any recent changes in scores or possible goals the

client may have had in terms of their functioning. At the end of the first counseling session, the counselor explained the Session Rating Scale (SRS) and provided an opportunity to answer any questions. The SRS was then completed and again at the end of each subsequent counseling session. The SRS is completed while with the counselor in the treatment room in order to allow the counselor to discuss any potential alliance ruptures, as indicated by a low marking (less than 9 cm) on one or more items. In adherence with standard clinic procedures, both the ORS and SRS were completed at every counseling session.

Therapists were initially trained on how to use the ORS and SRS forms during their clinic orientation. The graduate assistants assigned to supervise the clinic conducted the training and were available for any follow-up questions. Trainings included an introduction to the measures, background research, and opportunities to role-play.

After the final counseling session, therapists completed a termination report for each client that provided an overview of the client's progress from the first to the last session. As part of the termination report, therapists indicated whether or not the client made sufficient progress in treatment and whether or not the client and/or the therapist initiated the termination of services. Termination reports were discussed with and then carefully reviewed by the therapist's supervisor. For the purposes of the present study, premature termination was defined as a client not making adequate progress and the client alone initiating the termination of treatment as indicated in the client's termination report.

## **Measures**

**Outcome Rating Scale.** The Outcome Rating Scale (ORS; Miller et al., 2003) is a 4-item self-report measure of client functioning that assesses individual, relational, and social domains as well as overall functioning. Self-report forms can be used with individuals 13 years

of age and older, alternate forms are available for younger children but were not utilized in the current study. Each item is presented using a visual analog format where the client is asked to place a hash mark on a line to indicate how well they have been functioning in that domain over the past week. Each line is 10 cm in length. Clients are instructed to indicate low responses (i.e., greater/more intense problems) to the left side of the line and high responses (i.e., fewer problems) to the right. The therapist measures each line in terms of the number of centimeters per line as well as an overall total number of centimeters when adding the length of all four lines (Bargman & Robinson, 2011; Maeschalck & Babbins-Wagner, 2011). The length of each individual line was also measured and confirmed by the service coordinator before being entered into the clinic database. The ORS generates a total score, which is calculated by adding the sum of the lengths of the four items, as well as subscores for each domain based on the length of each item (Miller et al., 2003). The clinical cutoff score for the total ORS is 28 (13 to 17 years old) and 25 (18+ years old) with ORS scores below these cutoffs representing clinically significant deficits in client functioning.

The ORS has been translated into 20 different languages and has been studied internationally, demonstrating acceptable validity and reliability (Hafkenscheid et al., 2010). Internal consistency measures range from .87 to .96 (Miller et al., 2003). Test-retest reliability across the first four counseling sessions correlations range from .49 to .66; however, these somewhat low correlations are to be expected because the ORS is specifically designed to be sensitive to change and is therefore not expected to remain stable across sessions. In terms of concurrent validity, the ORS was moderately correlated with the Outcome Questionnaire 45.2 (OQ 45.2; Lambert et al., 1996), with a coefficient of .59. Individual ORS items correlated more highly with the OQ 45.2 total score rather than mapping onto individual domains, suggesting that

the ORS may function as more of a global indicator of distress rather than assessing more specific domains given its brief format. In this study, only the total score of the ORS was examined.

**Session Rating Scale.** Similar to the ORS, the Session Rating Scale (SRS; Duncan et al., 2003) is a 4-item self-report measure that uses a visual analog format to assess the client's perspective on the therapeutic alliance. Domains assessed include the relationship with the therapist, agreement on goals and topics being addressed, the approach or method being used, and an overall assessment of the current session. Clients are asked to place a hash mark on a line evaluating the session that day. Each line is 10 cm in length. Clients are instructed to indicate low responses (i.e., greater/more intense problems) to the left side of the line and high responses (i.e., fewer problems) to the right. The therapist measures each line in terms of the number of centimeters per line as well as an overall total number of centimeters when adding the length of all four lines (Bargman & Robinson, 2011; Maeschalck & Babbins-Wagner, 2011). The length of each individual line was also measured and confirmed by the service coordinator before being entered into the clinic database. The SRS generates a total score, which is calculated by adding the sum of the lengths of the four items, as well as subscores for each domain based on the length of each item (Duncan et al., 2003). For both adolescents and adults, the clinical cut-off for the total SRS score is 35 cm or any individual item score less than 9 cm with scores below this threshold representing potential ruptures in the therapeutic alliance that warrant immediate attention.

The SRS has been translated into 20 different languages and has been studied internationally, demonstrating acceptable validity and reliability (Hafkenscheid et al., 2010). As an indicator of reliability, the SRS demonstrated a Cronbach's alpha of .88 overall and test-retest

reliability of .64 across six sessions. Similar to other therapeutic alliance measures, the SRS has a relatively low test-retest reliability correlation of .64 because it was designed to be sensitive to change (Luborsky et al., 1996). In terms of concurrent validity, the SRS was moderately correlated with the Helping Alliance Questionnaire II (HAQ II; Luborsky et al., 1996), with a coefficient of .48. Individual SRS items correlated more highly with the HAQ II total score rather than mapping onto individual domains, suggesting that the SRS may function as more of a global indicator of therapeutic alliance rather than assessing more specific domains. In this study, only the total score of the SRS was examined.

