DIFFERENCES IN COUPLES PRESENTING IN THERAPY: A STUDY OF THE RATES AND TRAJECTORIES OF CHANGE

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ABSTRACT

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Couple and Family Therapists (CFTs), like other mental health professionals, set out to help clients address the various stressors in their lives. This is complicated, especially in that the therapist has to work with more than one person in session, and needs to manage the differing expectations and readiness for change in therapy in the couple. This complexity contributes to high dropout rates in couple therapy with premature termination rate of nearly 50% being common in this work. These rates of dropout have consequences for everyone involved, including couples and their families, funders of therapy and the community at large (Anker et al., 2009; Bartle-Haring et al., 2007; Knobloch-Fedders et al., 2015; Reese et al., 2009; Ward & McCollum, 2005; Wong et al., 2013; Yoo et al., 2016). The couple therapy literature has hypothesized a number of reasons for high dropout rates in couple therapy, one such being that clients require different dosages of therapy and that change happens at different rates (e.g., Roos & Werbert, 2013; Saxon et al., 2017; Stulz et al., 2007; Swift & Greenberg, 2012). This would suggest that there are different types of clients who present for therapy, and that these clients need something different in the process. One way to address these differences would be to understand more about the needs of couples in the intake process. While CFTs have assessed presenting issues and levels of distress through a number of methods, often self-report assessments at intake (e.g., Beck et al., 1988; Busby et al., 1995; Lambert, 1992;

Lambert et al., 2005), these measures have rarely been used as an effective tool to help with treatment planning.

Previous literature has discussed the idea of identifying types, or profiles, of couples that present for therapy. This idea of taxons, or profiles, has been explored using a number of qualifiers, such as mandates to therapy, clinical cut-off scores on assessments, and demographic factors (Beach et al., 2005; Whisman et al., 2008; Wong et al., 2013). When creating these profiles based on clinical cut-off scores, it has been the practice to combine both members' scores to form one single product score to represent the entire couple, rather than treating each member separately. However, this research on profiles has been underexplored.

Therefore, to expand on the existing literature base, the current study used a latent profile model to explore the possibility of different profiles of couples who present for therapy. A sample of 188 couples, who were former clients of a university-based CFT clinic at a large Midwestern university were analyzed. Intake scores from three assessments measuring both individual and relational distress were used for each individual. Scores for each member of the couple were included in the analyses, rather than forming a single product score for the couple. Results indicated that four distinct profiles of couples exist: male-distressed, no-distress, relational-distress, and high distress. Using a series of generalized linear models, differences between couple profiles in dosage and treatment response were examined, including likelihood of premature termination. A Multivariate Linear Mixed Model was used to explore differences in therapy trajectory between profiles. Significant differences in dosage, treatment response, and therapy trajectory were found between profiles. Implications and future directions for research are discussed.

This is dedicated to my family, blood and otherwise, who were all troopers on this very long and winding journey to completion.

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CHAPTER 1: Problem Statement

Marital discord impacts the physical and mental health of both members of the relationship (Fincham & Beach, 2010). Individuals in happy marriages live longer, healthier lives, when compared to divorced individuals or those in unhappy marriages (Miller, Hollist, Olsen, & Law, 2013; Proulx & Snyder-Rivas, 2013). Men feel the effects of happy marriages more than women do (Rendall, Weden, Faveault, & Waldron, 2011). Data from a national sample suggests long-term marital dissatisfaction impacts depressive symptoms and limits some everyday functioning (Choi & Marks, 2008). Overbeek, Vollebergh, de Graaf, Scholte, de Kemp, and Engels (2006) found that relational discord is associated with increased incidence of mood and anxiety disorders in women, and increased incidence of substance abuse disorders in men. Further, when controlling for the level of relational discord, there is no significant impact of divorce on increasing the depressive or anxiety disorders in women. This suggests that divorce is just a co-occurring symptom of relational discord to depression or anxiety (Overbeek et al., 2006). Further, Whisman (2007) found that marital satisfaction tends to be lower among couples where psychiatric disorders or physical health problems are present in one member.

Couple therapy can be an effective way to improve marital satisfaction, and through this relational work, individual distress can also be alleviated. Research suggests that couple therapy has a positive impact on about 70% of couples coming to therapy (Lebow, Chambers, Christensen, & Johnson, 2012). The success of therapy is dependent on a number of factors, such as length of treatment and client expectations. Lambert (1992) suggests that 15% of the variance in therapy outcomes can be explained by client expectations alone. Understanding client expectations is imperative to treatment success

because clients who feel their expectations are being met are more likely to stay in therapy longer and make progress towards their goals (Tambling, 2012). One of the most common questions therapists get from clients during the first session is "how many sessions do you think we will need to attend?" The answer to this question is complicated by many factors, including levels of relational distress, individual distress, and willingness to participate in treatment, among others.

Client expectations are a common client factor across theoretical approaches and modality in therapy (Arnkoff, Glass, & Shapiro, 2002; Lambert et al., 2002). Therapists lack a good way to account for client expectations and measure this variable at the time of the first visit even though therapists gather a great deal of information at this time. This is especially complicated in that expectations vary from case to case and even differ among members of the same couple relationship. Mental health professionals need a way to use intake information to quickly classify couples into groups, allowing for an estimation of treatment length and trajectory based on other couples with similar information (scores, diagnoses, etc.). Having this information at the beginning of treatment can help therapists work with clients to set appropriate expectations when treatment planning about treatment length based on their goals and distress levels.

Background of Problem: Mental Health Research

Mental health researchers have spent decades examining the effectiveness of therapy and exploring differences in approaches to treatment (Kadzin, 2009; Wampold, Lichtenberg, & Waehler, 2002), examining questions as to *how* therapy works, for *whom* it works, and *why* it works (Gurman & Fraenkel, 2002; Jacobson & Addis, 1993). Research questions commonly address a variety of factors including those related to therapist

characteristics, the process of therapy, and client characteristics. Common outcomes include the trajectory, length, and rate of change realized in therapy, as well as examining lasting effects once treatment has ended (e.g., Stricker, Troy, & Shueman, 2000). Couple and family therapy includes the previously mentioned therapy outcomes as well as outcomes related to relational satisfaction and likelihoods of relationship dissolution, among other things (Gurman & Fraenkel, 2002; Jacobson & Addis, 1993). As a therapy focused on relationships, couple and family therapy (CFT) has demonstrated effectiveness, similar to that of other mental health disciplines, treating couples and families (Johnson & Lebow, 2007; Shadish & Baldwin, 2003).

The 1990s was a decade of increased interest in defining and using outcome measures to better understand the therapeutic process, with the goal of trying to better predict client status (deterioration, stability, or continued improvement) after treatment ended (e.g., Doss, Hsueh, & Carhart, 2011; Stricker et al., 2000). Further, finding ways to track progress in therapy, a process-related approach, became important to assess change. This increased interest in process and outcome measures led therapists to look for "hard" measures that would provide feedback to the therapist (and client) to enhance treatment.

Client self-report measures, such as the Outcome Questionnaire-45 (OQ-45; Lambert et al., 2004), the Outcome Rating Scale/Session Rating Scale (ORS/SRS; Miller & Duncan, 2000), and more recently, the Intersession Report (IR; Johnson, Ketring, & Anderson, 2010), are key to this feedback. Therapists who receive feedback during the treatment process were able to enhance positive outcomes in clinically meaningful ways by identifying clients who were not on track to meet treatment objectives and shifting the focus of treatment to get back on track (Lappan, Shamoon, & Blow, 2017; Pepping, Halford,

& Doss, 2015; Reece, Toland, Sloane, & Norsworthy, 2010). Another value of increasing feedback to the therapist based on client report is that it provides a way to track client progress and prevent early therapy termination. Such assessment tools can detect clients who are at risk of leaving therapy early because they feel it is not meeting their needs or expectations. A large body of couple therapy research has looked at the therapeutic alliance as a measure of the client(s) comfort with the therapist, the goals of therapy, and the progress of therapy (Bartle-Haring et al., 2012; Bourgeois, Sabourin, & Wright, 1990; Brown & O'Leary, 2000; Duncan, 1992; S.M. Johnson & Talitman, 1997; L. N. Johnson & Wright, 2002; Knobloch-Fedders, Pinsof, & Mann, 2007; Pinsof, 1994; Raytek, McCrady, Epstein, & Hirsch, 1999). In this way, measures of the alliance are a way to evaluate client expectations for therapy and whether these are being met. When any of these measures are processed with the client in therapy, they open the door for better communication, and provide the therapist with an opportunity to shift the direction of therapy.

The first decade of the new millennium saw attention focused on the context of marital conflict (Fincham & Beach, 2010) and couple distress (Lebow et al., 2012). Following the classic work of Gottman (1999), Johnson and colleagues (2005) looked at affective climate within couple relationships and found that conflict behavior, such as negative affect and negative communications, had significant effects on the trajectory of marital satisfaction over four years. Similarly, high conflict spousal interactions without positive interactions, as well as work stress impacted the level of marital satisfaction in couples (Janicki, Karmarck, Shiffman & Gwaltney, 2006; Schulz, Cowan, Cowan, & Brennan, 2004; see also Gottman, 1999). Others have found that factors such as cumulative risk of a number of individual factors (e.g., education level, mental health, and substance abuse)

combined with relational factors (e.g., domestic violence) as well as external circumstances (financial strain and lack of social support) dramatically impacted levels of marital satisfaction (Karney & Bradbury, 1995; Rauer, Karney, Garvan, & Hou, 2008). This relationship between individual mental health and relational distress is bidirectional (Lebow et al., 2012). For example, couples can share a challenging, potentially embarrassing experience, such as infidelity, which can then lead to anxiety or mood disorders; but it should also be considered that perhaps one partner's experience with anxiety or mood disorders could have led to the embarrassing event to begin with (Cano & O'Leary, 2000).

Given the complex interaction of individual, couple, and contextual risks, it would seem that couple therapy, as a place where couples could learn new ways of interaction and communication, would be effective for increasing marital satisfaction. However despite the research on couples' needs in therapy, premature termination rates as high as 50% are still observed in couple therapy (Knobloch-Fedders, Pinsof, & Haase, 2015; Ward & McCollum, 2005; Yoo, Bartle-Haring, & Gangamma, 2016; Wong, Tambling, & Anderson, 2013). Thus, the issue still remains for CFTs of how to keep couples in therapy to achieve successful completion of goals. This all starts with setting appropriate expectations for clients from the beginning about "how long will it take to improve."

Treatment Length and Premature Termination

Proper dosage. When clients pose the question of about treatment length, they are really asking about the proper dosage of therapy necessary to see improvement. This, however, is a complicated question as the proper dosage varies based on a number of factors. Research with individual clients suggests that length of treatment and the decision

to terminate based on rate of improvement is primarily determined by clients (Brown, Burlingame, Lambert, Jones, & Vaccaro, 2001); this is also true for couples in therapy (Westmacott, Hunsley, Best, Rumstein-McKean & Schindler, 2010). Typically in medical practice, the physician determines the proper dosage; however, in couple therapy, the couple has a more obvious role in determining the proper dosage in that they can stop the work at any time, when they feel things are improved. Feedback from the couple about progress in therapy and the strength of the therapeutic alliance is one way to inform the therapist regarding the appropriate dosage of therapy. Unfortunately, feedback to the therapist during the process of therapy has not been used often to inform therapists as to when to initiate termination of therapy with either individual or couple clients.

Proper dosage is important for clients to achieve the greatest benefit and for proper use of mental health resources. Proper dosage can vary for a number of reasons, based on client effects (i.e., severity of the presenting problem, client expectations, etc.) or therapist effects (i.e., therapist effectiveness). The use of client feedback can clarify client expectations and serve as a check-up for therapists, in the same way that the medical community uses check-ups to work towards proper dosage for the presenting problem. Therapeutic interventions behave similarly to medical interventions in that they have an adequate dosage or follow a dosing schedule. That is to say that many couple therapy interventions require a certain number of sessions to be successful. For example, experts in Emotionally-Focused Couple Therapy (EFT; Johnson, 2004) recommend between 8 and 20 sessions for best results. Saxon, Firth, and Barkham (2017) found that for psychotherapy in general, outcomes were better with more doses (sessions) completed based on the dosing schedule. However, between 20% and 35% of therapy interventions do not get completed

(Cooper & Conklin, 2015; Hans & Hiller, 2013; Roos & Werbart, 2013; Swift & Greenberg, 2012).