**Premature Termination.** Following each client's final counseling session, standard clinic procedures required therapists to complete a termination report providing an overview of the client's progress from the first to the last session. The case summaries included an assessment of whether or not the client made sufficient progress over the course of treatment and whether the client and/or therapist initiated the termination of services. These designations can be somewhat subjective; however, termination reports are discussed and carefully reviewed with the therapist's supervisor and take into account a variety of indicators over the course of treatment (e.g., change in client's diagnostic status, change in symptoms as measured by the OQ). Premature termination occurs when a client leaves treatment before they have made adequate progress towards their treatment goals and is typically initiated by the client rather than the therapist. For example, a client may simply stop returning phone calls or showing up for appointments following a counseling session that discussed emotional topics before the client was ready. Cases do arise in which both the client and the therapist mutually initiate termination in spite of not making adequate progress due to instances where the client needs to be referred outside the clinic for specialized treatment. For the purposes of the current study and for clarity

in the analyses, a client will be considered as terminating prematurely if the therapist indicates in his or her termination report that the client did not make adequate progress and that the client alone initiated the termination. These indicators are clearly marked as check boxes in each client’s final termination report with a binary outcome for making sufficient versus insufficient progress and three options for either client initiated, therapist initiated, or both client and therapist initiated termination. See Table 2 for a detailed breakdown of how many of each type of initiation by termination session.

**TABLE 2** *TERMINATION INTIATION BY SESSION*

Termination Session Number	Client Initiated ( <i>n</i> )	Therapist Initiated ( <i>n</i> )	Client & Therapist Initiated ( <i>n</i> )
1	23	0	1
2	16	0	1
3	14	1	3
4	11	0	0
5	10	0	1
6	4	1	1
7	9	0	3
8	5	1	1
9	2	0	0
10	5	0	2
>10	11	4	22

The therapist and supervisor work together to determine which categories each client falls into based on a wide variety of factors and their overall clinical judgment. Factors typically considered when categorizing progress include any changes in diagnosis or symptom severity, client functioning as measured by the ORS and OQ, and whether or not the client appears to have made progress toward treatment goals. Determining who initiated termination is most often

determined by who explicitly mentions termination. If a client repeatedly fails to come to appointments and does not answer phone calls, then therapists attempt reaching the client by mail. If the client still does not make contact with the therapist, then the case is considered as the client alone initiating termination.

**Client Diagnosis Status at Intake.** Following the third counseling session, therapists completed an intake report for each client summarizing their presenting concerns, diagnoses, and initial plan for treatment. Diagnoses were made in accordance with the *Diagnostic and Statistical Manual, Fifth Edition* (American Psychological Association, 2013) based on information collected via diagnostic interviews and rating scales. The types of measures used varied depending on presenting concerns and age of the client. For example, adolescents oftentimes had a guardian present during the intake process to provide information in addition to the adolescents' self-report, whereas adult clients oftentimes came alone. Adolescents typically completed the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004) and adults completed the Patient Health Questionnaire (PHQ; Kroenke, Spitzer, Williams, & Lowe, 2010). Therapists used all available information to develop well-informed diagnoses under the supervision of the licensed psychologist. For the purposes of the current study, diagnosis at intake was coded as a dichotomous predictor as either present or absent. Participants that terminated counseling before the third session with insufficient information to determine diagnosis were coded as missing for diagnosis status at intake.

## CHAPTER IV

### RESULTS

Prior to addressing the research questions, predictor variables were examined for possible outliers (more than 3 standard deviations from the mean) and multicollinearity (correlations greater than .90 between predictors). Normality assumptions for Hierarchical Linear Modeling (HLM) were examined by calculating the skewness and kurtosis of the ORS and SRS variables across sessions. All ORS variables had a skewness with an absolute value of three or less and kurtosis with an absolute value of seven or less, meeting the normality assumptions (West, Finch, & Curran, 1999). There tended to be more negative skew and leptokurtic distributions with SRS scores in later sessions, suggesting a possible ceiling effect for those clients that stayed on past the ninth session reporting generally high alliance scores. Transformations of the data would result in fundamental changes in the interpretation and HLM tends to be robust to violations of normality assumptions with sample sizes greater than 100 at the highest group level (Maas & Hox, 2004). The highest group level in the current study is at the level of the individual client, thus the total sample size of 152 far exceeds the recommended number to be considered a large sample and robust to violations of normality assumptions. Planned analyses included hierarchical linear regression, calculation of growth parameters (i.e., intercept, linear slope, quadratic slope), and logistic regressions using maximum likelihood estimation. All analyses were conducted using Stata 15.1 (StataCorp, 2017) with an alpha of .05.

## Descriptive Data for Sample

The means and standard deviations were calculated for the ORS and SRS total scores across sessions as well as frequency counts for premature termination and diagnostic status at intake. A total of 97 (63.82%) clients terminated prematurely and 89 (58.55%) had a clinical diagnosis at intake. The ORS and SRS descriptive data is presented in Table 3.

**TABLE 3 MEANS AND STANDARD DEVIATIONS BY SESSION NUMBER**

Session	ORS			SRS		
	Mean	Standard Deviation	<i>n</i>	Mean	Standard Deviation	<i>n</i>
1	19.73	8.89	146	34.85	5.01	113
2	23.17	9.10	126	35.39	5.00	112
3	26.47	8.70	108	36.31	3.97	98
4	25.76	9.22	92	36.37	3.99	82
5	26.38	9.65	79	36.41	3.97	75
6	27.33	9.27	69	36.97	3.59	62
7	27.31	10.18	63	36.95	3.67	53
8	27.97	10.16	52	37.06	3.81	47
9	29.98	9.15	45	37.84	3.06	40
10	28.88	10.79	43	38.42	1.39	38

## Therapeutic Alliance

*Research Question 1. What is the relationship between how therapeutic alliance develops over the course of treatment and premature termination in counseling?* It was hypothesized that therapeutic alliance would be negatively associated with risk for premature termination such that as therapeutic alliance increases the risk for premature termination

decreases. In addition, it was hypothesized that age and presenting problems would moderate this relationship. Finally, it was hypothesized that the strength of the relationship between therapeutic alliance and premature termination would vary over the course of treatment.