The proper dosage to achieve gains that can be maintained after termination varies among clients. For relatively minor issues, 4 to 5 sessions may be adequate; while for other issues, substantially more therapy sessions may be necessary. Researchers have studied both proper dosage for treatment effectiveness and treatment efficacy. Treatment efficacy is the measurement of treatment effects that are observed in heavily controlled environments, such as random control trial (RCT) studies. In contrast, treatment effectiveness is measured in regular community settings with routine practices (Halford, Pepping, & Petch, 2016). RCT dosages have varied from 4 to 20 sessions, depending on the nature of the problem addressed and the researcher's expectations for successful treatment (Hansen, Lambert, & Forman, 2002). Howard, Kopta, Krause, and Orlinsky (1986) found a relationship between the amount of therapy (number of sessions) and the positive gains and improvement acquired. Improvement can be described as a positive change curve with negative acceleration. That is, reported clinical improvement is rapid at first but slows substantially over the number of sessions. However, some clients can experience clinically significant improvement within the first session, some after 8 sessions, and for others it can take as long as 52 sessions (Howard et al., 1986). Lambert, Hansen, and Finch (2001) found that 50% of the clients starting in the dysfunctional range on the OQ-45.2 experienced clinically significant change after 21 sessions. However, that was the "average" client, and the number of sessions before such clinically significant change occurred varied widely among clients. This variability suggests that a one-size-fits-all approach to treatment planning (or RCT studies) does not work, and that other client

effects need to be accounted for in studies. According to Johnson et al. (2015), most couple therapy is done in clinics where there is no mandated approach or treatment modality. Within these clinics, therapy usually lasts between 6 and 12 sessions (Johnson et al., 2015). The correct dosage recommended in couple therapy is confusing in that the number of sessions required for efficacious couple therapy treatment varies by model used and presenting issue (Halford et al., 2016). Snyder and Halford (2012) found that in previously published efficacy trials of couple therapy, the mean number of sessions ranged from 15 to 30. Similarly, Halford et al. (2016) found that the average number of sessions for effectiveness studies in community settings ranged from 9 to 14, adding further complexity to the idea of an optimal treatment length.

The impact of proper dosage reaches beyond the people who are directly involved in the therapeutic process, i.e. therapist and client. The impact can be felt throughout the system, such as within their families and communities, or in the organization/entity that may be funding treatment. Clients who start therapy but terminate early for whatever reason may be a drain on mental health resources in that therapy may have little effect if the dosage is not sufficient (Barrett, Chua, Crits-Christoph, Connolly Gibbons, & Thompson, 2008; Bischoff & Sprenkle, 1993; Garfield, 1994; Reis & Brown, 1999). With already limited resources, the strain can cause a chain reaction of negative consequences for others needing services within the community, by leading to delays in treatment, longer wait lists and/or having to space out treatment.

Premature Termination. CFTs are responsible for working with clients to resolve their issues in a climate where a large percentage of couples experiencing distress do not even come to therapy for help (Whisman et al., 2008). Despite a high proportion of distress

in a nonclinical sample, only about 20% of those experiencing distress actually seek services, i.e., 4% – 6% of all couples (Carr, 2014; Whisman et al., 2008). Often, the motivation to seek services comes only after problems have become chronic and severe, and focus on the individual as the cause (Doss, Rhoades, Stanley, & Markham, 2009). Clients may be at different places with regards to distress levels and readiness for change. CFTs have to demonstrate improvement in an appropriate amount of time to keep clients coming back and keep them in therapy for the proper dosage. Clients terminate therapy for many reasons, sometimes related to the therapeutic process (e.g., alliance, progress) and sometimes related to life issues (e.g., financial, transportation, schedule issues). While CFTs can see the systemic elements in the problem, at least one of the partners may not agree with this conceptualization and seek termination (Allgood & Crane, 1991; Bischoff & Sprenkle, 1993). Disagreement with the therapist's approach in treating the relationship (system), rather than the individual with the problem, could serve as the catalyst that leads to premature termination. Those who terminate treatment prematurely because of a failure of therapy or failure to form an alliance with the therapist often get worse after leaving treatment (Reis & Brown, 1999).

Premature termination is a serious problem for all mental health fields, with rates estimated to be between 30% and 60% (Masi, Miller, & Olsen, 2003; Wierzbicki & Pekarik, 1993). Often, clients who make early gains do not feel a need to stay in therapy (Anker et al., 2009; Lambert et al., 2001; Lambert & Shimokawa, 2011; Reese et al., 2009; Whipple et al., 2003). Clients who leave therapy early demonstrate similar outcomes to those who are distressed but who never sought therapy (Pekarik, 1992). Often, clients who leave early are those who need the services the most (Kadzin, 1990). For couples who terminate

prematurely, usually at least one member has high levels of clinically significant individual distress (Epstein, McCrady, Miller, & Steinberg, 1994; Raytek et al., 1999; Tambling & Johnson, 2008; Ward & McCollum, 2005). Those who leave therapy prematurely are less likely to seek help again, reinforcing negative feelings and a loss for hope, which for couple therapy clients impacts not just the individual but also the whole system (Bartle-Haring, Glebova, & Meyer, 2007).

To complicate this further, although it is assumed that people come to couple therapy to improve their relationship, there is another group of clients who come to determine whether to stay in their relationship (Doss, Simpson, & Christensen, 2004; Mondor et al., 2013). People who come with divorce/separation issues in mind will have different goals and different expectations for the length of treatment; thus, standards of proper dosage are not applicable in some cases (Doherty, Harris, & Wilde, 2016). These couples, often referred to as mixed-agenda couples, could fall into the group of couples that are considered early dropouts (Doherty et al., 2016). This group of couples would be categorized as therapy failures because they did not stay the "correct amount of time" according to the therapist or some arbitrary cutoff of the proper number of sessions. However, they left therapy after two or three sessions feeling satisfied, feeling as though they had gained clarity and confidence regarding their next steps, and they had successfully completed their goals for therapy (Doherty et al., 2016). This idea brings up the importance of a clients' response to treatment as a factor in understanding premature termination.

Response to Treatment. Response to treatment examines the idea of successful completion of goals. Other lines of research into client effects have investigated how therapy varies based on clinical diagnosis. There are different outcomes when clients are

also dealing with mental health issues, such as depression, anxiety, personality disorders, eating disorders, or more severe psychopathology (Barrett et al., 2008; Fluckiger, et al., 2011; McMurran, Huband, & Overton, 2010; Olver & Wong, 2009; Swift & Greenberg, 2012). These client issues have a stronger influence on outcomes than do the other demographic variables such as gender, age, and SES (Swift & Greenberg, 2012). This suggests that presenting problems related to diagnosis are key in understanding things like rate of change and proper dosage, which are the factors that influence outcome events like early termination or successful completion of goals.

Aims of Study

With all of the research on therapeutic effectiveness and treatment outcomes, couple therapists still do not have a satisfactory way to predict how long treatment will last or at what expected rate couple therapy clients will experience change. With only 20% of distressed couples coming to therapy, and even fewer of them staying for what therapists' consider a proper dose, therapists are missing out on opportunities to help clients improve. It may be helpful to understand whether there are different profiles of couples who present for therapy. If profiles could be identified, then therapists would have more information to help clients set reasonable expectations for change and treatment length. More research is needed to address this gap in the literature to assist therapists with this practical problem.

The purpose of this study is to determine whether there are profiles of either couples or individuals within couples who present for couple therapy that would predict early drop out. This would help therapists look at intake assessment results and understand how those scores could be used to create a profile for the couple to plan

effective treatment. Put another way, the purpose of this study is to give therapists a tool to answer the common client question of "how long will this take?"

While the research on outcomes of factors affecting the therapeutic process in individual therapy is extensive; there is a gap in our knowledge as to the trajectory and rate of change for couples in therapy. Often when couples come to therapy, it is to resolve some sort of relational distress. Research in the CFT field acknowledges this, and many studies use a measure of relationship satisfaction as the outcome measure (e.g., Barbato & D'Avanzo, 2008; Lundblad & Hansson, 2006; Tambling & Johnson, 2008). Exceptions to using relationship satisfaction as an outcome measure include co-morbid issues, such as reducing substance abuse (e.g., Fals-Stewart, Lam, & Kelley, 2009; Powers, Vedel, & Emmelkamp, 2008), lowered intimate partner violence (e.g., McCollum & Stith, 2008; Stith, Green, Smith, & Ward, 2008; Walitzer & Dermen, 2004), or restoring couple relationships after infidelity (Atkins, Baucom, & Jacobson, 2001; Fals-Stewart, O'Farrell, Birchler, Cordova, & Kelley, 2005; Previti & Amato, 2004). Based on a review of the literature, couple therapy improved general marital satisfaction for approximately 40% of couples, and there was some evidence to suggest it might be useful in treating women with depression (Lebow et al., 2012; Sexton, Alexander, & Mease, 2003). For couples, defining issues, such as a weak therapeutic alliance, a lack of engagement of one or both partners, and an incorrect understanding of the problem by therapist, may all lead to premature therapy termination. Early identification of couples at risk for non-improvement or early termination would allow the therapist to modify the approach, encourage continuation, or make referrals to other providers. This also allows for a more immediate feedback loop between therapists and clients. By identifying couple profiles after the initial session, these

profiles could serve as basis for therapists to set more appropriate expectations of therapy for their clients early on.

Aim 1: Identifying Couple Profiles. This study aims to address this problem by identifying different profiles from couples who come to therapy, not separating them by presenting problem, but using their initial scores on both individual and relational distress measures to establish a profile that will predict the number of sessions they will likely use in couple therapy. Research shows those who experience significantly high levels of both individual and relational distress are more likely to drop out of therapy early, before the 4th session (Tambling & Johnson, 2008). Thus a couple with a profile defined by high levels of both individual and relational distress would be likely to require a different dose (number of sessions) and have a different response (likelihood of successful completion) to therapy than a couple with a profile with low levels of individual distress, or a couple profile with one member with higher levels of both and the other member with low to moderate levels of both.

Couples come to therapy for various reasons and with a variety of expectations. While in some cases, these expectations are stated outright; in other cases, even after a few sessions, expectations are still not explicit (Mondor et al., 2013). Some couples come to work on improving their relationship, while others come to decide if their relationship is worth saving. In other cases, couples come to therapy to work solely on relational distress, but others may be attending because of an individual distress issue that in some way relates to relationship satisfaction. In a meta-analysis of the literature done by Baucom, Whisman, and Paprocki (2012), it was suggested that couple therapy and relationship work can improve relationship satisfaction and improve prognosis of individual

psychopathology. When there was relational discord, prognosis for the individual psychopathology got worse. A secure relationship can provide support for the individual who is working on his/her own mental health issues (Baucom et al., 2012). By identifying distinct profiles of couples at intake, the impact of blurry or unclear expectations set by the clients can be lessened, as the profile can serve as a roadmap for navigating the therapeutic process until client expectations can be clarified. These profiles can help therapists understand these differences in profile expectations and address them appropriately so that the trajectory of therapy and proper dosage can be realized.

Aim 2: Use Couple Profiles for Predicting Dose and Response. Using the profiles created from the initial assessment scores, this study aims to examine the appropriate dose of therapy and factors that contribute to successful response to therapy for each profile. Based on varying expectations, it is assumed that couples' rates of change or their trajectory would vary based on their profile. Understanding how these different profiles vary can assist therapists in providing proper dosage and preventing events like post-therapy deterioration or premature termination. Possessing this information early in the treatment process, therapists can have a conversation with client couples about realistic expectations for the treatment process and have a more useful discussion when setting therapy goals about treatment prognosis and common complications for that group.

Aim 3: Examine Individual Trajectories. Lastly, this study aims to look at individual trajectories over time to see if gender impacts the rate of change. In this exploration, I will examine how the gender of each member in a profile can impact change over time. These results can provide a better understanding of how differences in change among partners may affect the couple therapy process and the likelihood that couples leave

therapy before they have received the optimal dosage. While this will not explore the direct impact of one partner on the other, it will give the therapist more information about change within the couple profile to assist with setting appropriate expectations early in treatment with the couple. Ultimately, the identification of couple profiles can be a useful tool for the therapist to use during treatment planning.

Study Research Questions and Hypotheses

RQ1: Are there distinct profiles of couples who present for therapy as defined by initial assessment scores?

H1: There are at least three differing profiles of couples, one that presents related to strictly relational distress, one that presents because of one member's individual distress, and one that presents because both members are suffering from high levels of both individual and relational distress.

RQ2a: Does the couple's profile, based on intake measures, predict the dose of therapy?

H2a: The number of sessions for couples with each profile will differ based on their initial intake scores. Couples with profiles showing higher levels of overall distress at intake will stay in therapy longer than couples with profiles with moderate distress. Couples with profiles with moderate distress will stay in therapy longer than couples with profiles with low overall distress, or whose profiles are limited to relational distress.

RQ2b: Does the couple's profile predict their response to therapy as defined by the therapist, i.e., the probability of successfully completing therapy?

H2b: Couples with profiles with moderate levels of overall distress at intake are more likely to terminate with a higher rating of goals met by the therapist, when compared to couples with profiles with only higher levels of relational distress and couples with profiles of highest levels of overall distress.

RQ2c: Does the couple's profile predict the probability of prematurely terminating therapy?

H2c: The couples with profiles with the extremes of overall distress at intake, either extremely high levels of distress or low levels of distress, will be more likely to end therapy prematurely, as judged by their therapist.

RQ3: Does the couple's profile predict the trajectory or rate of change in therapy?

H3a: Profile type will be associated with different rates of change of couple's scores on the OQ-45.2 in therapy.

CHAPTER 2: Literature Review

Central issues in couple therapy have always been how does it work and for whom does it work (Gurman & Fraenkel, 2002). This study will address the importance of intake assessment measures completed by clients and how to use these initial scores to create client profiles to help identify clients who are at risk for early termination in couple therapy and to help guide treatment planning accordingly. An exploration of the typical trajectory and rate of change for couple therapy will be conducted. There will be an emphasis on the definitions of successful completion and what factors lead to premature termination. Finally, there will be an exploration of how the couple profiles can be used to identify those who are at higher risk for termination, in an attempt to help practitioners to set appropriate expectations with their clients about such things as trajectory and rate of change.