*1(a). Does the therapeutic alliance change over the course of treatment? If so, is that change best captured by a linear or quadratic model of change?* First, a base-level hierarchical linear model using maximum likelihood estimation was run to determine if SRS scores significantly change over time and whether change was best represented as a linear or quadratic relationship. Two base-level hierarchical linear models using maximum likelihood estimation were conducted with therapeutic alliance (i.e., SRS score) at each session. As shown in Table 4, the first model included a linear component for time, which was significant ( $\beta = 0.088, p < .01$ ). The second model included both a linear ( $\beta = 0.244, p < .01$ ) and quadratic ( $\beta = -0.005, p < .01$ ) component for time, which were also both significant. Given that both the linear and quadratic models were significant, an additional likelihood ratio test comparing the log likelihood values of the nested models was needed in order to determine if the drop in log likelihood value for the quadratic model was statistically significant and better captured how therapeutic alliance changed over time. The quadratic model explained significantly more variability in the change in therapeutic alliance over time, thus resulting in a significantly lower log likelihood value,  $\chi^2(1) = 50.87, p < .01$ .

**TABLE 4 THERAPEUTIC ALLIANCE LINEAR AND QUADRATIC BASE HLM MODELS**

Base linear HLM model ( $n = 144$ )			
	$\beta$	Standard Error	$P$
Time	0.09	0.01	0.00

**Table 4** Continued

	$\beta$	Standard Error	$P$
Model intercept	35.67	0.34	0.00
		Log likelihood	-2553.55
Base quadratic HLM model ( $n = 144$ )			
	$\beta$	Standard Error	$P$
Time	0.24	0.02	0.00
Time squared	-0.01	0.00	0.00
	$\beta$	Standard Error	$P$
Model intercept	35.28	0.34	0.00
		Log likelihood	-2528.11

*1(b). Is there a relationship between how the therapeutic alliance changes over the course of treatment and premature termination?* Given that the change in the therapeutic alliance over the course of treatment was best captured using the quadratic model, individual quadratic growth parameters were calculated for each participant. These quadratic growth parameters served as indicators of how the therapeutic alliance changed over the course of treatment for each participant. The individual quadratic growth parameters calculated included the intercept, linear coefficient, and quadratic coefficient for each participant. Individual growth parameters were calculated by conducting a series of individual linear regressions with maximum likelihood estimation for each participant and saving the beta coefficients and intercept for each participant. Growth parameters were calculated using all available SRS data, thus allowing for some missing data across sessions. If fewer than three sessions were available, then the quadratic term was entered as missing. If fewer than two sessions were available, then the linear term was entered as missing. The individual quadratic growth parameters for therapeutic alliance were then entered into a logistic regression predicting the binary outcome of premature termination. As

shown in Table 5, the overall model did not significantly predict premature termination,  $\chi^2(3) = 2.74, p = .43; (n = 109)$ .

**TABLE 5 THERAPEUTIC ALLIANCE QUADRATIC GROWTH PARAMETERS**

	$\beta$	Standard Error	Odds Ratio	$p$
SRS Intercept	-0.00	0.05	1.00	0.99
SRS Linear Slope	-0.16	0.15	0.85	0.28
SRS Quadratic Slope	-0.25	0.38	0.78	0.51
Model Intercept	0.23	1.82	1.25	0.90

*1(c). Does the relationship differ by client age?* The main effect of age as well as the interaction terms of age by each quadratic growth parameter for therapeutic alliance were entered into a logistic regression with maximum likelihood estimation predicting premature termination. As shown in Table 6, the overall model did not significantly predict premature termination,  $\chi^2(7) = 7.72, p = .36 (n = 109)$ .

**TABLE 6 LOGISTIC REGRESSION THERAPEUTIC ALLIANCE WITH AGE**

	$\beta$	Standard Error	Odds Ratio	$p$
SRS Intercept	-0.15	.12	0.86	0.12
SRS Linear Slope	-0.17	0.36	0.84	0.63
SRS Quadratic Slope	-0.35	0.92	0.71	0.71
Age	-0.00	0.00	0.99	0.19
SRS Intercept by Age	0.00	0.00	1.00	0.16
SRS Linear Slope by Age	0.00	0.00	1.00	0.96
SRS Quadratic Slope by Age	0.00	0.00	1.00	0.99
Model Intercept	5.13	4.29	169.70	0.23

1(d). Does the relationship differ by the presence or absence of a clinical diagnosis at intake? The main effect of diagnosis status at intake as well as the interaction terms of diagnosis by each quadratic growth parameter for therapeutic alliance were entered into a logistic regression with maximum likelihood estimation predicting premature termination. As shown in Table 7, the overall model significantly predicted premature termination,  $\chi^2(7) = 16.28, p = .02$  ( $n = 109$ ). The therapeutic alliance score at intake, the diagnosis status at intake, and their interaction significantly predicted premature termination. Given the significant higher-order interaction, the influence of therapeutic alliance at intake was considered within the context of presence of absence of a diagnosis at intake. Those participants entering therapy with a diagnosis were at higher risk for premature termination; however, that risk was mitigated if they had a higher therapeutic alliance at intake ( $\beta = -0.400, p = .012$ ). An odds ratio value of 0.67 for the interaction term signifies that a one-unit increase in the overall therapeutic alliance score at intake for participants entering therapy with a diagnosis would correspond with a 32.97% decrease in the probability of premature termination relative to participants entering therapy without a diagnosis holding all other variables constant.