Marriage and Divorce

A great majority of the adults in Western world have been married, but only about 50% will stay married (Carr, 2014). Many of these divorces occur within the first decade of marriage, most often in the first seven years (Lebow et al., 2012). Of the couples that do stay together, about 20% of them will experience some level of relational distress, with accompanying decreases in marital satisfaction (Bradbury, Fincham, & Beach, 2000; Carr, 2014).

Couples in Therapy

Some of these couples who are dissatisfied in their relationships may seek therapy. Couples present for therapy with a variety of relational complaints, including feeling emotionally disconnected, struggling with power imbalances, experiencing jealousy,

infidelity, dealing with belief and value conflicts, coping with dissatisfaction with intimacy, and unresolved communication issues, just to name a few (Gurman & Fraenkel, 2002). A number of people seek individual treatment for marital or relationship problems in the hope that attending individual therapy will improve marital relations. However, only about 20% of distressed couples actually seek couple therapy (Carr, 2014). It should be considered that for many of these cases, relationship dissolution could be prevented by effective couple therapy treatment. Prevention of divorce is an important public health concern in that divorce is not only associated with high costs monetarily, but also with a number of negative effects on the individuals and their offspring (if any), including health concerns (e.g., depression, anxiety, obesity, substance dependence), increased dependence on the welfare system, and extended use of and strain on the legal, healthcare, and educational systems (Caldwell, Woolley, & Caldwell, 2007; Wood, Goesling, & Avellar, 2007). According to Schramm (2006), the cost of divorce in both direct costs, e.g. food stamps and welfare programs, and indirect costs, e.g. increased crime and substance use rates to the government is, at minimum, $30,000 per divorce.

Gurman and colleagues completed a series of reviews evaluating couple therapy as an effective approach to alleviate couple concerns. They concluded: 1) conjoint therapy is more effective than individual treatment for marital problems, and 2) the effects of treatment far exceeded the effects of no treatment at all (Gurman & Fraenkel, 2002, p. 241). In fact, those participating in therapy had better outcomes than 84% of similar couples not participating in therapy (Shadish & Baldwin, 2003). In addition, positive effects from treatment were felt within a relatively short period, about 12 to 20 sessions. These reviews have set a tone for the current practice of couple therapy, and they continue to be

reinforced by more recent research (Lebow et al., 2012; Shadish & Baldwin, 2003; Snyder & Halford, 2012).

Research on the effectiveness of couple therapy versus individual therapy has demonstrated that it is effective when one or both partners are experiencing distress at a clinically significant level. The effect has been shown to be gender specific, i.e., when the male has a clinically significant level of individual distress and his female partner does not, he will show clinically significant gains throughout treatment. However, when the female partner is clinically distressed and her male counterpart is not, she is better off to go to therapy individually for greater gains (Isakson et al., 2006). In contrast to the Isakson et al. (2006) report, Beach and Cassidy (1991) looked at whether individual or couple treatment would be the better option for women who were experiencing levels of depression and relational distress. Results suggest that clients in couple therapy show higher gains when individuals have depression and relational distress when compared to individual therapy for women with similar distress levels (Beach & Cassidy, 1991).

Presenting Problems Commonly Treated in Individual Therapy. Lebow (2013) stated that couple therapy has two primary purposes: improving couple relationships to reduce distress, and aiding one partner to reduce the effects of loss or illness. Couple distress has a relationship with individual distress, and is associated with a number of disorders, such as anxiety, depression, bipolar, and substance use disorders (Whisman & Uebelacker, 2006). The same relational distress can exacerbate pre-existing diagnoses as well and lead to other problems, such as violence or further substance abuse (Lebow et al., 2012). Thus, reducing relational distress is the first step to improving couple relationships. Given the systemic approach of couple therapy, considering the individual in the context of

their environment and the bi-directional effects of that context and the influence of societal and historical contexts, couple therapy is an effective method for addressing dysfunctional relationship patterns (Lam, Fals-Stewart, & Kelley, 2009). These sources indicate that couple therapy is not only useful for relationship change, but can also address individual disorders through the relationship. This type of therapy has been referred to as "partner-assisted" or "disorder-focused" (Baucom et al., 2012), and has been used to treat such issues as coping with grief after a loss or stress over facing an intense medical diagnosis (Weingarten, 2013). Often there is an interaction between one partner's experiences and relational dysfunction such that the "partner-assisted" approach can be especially effective as a mode of treatment. Couple therapy allows space for psychoeducation about the condition or issue as well as allows space for partners to better support one another.

Couple Therapy for Relational Distress. Some couples will come to therapy to address relational issues only, without any individual diagnoses, but with goals to enhance or strengthen their relationship, or to improve their communication. Lebow (2016) argues that couple therapy is the most effective treatment to treating relational distress. Several models have demonstrated effectiveness, including Emotionally Focused Therapy (EFT; S. M. Johnson, 2004), Integrative Behavioral Couple Therapy (IBCT; Jacobson & Christensen, 1996), the Gottman Method (Gottman, 1999), and premarital/marital psychoeducation (Markman, Stanley, & Blumberg, 2010). Research suggests that for approximately 70% of couples, couple therapy is effective in increasing relational satisfaction, and in turn, reducing separation/divorce rates (Lebow, Chambers, Christensen, & Johnson, 2012). Couple therapy has been found to be more effective than other modalities in treating relational distress, with effects sizes of d=.84 compared to that of family therapy (.58) and

no treatment at all (.59) (Shadish & Baldwin, 2002, 2005). These effect sizes using Cohen's d, which can be separated into small (d=0.2), medium (d=0.5), and large (d=0.8) effect sizes (Cohen, 1968, 1988), demonstrate the significance of the difference in effect of couple therapy above other modalities.

Treatment Length and Premature Termination

Treatment Length. Most goals for couple therapy can be accomplished in 12-20 sessions (Gurman & Fraenkel, 2002). EFT, for example, has a recommended treatment length of 8-20 sessions (Johnson, 2004), while IBCT is recommended for 15-26 sessions (Dimidjian, Martell, & Christensen, 2008). Treatment trajectory for couple therapy tends to follow a positive growth trajectory, but growth starts to slow after a certain point, and the phenomenon of diminishing returns occurs (Howard et al., 1986). It begs the question of is whether there is such a thing as enough therapy? Or conversely, is there too little therapy in some cases where some couples would have benefited from more sessions?

The literature discusses the dose-response model in the context of individual therapy (Howard et al., 1986, 1993). Within this model, there is the idea that similar to that of medication, there is a certain "dosage" or number of sessions that is appropriate. Howard and colleagues propose that longer the length of treatment, the greater the results. Specifically, 14% of clients improve before being seen for the first session, 53% improve after eight weeks of treatment, 75% improve after six months, and 83% improve after a year's worth of treatment (Howard et al., 1986). Later studies have suggested that it actually takes approximately three months, specifically 13 to 14 sessions, for 50% of clients to demonstrate clinical significant change (Anderson & Lambert, 2001; Harnett, O'Donovan, & Lambert, 2010; Kadera, Lambert, & Andrews, 1996). Barkham et al. (2006)

propose the idea of a "good enough level" (GEL), where the speed of improvement predicts the length of therapy, rather than the inverse suggested by the dose-response model. Within the GEL model, some clients can leave therapy after two sessions and have achieved reliable and significant change, where as some clients are in therapy for years (Barkham et al., 2006).