**TABLE 7 LOGISTIC REGRESSION THERAPEUTIC ALLIANCE WITH DIAGNOSIS**

	$\beta$	Standard Error	Odds Ratio	$p$
SRS Intercept	0.33	0.15	1.39	0.02
SRS Linear Slope	-0.16	0.35	0.85	0.64
SRS Quadratic Slope	-0.87	0.91	0.42	0.34
Diagnosis at Intake	15.37	5.92	4731207	0.01
SRS Intercept by Diagnosis	-0.40	0.16	0.67	0.01
SRS Linear Slope by Diagnosis	-0.06	0.40	0.94	0.88

**Table 7 Continued**

	$\beta$	Standard Error	Odds Ratio	$p$
SRS Quadratic Slope by Diagnosis	0.74	1.04	2.09	0.48
Model Intercept	-12.43	5.44	0.00	0.02

*1(e). Does the strength of the relationship between therapeutic alliance and premature termination differ over the course of treatment?* The strength of the relationship between therapeutic alliance and premature termination was evaluated over the course of treatment by conducting a series of logistic regressions with maximum likelihood estimation predicting premature termination from therapeutic alliance at each session separately. Regression coefficients for any significant findings were then compared to determine if the strength of the relationship between therapeutic alliance and premature termination changed over the course of treatment. In order to minimize the number of models run, individual regressions were run for sessions one to ten given that 75% of participants had completed treatment by the tenth session. The Benjamini-Hochberg procedure (Benjamini & Hochberg, 1995) was used to mitigate the increased risk for Type I errors given the large number of comparisons. First individual p-values from all regressions were rank ordered, then the Benjamini-Hochberg critical value of 0.025 was calculated using an overall alpha of .05 and a q of 0.25. As shown in Table 8, none of the logistic regressions for therapeutic alliance significantly predicted premature termination during the first 10 sessions. It is important to note that the therapeutic alliance score for the first session was approaching statistical significance ( $\beta = 0.07, p = 0.06$ ), which aligns with the findings of the previous research question highlighting the importance of the alliance at the start of therapy.

The alliance may also need to be considered within the context of a higher order interaction of therapeutic alliance and diagnosis status at intake.

**TABLE 8** LOGISTIC REGRESSIONS THERAPEUTIC ALLIANCE BY SESSION

Session 1 ( $\chi^2(1) = 3.50, p = .06; n = 113$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #1	0.07	0.04	1.08	0.06
Intercept	-1.96	1.37	0.14	0.15
Session 2 ( $\chi^2(1) = 0.42, p = .52; n = 112$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #2	0.03	0.04	1.03	0.52
Intercept	-0.59	1.37	0.56	0.67
Session 3 ( $\chi^2(1) = 0.13, p = .72; n = 98$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #3	0.02	0.05	1.02	0.72
Intercept	-0.46	1.87	0.63	0.81
Session 4 ( $\chi^2(1) = 0.08, p = .77; n = 82$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #4	-0.02	0.06	0.98	0.77
Intercept	0.49	2.04	1.63	0.81
Session 5 ( $\chi^2(1) = 0.61, p = .43; n = 75$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #5	0.05	0.06	1.05	0.44
Intercept	-2.02	2.26	0.13	0.37
Session 6 ( $\chi^2(1) = 0.20, p = .66; n = 62$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #6	0.03	0.08	1.03	0.66
Intercept	-1.61	2.81	0.20	0.57
Session 7 ( $\chi^2(1) = 0.07, p = .80; n = 53$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #7	0.02	0.08	1.02	0.80
Intercept	-1.17	2.94	0.31	0.69
Session 8 ( $\chi^2(1) = 0.19, p = .67; n = 47$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #8	-0.04	0.08	0.97	0.66
Intercept	0.44	2.99	1.56	0.88
Session 9 ( $\chi^2(1) = 0.00, p = .97; n = 40$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #9	0.01	0.12	1.01	0.97
Intercept	-1.29	4.65	0.27	0.78
Session 10 ( $\chi^2(1) = 0.61, p = .44; n = 38$ )				

**Table 8 Continued**

Parameter	Coefficient	Standard Error	Odds Ratio	<i>p</i>
SRS Session #10	-0.22	0.28	0.80	0.43
Intercept	7.05	10.61	1148.83	0.51

### Client Functioning

*Research Question 2. What is the relationship between how client functioning develops over the course of treatment and premature termination in counseling?* It was hypothesized that client functioning would be negatively associated with risk for premature termination such that as client functioning increases the risk for premature termination decreases. In addition, it was hypothesized that age and presence of a diagnosis at intake would moderate this relationship. Finally, it was hypothesized that the strength of the relationship between client functioning and premature termination would vary over the course of treatment.

*2(a). Does client functioning change over the course of treatment? If so, is that change best captured by a linear or quadratic model of change?* First, a base-level hierarchical linear model with maximum likelihood estimation was run to determine if ORS scores significantly change over time and whether change was best represented as a linear or quadratic relationship. Two base-level hierarchical linear models using maximum likelihood estimation were conducted with client functioning (i.e., ORS score) at each session. As shown in Table 9, the first model included a linear component for time, which was significant ( $\beta = 0.18, p < .01$ ). The second model included both a linear ( $\beta = 0.76, p < .01$ ) and quadratic ( $\beta = -0.02, p < .01$ ) component for time, which were also both significant. Given that both the linear and quadratic models were significant, an additional likelihood ratio test comparing the log likelihood values of the nested models was needed in order to determine if the drop in log likelihood value for the quadratic

model was statistically significant and better captured how therapeutic alliance changed over time. The quadratic model explained significantly more variability in the change in therapeutic alliance over time, thus resulting in a significantly lower log likelihood value,  $\chi^2(1) = 132.67, p < .01$ .

**TABLE 9 CLIENT FUNCTIONING LINEAR AND QUADRATIC BASE HLM MODELS**

Base linear HLM model ( $n = 152$ )			
	$\beta$	Standard Error	$P$
Time	0.18	0.03	0.00
Model intercept	23.61	0.72	0.00
		Log likelihood	-4019.38
Base quadratic HLM model ( $n = 152$ )			
	$\beta$	Standard Error	$P$
Time	0.76	0.05	0.00
Time squared	-0.02	0.00	0.00
Model intercept	22.20	0.72	0.00
		Log likelihood	-3953.05

2(b). *Is there a relationship between how client functioning changes over the course of treatment and premature termination?* Given that the change in client functioning over the course of treatment was best captured using the quadratic model, individual quadratic growth parameters were calculated for each participant. These quadratic growth parameters served as indicators of how client functioning changed over the course of treatment for each participant. The individual quadratic growth parameters calculated included the intercept, linear coefficient, and quadratic coefficient for each participant. Individual growth parameters were calculated by conducting a series of individual linear regressions with maximum likelihood estimation for each participant and saving the beta coefficients and intercept for each participant. Growth

parameters were calculated using all available ORS data, thus allowing for some missing data across sessions. If fewer than three sessions were available, then the quadratic term was entered as missing. If fewer than two sessions were available, then the linear term was entered as missing.

The individual quadratic growth parameters of client functioning were then entered into a logistic regression with maximum likelihood estimation predicting the binary outcome of premature termination. As shown in Table 10, the overall model did not significantly predict premature termination,  $\chi^2(3) = 5.49, p = .14$  ( $n = 109$ ). Although the overall model was not significant, it is interesting to note that the initial level of client functioning at intake was approaching significance and trending in the hypothesized direction. Clients with higher overall functioning at intake tended to be less likely to terminate prematurely, but additional research with a larger sample size may be warranted to explore this relationship further.

**TABLE 10 CLIENT FUNCTIONING QUADRATIC GROWTH PARAMETERS**

	$\beta$	Standard Error	Odds Ratio	$p$
ORS Intercept	-0.05	0.03	0.95	0.06
ORS Linear Slope	-0.04	0.07	0.96	0.61
ORS Quadratic Slope	0.05	0.18	1.05	0.80
Model Intercept	1.28	0.69	3.60	0.06

2(c). *Does the relationship differ by client age?* The main effect of age as well as the interaction terms of age by each quadratic growth parameter for client functioning were entered into a logistic regression with maximum likelihood estimation predicting premature termination.

As shown in Table 11, the overall model did not significantly predict premature termination,

$$\chi^2(7) = 8.55, p = .29 (n = 109).$$

**TABLE 11 LOGISTIC REGRESSION FOR CLIENT FUNCTIONING WITH AGE**

	$\beta$	Standard Error	Odds Ratio	$p$
ORS Intercept	-0.08	0.06	0.92	0.20
ORS Linear Slope	0.02	0.17	1.02	0.91
ORS Quadratic Slope	-0.04	0.47	0.96	0.93
Age	-0.00	0.00	1.00	0.86
ORS Intercept by Age	0.00	0.00	1.00	0.52
ORS Linear Slope by Age	0.00	0.00	1.00	0.81
ORS Quadratic Slope by Age	0.00	0.00	1.00	0.83
Model Intercept	1.42	1.63	4.13	0.38

2(d). Does the relationship differ by the presence or absence of a clinical diagnosis at intake? The main effect of diagnosis status at intake as well as the interaction terms of diagnosis by each quadratic growth parameter for client functioning were entered into a logistic regression with maximum likelihood estimation predicting premature termination. As shown in Table 12, the overall model did not significantly predict premature termination,  $\chi^2(7) = 10.67, p = .15 (n = 109)$ .

**TABLE 12 LOGISTIC REGRESSION FOR CLIENT FUNCTIONING WITH DIAGNOSIS**

	$\beta$	Standard Error	Odds Ratio	$p$
ORS Intercept	0.20	0.05	1.02	0.70
ORS Linear Slope	-0.02	0.17	0.99	0.93
ORS Quadratic Slope	-0.24	0.46	0.79	0.60
Diagnosis at Intake	2.87	1.80	17.64	0.11
ORS Intercept by Diagnosis	-0.10	0.06	0.90	0.10

Table 12 Continued

	$\beta$	Standard Error	Odds Ratio	$p$
ORS Linear Slope by Diagnosis	-0.03	0.19	0.98	0.89
ORS Quadratic Slope by Diagnosis	0.34	0.51	1.40	0.51
Model Intercept	-0.88	1.56	0.42	0.58

2(e). *Does the strength of the relationship between client functioning and premature termination differ over the course of treatment?* The strength of the relationship between client functioning and premature termination was evaluated over the course of treatment by conducting a series of logistic regressions with maximum likelihood estimation predicting premature termination from client functioning for each session separately. Regression coefficients for any significant findings were then compared to determine if the strength of the relationship between client functioning and premature termination changed over the course of treatment. In order to minimize the number of models run, individual regressions were run for sessions one to ten given that 75% of participants had completed treatment by the tenth session. The Benjamini-Hochberg procedure (Benjamini & Hochberg, 1995) also was used to mitigate the increased risk for Type I errors given the large number of comparisons. First individual  $p$ -values from all regressions were rank ordered, then the Benjamini-Hochberg critical value of 0.025 was calculated using an overall alpha of .05 and a  $q$  of 0.25.