This dose-effect model looks at change over the entire course of therapy using one single change index, based on the idea of a reliable change score (RCI; Jacobson & Truax, 1991) and clinical cutoff for distinguishing distress or nondistressed clients. The Reliable Change Index is calculated by taking the difference between the pre-test and post-test scores and dividing by the standard of error. The resulting score is a reliable change when the change is significant at $p<0.05$ computed using the Reliable Change Index, which is calculated by taking the difference between the pre-test and post-test scores and dividing by a standard of error (Christensen & Mendoza, 1986). Using the RCI, Bauer, Lambert, and Nielson (2004) found conservatively that 35% of clients improve during therapy.

Clients who achieve both reliable and clinically significant change are considered recovered. When clients achieve neither, they are considered unchanged. When clients achieve a significant change on the RCI, but do not surpass the cutoff, they are considered improved or improving. Lastly, when clients experience a significant RCI, but the change is in the wrong direction (i.e., clients become more distressed, the distress score goes up by the required amount), this is considered deterioration (McGlinchey, Atkins, & Jacobson, 2002). Hence the question of, "Can clients stay too long?" This spurred the approach of monitoring change on a session-by-session basis (Callahan & Hynan, 2005; Hansen, Lambert, & Forman, 2003; Kadera, et al., 1996). This approach allows for therapists to

notice the RCI as it occurs, rather than waiting until the end of therapy. This RCI is defined by the assessments being used, for example, the OQ-45 has a RCI score of 14 points with a clinically significant cut off of *T*=63 (Lambert & Finch, 1999; Lambert et al., 2002). Measuring change in this way is important for considering the concept of an "adequate dose," and what does premature termination look like.

Premature Termination. Premature termination in couple therapy has ordinarily been defined by the therapist/researcher. The literature on premature termination, sometimes referred to as early dropout, is immense in individual psychotherapy, and relatively sparse in couple therapy. However, despite these data, there is no consensus on what constitutes early termination or the factors that lead to it. In a meta-analysis completed by Swift and Greenberg (2012), the early dropout rate was around 20%, falling below the previously reported range of 30-60% (Masi et al., 2003; Wierzbicki & Pekarik, 1993). The general consensus is that premature termination occurs when treatment is stopped before successful completion. However, this is another muddy concept lacking an agreed-upon definition. One of the definitions of premature termination is the termination of therapy after the first session.

Another definition, which is more widely accepted, is the "no-show" definition, or when clients have a scheduled appointment and do not come back for therapy (Bartle-Haring, Glebova, & Meyer, 2007; Garfield, 1994; Hatchett & Park, 2003). Bartle-Haring et al. (2007) found significant differences in the length of treatment for clients across modalities (individual, couple and family) who successfully completed therapy (average of 15.75 sessions), clients who left therapy on their own terms (average of 9.22), and clients who did not show up for a scheduled appointment (6.43).

A third theory on premature termination is when a client requests to be done with therapy, but the therapist does not believe goals have been met (Garfield, 1994; Hatchett, & Park, 2003). This theory brings attention to the perpetual problem with therapy of the difference between client perception on progress and the therapist's perception, which often differ (Reis & Brown, 2006; Swift & Callahan, 2008; Tambling, Anderson, & Wong, 2014). Therapists often overestimate the number of sessions that will be required for progress and change (Garfield, 1994; Swift & Callahan, 2008). The number of sessions required is actually dependent on the client's response to therapy, rather than the reverse (Barkham et al., 2006; Stiles, Barkham, Connell, & Mellor-Clark, 2008). Thus, clients who feel that they have finished their goals may leave therapy earlier, contrary to the therapist's beliefs that not enough time or sessions have passed.

The last definition of premature termination addresses the idea of clients leaving before clinically significant change has occurred (Garfield, 1994; Hatchett & Park, 2003; Swift, Callahan, & Levine, 2009). Doss, Hsueh, and Carhart (2011) compared all the above definitions, and found that all of the definitions concluded that the majority of couples terminate services prematurely. It was further concluded that "gold standard" measures, like terminating before a certain number of sessions, relying on reliable or clinical significant change or on the therapist's ratings of success, were poor and inconsistent measures of stability after treatment concluded. Doss et al. (2011) recommend two definitions that are better predictors of post-treatment stability and relational satisfaction. First, couples who did not see reduction of relational distress and terminated while still in the distressed range demonstrated higher levels of deterioration over the next 18 months following termination. The second definition relies on the therapist's ability to predict

couple happiness. Couples who were predicted to be unhappy during treatment also demonstrated higher levels of deterioration over the 18 months following termination (Doss et al., 2011).

Similar to the disagreement on the definition of premature termination, the characteristics of those who terminate prematurely are also varied. Studies looking at demographic factors, including things like gender (Garfield, 1994; Lazaratou, Anagnostopoulos, Vlassopoulos, Tzavara, & Zelios, 2006; Reis & Brown, 1999; Swift & Greenberg, 2012), socioeconomic status (SES) (Barrett et al., 2008; Breton, Briones, Lemyze, & de la Durantaye, 1975; Garfield, 1994; Reis & Brown, 1999), education (Barrett et al., 2008; Garfield, 1994), age (Garfield, 1994; Reis & Brown, 1999; Swift & Greenberg, 2012), and ethnicity or minority status (Barrett et al., 2008; Garfield, 1994; Reis & Brown, 1999) have varied results. Gender as a predictor of premature termination has very low predictive value as a single predictor. However, when interactions with other variables, such as ethnicity or education, are included with gender, these findings have shown some predictive value (e.g. Gregory & Leslie, 1996; Williams, Ketring, & Salts, 2005). SES has demonstrated more consistency: clients with higher SES and with higher education levels tend to stay in therapy longer (e.g., Dodd, 1970; Garfield, 1994). However, the varied results come when considering the rationale for termination, when taking into account whether it is the financial situation that is the reason for termination or other characteristics of the population that tend to characterize those clients leaving therapy earlier. The inconsistent results with relation to the demographic factors make them weak predictors of premature termination.