As shown in Table 13, the fourth session was the only logistic regression where client functioning significantly predicted premature termination rates. For every one point increase in overall client functioning at the fourth session, the risk of premature termination decreased by 48.7%. Contrary to hypotheses, client functioning at the remaining sessions did not predict

premature termination rates. It is not clear what is unique about the fourth session as a particularly critical session in terms of predicting premature termination; however, the rapidly decreasing power in later sessions due to a significant reduction in sample size after the fifth session should be taken into consideration.

**TABLE 13 LOGISTIC REGRESSIONS FOR CLIENT FUNCTIONING BY SESSION**

Session 1 ( $\chi^2(1) = 1.58, p = .21; n = 146$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #1	-0.03	0.03	0.98	0.21
Intercept	1.15	0.44	3.15	0.01
Session 2 ( $\chi^2(1) = 1.63, p = .20; n = 126$ )				
Parameter	Coefficient	Coefficient	Odds Ratio	p-value
ORS Session #2	-0.03	0.02	0.98	0.21
Intercept	0.92	0.51	2.51	0.07
Session 3 ( $\chi^2(1) = 12.86, p = .09; n = 108$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #3	-0.04	0.02	0.96	0.10
Intercept	1.18	0.66	3.24	0.07
Session 4 ( $\chi^2(1) = 5.06, p = .02; n = 92$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #4	-0.05	0.02	0.95	0.03
Intercept	1.37	0.67	3.93	0.04
Session 5 ( $\chi^2(1) = 1.84, p = .17; n = 79$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #5	-0.03	0.02	0.97	0.18
Intercept	0.62	0.67	1.86	0.36
Session 6 ( $\chi^2(1) = 1.87, p = .17; n = 69$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #6	-0.04	0.03	0.96	0.18
Intercept	0.55	0.78	1.74	0.48
Session 7 ( $\chi^2(1) = 1.24, p = .27; n = 63$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #7	-0.03	0.03	0.97	0.27
Intercept	0.35	0.74	1.42	0.64
Session 8 ( $\chi^2(1) = 0.93, p = .33; n = 52$ )				

**Table 13** Continued

Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #8	-0.03	0.03	0.97	0.33
Intercept	-0.03	0.85	0.97	0.97
Session 9 ( $\chi^2(1) = 0.28, p = .59; n = 45$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #9	-0.02	0.04	0.98	0.59
Intercept	-0.44	1.10	0.64	0.69
Session 10 ( $\chi^2(1) = 0.11, p = .74; n = 43$ )				
Parameter	Coefficient	Standard Error	Odds Ratio	p-value
ORS Session #10	-0.01	0.03	0.99	0.74
Intercept	-0.76	0.96	0.47	0.43

### Interaction of Client Functioning and Therapeutic Alliance

*Research Question 3. Is the interaction between client progress and therapeutic alliance trajectories a stronger predictor of premature termination in therapy than either main effect of client functioning or therapeutic alliance in isolation?* It was hypothesized that these interaction terms would be a stronger predictor of premature termination than either main effect alone. To test this hypothesis, the individual quadratic growth parameters for client functioning and therapeutic alliance as well as their interaction terms were entered into a logistic regression with maximum likelihood estimation predicting premature termination. As shown in Table 13, the overall model did significantly predict premature termination,  $\chi^2(9) = 22.88, p = .01 (n = 107)$ . The overall model with interaction terms was a significantly better fitting model for predicting premature termination than either main effect model of client functioning or therapeutic alliance alone, as evidenced by a likelihood ratio test confirming significantly lower log likelihood values,  $\chi^2(1) = 19.95, p < .01$  and  $\chi^2(1) = 22.92, p < .01$ , respectively. As seen in Table 14, both client functioning and therapeutic alliance at intake as well as their interaction significantly predicted premature termination.

**TABLE 14 INTERACTION OF CLIENT FUNCTIONING AND THERAPEUTIC ALLIANCE**

	$\beta$	Standard Error	Odds Ratio	$p$
ORS Intercept	-0.74	0.27	0.48	0.01
ORS Linear Slope	0.04	0.10	1.04	0.67
ORS Quadratic Slope	0.44	0.34	1.55	0.19
SRS Intercept	-0.34	0.15	0.71	0.02
SRS Linear Slope	-0.04	0.27	0.96	0.87
SRS Quadratic Slope	-0.64	0.66	0.53	0.34
ORS by SRS Intercept	0.02	0.01	1.02	0.01
ORS by SRS Linear Slope	-0.05	0.04	0.95	0.22
ORS by SRS Quadratic Slope	0.54	0.33	1.71	0.11
Model Intercept	13.12	5.36	538877	0.01

Given the significant higher-order interaction, the influence of client functioning at intake was considered within the context of therapeutic alliance at intake. Both main effects for client functioning and therapeutic alliance at intake demonstrated the anticipated negative relationship with premature termination such that increases in functioning or a stronger alliance at intake were associated with a lower probability of premature termination; however, their interaction term was positive. When both client functioning and therapeutic alliance increased at intake, the risk for premature termination also increased. The relationship for each main effect was in the anticipated direction; however, the positive interaction term was not anticipated and warrants replication and further exploration in future research.

## CHAPTER V

### DISCUSSION

The current study sought to better understand how client functioning and therapeutic alliance develop over the course of treatment as they relate to premature termination. Having a strong therapeutic alliance and monitoring client functioning have been consistently associated with better client treatment outcomes (Flückiger et al., 2012; Miller et al., 2006; Swift & Greenberg, 2012). The current study continued to build on the existing research by further exploring how these protective factors develop over time within a community mental health clinic using formative assessments of therapeutic alliance and client functioning. The majority of outcome monitoring systems consider either client functioning or therapeutic alliance in isolation, the current study explored potential interactive effects as well as client age and presence of a diagnosis at intake as moderators.

#### **Therapeutic Alliance and Premature Termination**

In terms of the overall shape, a quadratic model best captured how therapeutic alliance changes over time. This finding aligns well with previous literature identifying a U-shaped curve to the alliance or a rupture repair pattern. Alliance scores are higher at the beginning and end of therapy with potential ruptures and lower values in the middle (Patton, Kivlighan, & Multon, 1997; Safran & Muran, 1996; Safran et al., 2001). Although there were significant changes in therapeutic alliance over time, the strength of the alliance at intake was more predictive of premature termination than how the alliance changed over the course of treatment

(i.e., linear coefficient, quadratic coefficient). This pattern suggests that the connection the therapist and client form during the first session is critical in preventing premature termination and should be a target for future therapeutic alliance interventions. This finding also emphasizes the importance of measuring alliance at the very first session and allowing sufficient time to address any client concerns before they leave the office.

There was more mixed evidence regarding the moderators of age and diagnosis status at intake. Few studies have evaluated the relationship between therapeutic alliance and premature termination across the lifespan using a single measure for therapeutic alliance. Although the current study did not include young children, clients ranged in age from 13 to 74 years old. It was hypothesized that a strong therapeutic alliance would be even more critical with younger clients (DiGiuseppe et al., 1996; Shirk & Saiz, 1992); however, age was not a significant predictor of premature termination as either a main effect or as an interaction effect with therapeutic alliance. This suggests that therapeutic alliance may be equally important across the adolescent, young adult, and adult population in terms of risk for premature termination. On the other hand, diagnosis status at intake did influence premature termination rates. Clients with a diagnosis at intake were at significantly higher risk for premature termination; however, this risk was mitigated if they reported a stronger therapeutic alliance at intake. This finding lends further support to the role of therapeutic alliance as a protective factor in therapy and a valuable target for intervention (Swift & Greenberg, 2012). Although therapists cannot influence whether or not their clients start therapy with a diagnosis, they can focus on improving the therapeutic alliance as a means of improving treatment outcomes.

## **Client Functioning and Premature Termination**

In terms of the overall shape, a quadratic model best captured how client functioning changed over time. Contrary to hypotheses, the overall model of how client functioning changed over time was not predictive of premature termination. Client functioning at intake was moderately significant and can be considered as trending in the anticipated direction. Clients that entered therapy with higher reported levels of overall functioning tended to have lower rates of premature termination. Indicators of how client functioning changed over the course of treatment (i.e., linear slope, quadratic slope) were not predictive of premature termination rates. Although intuitive in nature, this pattern of results emphasizes the importance of therapists targeting those clients that enter therapy reporting poorer overall functioning for extra supports to encourage them to continue in therapy (e.g., motivational interviewing, identifying potential obstacles).

It is important to note that although the rate of change for clients was not predictive of premature termination rates, client functioning levels at individual time points were associated with premature termination. Although client functioning at intake was only moderately significant, clients reporting higher overall functioning at the fourth session were at significantly lower risk for premature termination. Given that the median number of sessions for the current sample was five, the fourth session may represent a time by which clients that were going to achieve sufficient growth were already reporting higher functioning and committed to finishing therapy and terminating appropriately.

In terms of moderators, neither age nor presence of a diagnosis at intake were significantly associated with client functioning as a predictor of premature termination rates.

Existing literature suggested a relationship between age and premature termination with young adults more at risk than older adults (Swift & Greenberg, 2012) and adolescents more at risk than younger children (Miller et al., 2008; Wamser-Nanney & Steinzor, 2016). The current study was able to include adolescents, young adults, and older adults all within the same model using the same measure of client functioning; however, there was neither a main effect for age nor an interactive effect with client functioning when predicting premature termination rates. This pattern of results needs to be replicated, but would suggest that the relationship between client functioning and premature termination is relatively consistent across the lifespan. The lack of a main effect for age also suggests that the risk for premature termination is consistent for both adolescents and adults within a community mental health setting using psychology doctoral trainees as therapists. Contrary to hypotheses, presence of a diagnosis at intake was not predictive of premature termination as either a main effect or interaction with client functioning.

### **Interaction of Therapeutic Alliance and Client Functioning**

There were mixed and surprising results regarding the interaction between therapeutic alliance and client functioning when predicting premature termination. As expected, the main effects of therapeutic alliance and client functioning at intake were significant and consistent with previous analyses. Clients reporting a stronger therapeutic alliance or higher overall functioning at intake were at lower risk for premature termination. Each of these main effects must be considered within the context of the higher order interaction; however, the direction of the relationship between the interaction term and premature termination was in the opposite direction than anticipated. As clients reported higher overall functioning and a stronger

therapeutic alliance at intake, the risk for premature termination also increased. The increase in risk was not substantial enough to cancel out the protective effects of each main effect, but it did lessen their beneficial impact. Clients reporting lower levels of functioning and a weaker therapeutic alliance were at lower risk for premature termination. Given that previous research has not modeled formative assessments of therapeutic alliance and client functioning concurrently, these results need to be replicated and explored further to confirm that this is not a spurious finding and to better understand this complex dynamic.