A different theory for why people leave therapy early posits there is a disconnect between their expectations and the reality of therapy. This is related directly to the trajectory and rate of change within the therapeutic process. Stulz, Lutz, Leach, Lucock, and Barkham (2007) identified five different trajectories for couple therapy. The first trajectory is characterized by high levels of impairment at the start followed by gradual, steady improvement. The second trajectory is characterized by low initial impairment and low long-term improvement. The third describes the early responders, who show a lot of improvement very early in treatment and then eventually show slow progress. The fourth trajectory follows an up-and-down path of alternating improvement and regression, all while gradually moving upward in improvement over time. Finally, a fifth group starts with moderate impairment and gradually improves over time (Stulz et al., 2007). The path to change that the clients take must match their expectation of the process or they will leave early (Brown et al., 2001; Lambert et al., 2005). Connected to expectations matching reality, the partners' expectations and goals in couple therapy must also be aligned to ensure successful treatment (Doherty et al., 2016).

A less frequently considered rationale for premature termination is clients who leave therapy early because they believe they have achieved sufficient or maximal change and are ready to be done. Premature termination does not always mean that therapy was unsuccessful. Beyebach and Carranza (1997) first presented the idea that there are two different types of dropouts, early (within first three sessions) and late (after four or more sessions) as well as two profiles of dropouts, successful (those who drop out and report positive therapeutic experiences) and unsuccessful (those who report negative therapeutic experiences). Helmeke, Bischof, and Ford-Sori (2002) suggest combining the Beyeback and

Carranza types and profiles into a fourfold typology. Helmeke et al. (2002) used a case study of a couple who dropped out after three sessions to support this idea. The therapist in the case believed treatment had failed until reading the exit interview from the couple, who reported that therapy was successful and helped them realize the changes that needed to be made. This lends further support to the idea that often therapist perceptions and definitions related to number of sessions as measures of success are not always accurate measures of client experience, and may not be accurately portraying premature termination.

Premature termination, regardless of definition or reason, can be have detrimental effects for the client, the therapist, and the organization providing services. Often, clients who leave services early do not experience the full benefit of therapy and report feelings of failure or dissatisfaction (Ogrodniczuk, Joyce, & Piper, 2005). These clients tend to be chronic patients, those who utilize services for a brief period of time, quit before the benefits can be felt, and enter therapy with another therapist (Carpenter, Del Gaudio, & Morrow, 1979; Pekarik, 1992). Therapists who have clients who terminate prematurely may feel a sense of failure as well, as did the therapist in the Helmeke et al. (2002) study. This may be especially true for beginning therapists who may lack a sense of self-efficacy and, in turn, may feel rejected (Garfield, 1994). At an organizational level, financial and time resources take the hardest hit. When clients terminate prematurely, especially those who just do not show up for appointments are taking a slot away from people waiting to get into therapy, costing the organization money. Thus, a better understanding of what can predict premature termination is beneficial to all the stakeholders and is requires further research.

Client Expectations and Distress

Client Expectations. A major issue in thinking about therapy as a measure of dose-response is that this approach neglects the client's thoughts and experiences and their effects on therapy. Orlinsky, Ronnestad, and Willutzki (2004) propose that client participation is the most important factor in treatment success. The literature suggests that client expectations play a large role in whether treatment is a success (Arnkoff et al., 2002; Lambert et al., 2002; Tambling & Johnson, 2010). Client expectations can set the tone of therapy, if they view the process as relevant to their issue, they are more likely to continue treatment. However, most research on the success of therapy focuses on the therapist, therapist effects and decisions, and ignores the client's influence and free will in the process. Clients consider the strength of the therapeutic relationship and the collaborative nature of therapy to be very important to success (Busseri & Tyler, 2004). However, clients and therapists often see the progress of treatment very differently (Levitt & Rennie, 2004). The phenomenon of symptom improvement between scheduling and attending the first session is a strong example of the client's influence (Lawson, 1994; Weiner-Davis, de Shazer, & Gingerich, 1987). These client contributions as agents of change in the therapeutic process are supported by the research on pre-therapy improvement and clients who are early responders (Howard et al., 1986). The early responders are the clients who start to show clinically significant change after only two sessions. This is important because the mechanisms of change proposed by most theories implemented by therapists do not work that quickly. Thus, client views on therapeutic outcomes are another factor that could influence treatment length. When thinking about the proper length of treatment, it is possible that therapists and clients will have different views. While

therapists may feel that work has just begun on goals, clients may feel that enough of their goals have been accomplished and the rest of the work can be completed on their own outside of therapy. This is important when considering premature termination as it is often defined by the length of time in treatment and usually dependent on therapist judgment.

Measuring Distress-Relational and Individual. It would be valuable if the therapist could use data regarding relational and individual distress collected in the first session to predict therapy outcomes and the possibility of premature termination before it happens. Understanding individual and couple distress is useful because research suggests that distress is the biggest predictor of change in therapy, even more so than diagnosis (Brown et al., 2001). There are many ways to measure distress, e.g., physiological measures of heart rate or cortisol levels, observations of nonverbal communications. Self-report measures were used in this current study because of the depth of research on therapeutic outcomes using client self-report measures and the ease with which these measures may be accessed to replicate the research. This section will explore how the various self-report measures of distress can be used to influence treatment.

Self-report measures. Measures of distress are often obtained through self-report when clients fill them out during the intake process. Self-report measures are especially useful in situations where the client's perspective on success is valued over research aims (Ogles, 2013). Two of the most commonly used measures for individual distress are the Outcome Questionnaire (OQ-45.2; Lambert et al., 2004) and the Beck Depression Inventory (BDI; Beck et al., 1988; Beck, Ward, & Mendelson, 1961). Together they have a large and long history of measuring individual distress within clients. The OQ-45 can be used as a repeated measure of distress to track clinical change throughout the process (Lambert et

al., 2013). Research has been done to look at the impact of using the OQ-45 to compare the impact of couple therapy versus individual therapy for distressed persons (Isakson et al., 2006). Results suggested that when couples started therapy at the same level of distress, they both responded well to couple therapy treatment. However, if one member of the couple was higher in distress, specifically the female partner, outcomes were worse than if she had just gone to individual therapy alone. They concluded that tracking distress using individual measures could benefit the couple in therapy (Isakson et al., 2006).

Intake measures can be helpful when exploring relational distress. Using one partner's evaluations of marital satisfaction to predict therapeutic outcome is common in couple therapy research. There are a number of self-report measures that have been used to gauge this construct Dyadic Adjustment Scale (DAS; Spanier, 1976), the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995), the Kansas Marital Satisfaction Scale (KMS; Schumm, Nichols, Schectman, & Grigsby, 1983), and the Marriage Adjustment Test (MAT; Locke & Wallace, 1959). However, as previously discussed individual distress and relational distress are heavily intertwined in some cases.

A common theme when considering both individual and relational distress is that couple therapy is effective in decreasing relational distress, but has mixed results for individual distress depending on gender and presenting problem. Research suggests that, when both partners experience similar levels of pretreatment distress, more substantial gains are made for both partners (Isakson et al., 2006). A study looking at the impact of a specific premarital program (PREPARE) on both relational and individual distress found gender differences. After completing the premarital program, men experienced statistically significant increases in relationship satisfaction and decreases in individual distress. Their

partners, however, experienced an increase in satisfaction, but did not experience changes in individual distress (Carlson, Daire, Munyon, & Young, 2012).