### Implications

The findings of the current study highlight the importance of measuring therapeutic alliance and client functioning starting with the very first session. This requires allowing sufficient time at the end of the intake session to assess alliance and discuss any possible miscommunications surrounding goals, approach, or other factors negatively impacting the therapeutic alliance. Training programs may also benefit from providing explicit instruction to psychology trainees in how to manage potential ruptures in the alliance as well as how to encourage open and honest feedback from clients. Although intuitive, the current study's findings also serve as a reminder to provide additional supports and address readiness to change with clients that report poor overall functioning at intake given their high risk for premature termination. Motivational interviewing, addressing obstacles to treatment, and openly discussing readiness to change with clients reporting poor functioning may encourage clients to continue with treatment. Connection with social workers or knowledge of available community resources

(e.g., financial, transportation) can also help to address logistical and environmental obstacles to treatment.

### **Limitations and Future Directions**

As with many studies in the social sciences, power and sample size considerations must be taken into account. The current study included 152 clients with a variable number of sessions. A larger sample size would allow for more complex analyses, such as latent class analysis, to identify possible subgroups of types of clients. This also would enable the investigation of how changes between sessions may be more or less predictive of premature termination in addition to looking at overall development patterns. For example, further exploration of sudden large decreases between sessions or looking at the variability in scores across sessions. Finally, larger sample sizes also would enable the addition of a third level to more fully account for the nested structure of the data as sessions within individual clients within therapists. Additionally, a small number of the clients in the current study also had multiple therapists over the course of treatment. Turnover is likely more common in a university based training clinic because clinicians change every two semesters compared to more traditional hospital or community center employees.

One of the inherent limitations of the current study involves the subjective nature surrounding how both premature termination and diagnostic classifications are determined. Operational definitions of premature termination that use more objective indicators, such as duration based or clinically significant/reliable change, fail to incorporate the valuable insight from clinician's regarding progress towards goals and whether the client or therapist initiated

termination. Reliance on clinical judgment when defining premature termination introduces more subjectivity; however, therapists being provided with regular feedback directly from clients on their functioning and the therapeutic alliance may mitigate the limitation for the current study. In addition, premature termination within the first few intake sessions versus later during the course of treatment may fundamentally represent different types of treatment given the differences in treatment that may warrant separate analyses in future research in order to more clearly understand the relative importance of factors for each group. Diagnostic classifications are also inherently subjective because a clinical diagnosis is based on an individual clinician's interpretation of how clients meet specific DSM-5 (American Psychological Association, 2013) criteria that are oftentimes subjective in nature themselves (e.g., markedly diminished interest, depressed mood). The current study attempted to mitigate this limitation by more broadly considering the presence or absence of a diagnosis rather than the specific diagnosis. In addition, standard clinic operating procedure incorporated the use of standardized measures (e.g., BASC-2; Reynolds & Kamphaus, 2004; PHQ; Kroenke et al., 2010) during the intake process to encourage data-based decision making regarding diagnosis in collaboration with the supervising licensed psychologist.

One of the strengths of the current study is the inclusion of a wide age range including both adolescents and adults within a single study that enables the exploration of the possible moderating effects of age; however, there are also distinct differences in terms of factors to consider as contributing to premature termination before versus after 18 years old. Parents and guardians were more likely to be involved in the treatment of adolescents under the age of 18 years old in terms of both logistics (e.g., transportation to sessions, consent to treatment) and

when making decisions regarding termination relative to clients 18 years and older because of the changes in legal rights at the age of majority. The current study only collected therapeutic alliance measures from the clients themselves, which does not account for the potential impact of parents or guardians. Although age was not identified as a significant moderator of premature termination rates in terms of either therapeutic alliance or client functioning, the current analyses included age as a continuous variable. Future research may benefit from including age as a categorical variable that can better demarcate the age of majority as well as including assessments from the perspective of the parent or guardian.

Future research would benefit from continuing to explore the interactive effects of therapeutic alliance and client functioning across a variety of settings. In addition, using the information gained on risk factors for premature termination to test at what time and what information to include as warning signs for therapists. Previous research identified the highest premature termination rates as being at university based clinics using trainees as therapists (Baekeland & Lundwall, 1975; Reis & Brown, 1999). This makes clinics like the one used in the current study an important setting for research, but it also highlights the potential for future research to explore whether or not the same pattern of findings would apply across settings.

In spite of these limitations, the current study made significant contributions in terms of emphasizing the importance of strengthening the therapeutic alliance at the first session. Interventions targeting the alliance at the first session are critical for preventing premature termination. Even some of the anticipated and logical findings, such as recognizing that those clients that enter therapy with the lowest levels of functioning may be at greatest risk for premature termination, serve as important reminders for therapists. There is also hope in that

even when clients are significantly struggling and enter therapy with a diagnosis, having a strong therapeutic alliance mitigates their risk for premature termination.

## CHAPTER VI

### CONCLUSION

The current study sought to better understand how therapeutic alliance and client functioning develop over the course of treatment as they relate to premature termination. Both therapeutic alliance and client functioning demonstrate a quadratic growth pattern over the course of treatment with initial intake scores being some of the most powerful predictors of premature termination. For those clients still in treatment at the fourth session, this time point also serves as an important marker with those reporting better functioning at the fourth session being at decreased risk for premature termination. Taking into account diagnostic status at intake also provides valuable information with the increased risk associated with entering therapy with a clinical diagnosis being mitigated by a strong alliance at intake. The pattern of results for the current study suggest that the relationship between therapeutic alliance, client functioning, and premature termination remain relatively consistent across the adolescence and adulthood. In addition to considering the main effects of therapeutic alliance and client functioning on premature termination, their possible interactive effects must be considered and explored further in future research. Formative assessment of therapeutic alliance and client functioning starting with the very first therapy session provides valuable information to therapists when evaluating client risk for premature termination. Future research can continue to explore how therapeutic alliance and client functioning develop over time as well as investigating which interventions are most effective at various time points with clients most at risk for premature termination.

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