There is an important research literature that examines the effects one partner has on the other partner and how one partner's change can be influenced by the other's change. Within this literature, the idea of interdependence arises, that is, the observations of each person's individual scores cannot be assumed to be independent of the scores of their partner given the shared context of their relationship (Cook & Kenny, 2005). Factors like emotional reactivity (Masi et al., 2003), high levels of depression or individual distress (Isakson et al., 2006), and discrepant feelings of connection (Anderson & Johnson, 2010) can all lead to differences in outcome. By examining a connection between the partners in couple therapy, or rather an influence of one partner's score on the other, we can better understand the context of the relationship and the mechanisms of change within.

Current Study

Couple Typology. Despite the knowledge that couples come to therapy for different reasons, there is a gap in the literature regarding couple typology. Little research has been done to explore the idea that the relational distress couples present with could be taxonic, (i.e., categorical), rather than continuous (e.g. Beach, Fincham, Amir, & Leonard, 2005; Whisman et al. 2008). This is an important concept because, for example, it gets at the practical significance of cutoff scores used on assessments. Most relational distress assessments have a score that identifies the couple as distressed or non-distressed. However, the idea that couples could fall into different categories brings about the idea that perhaps the taxon or profile category could require different cutoffs based on that group's characteristics. In the same way, couples with different profiles may respond in predictable

ways to different types and lengths of treatments. To extend the idea presented earlier, some couples come experiencing both individual and relational distress while others come experiencing only one or the other. This would suggest that a couple's profile would change the interpretation of the level or severity of distress they are truly experiencing. Research suggests that taxon differences are in fact qualitatively different rather than just varying degrees of the same distress (Beach et al., 2005; Whisman et al., 2008). Whisman et al. (2008) found that couples could be split into groups in which the differences between groups were both quantitative and qualitative. These differences could be used to identify relationship discord based on intake assessment scores. In their study, they used an assessment with multiple subscales related to marital discord and created a product score, one single score from both members individual scores for the couple, then analyzed the score for discordant versus non-discordant couples.

Other attempts at dividing couples based on profiles have been made, but not on the basis of distress. Wong et al. (2013) splits couples into groups based on referral status, e.g., were the clients mandated to therapy or voluntary participants. In this case, referral status did not impact therapeutic success rate, but rather the timing of the clients' decisions to leave therapy were a key factor (Wong et al., 2013). Thus, treatment length impacted success rate. Ladd and McCrady (2016) used a cluster analysis approach to identify four types of couples who presented for therapy in cases where one partner had a problem with alcohol. They found, counter to their hypotheses, that the couple typology was closely related to the baseline relationship satisfaction and not level of alcohol use.

Hammett, Castaneda, and Ulloa (2016) identified four profiles of couples that varied based marital distress and looked at the impact on the couples' mental health, focusing on

anxiety and depression. To justify the use of nine subscales from a marital satisfaction inventory to identify their classes, Hammett and colleagues (2016) explain that marital distress is multidimensional. Further they express that a single score cannot properly predict qualitative differences in couples in couple therapy. They also used ethnicity as a predictor, believing that there may be cultural effects on marital distress. These cultural effects were examined in terms of traditional gender roles (Hammett et al., 2016).

The current study is different in that it uses individual intake assessment measures of individual clients who present for couple therapy as predictors of treatment engagement, rather than forming a product score to identify distinct profiles of couples. Analyses examined the number of distinct couple profiles that vary based on intake presentation for both members of the couple. This study also differs in that Whisman et al. (2008) used a measure of marital discord with global and specific scales as predictors, whereas this study uses separate measures of marital satisfaction and individual distress to identify profiles based on both individual and relational functioning. This is a key distinction because of the strong association between relational and individual distress and the impact both can have on the therapeutic process. The typologies, or profiles identified, were then used to predict proper dosage, client response to therapy and rate of change, as well as the likelihood for premature termination.

CHAPTER 3: Research Methods

Participants

Sample. Participants for this study had been clients at a university clinic seeing couples and families in a Midwestern state of the United States. To be eligible, participants must have initiated couple therapy on or after the September 2011 and must have completed therapy before December 2015. These dates are related to the policy put in place in the clinic requiring clients to complete not only the intake assessment battery, but also to complete an individual distress measure (OQ-45) at each subsequent session. Participants must have been seen as a couple at least once during their treatment at the clinic. Couples who scheduled an appointment, but were never seen were excluded. Only heterosexual couple dyads were included. This decision was based on the lack of normed information for at least one of the assessments used in the analysis (see discussion on RDAS below). A total of 188 eligible couples, making up 376 total participants, were identified using the Clinic's database of closed cases. The sample included 6 categories for race: Caucasian, African American, Latinos, Asians, other, and multi-ethnic, as indicated by the therapist at termination. The sample also included four categories of SES: low socioeconomic status, mid socioeconomic status, high socioeconomic status, and unknown income status. Most of these unknown incomes were university students and did not need to report an income to set a fee for services as all students were given a discounted fee for services. The sample was primarily Caucasian and SES was mixed (Table 3.1 for the sample demographics). 40 therapists saw the 188 couples; Table 3.2 shows the caseload for the each therapist in the sample.

Table 3.1: *Descriptive Statistics*

Ethnicity	%	*n*
Caucasian	81.1	305
African American	6.9	26
Latino	3.7	14
Asian	2.4	9
Other	1.9	7
Multi-ethnic	4	15
Socioeconomic Status	%	*n*
Low	39	147
Moderate/Mid	25.3	95
High	14.9	56
Unknown	20.8	78

Note. Unknown category is a combined category for clients whose income was not reported as well as students, who received a special rate. Students made up 11.2% (n=42) of the sample.

Table 3.2: *Therapists' Number of Cases*

Therapist	*n*	*Therapist*	*n*	*Therapist*	*n*	*Therapist*	*n*
1	7	*11*	1	*21*	16	*31*	3
2	2	*12*	5	*22*	3	*32*	2
3	1	*13*	6	*23*	3	*33*	5
4	11	*14*	2	*24*	7	*34*	2
5	6	*15*	1	*25*	14	*35*	4
6	6	*16*	3	*26*	11	*36*	6
7	1	*17*	6	*27*	11	*37*	1
8	1	*18*	3	*28*	4	*38*	1
9	13	*19*	3	*29*	2	*39*	1
10	3	*20*	1	*30*	9	*40*	1

Procedure

Client data were de-identified to ensure anonymity. Each member of the couple received a unique participant identifier, at the same time the couple as a whole received a second unique identifier. This allowed for analysis at both the individual and couple level. The intake assessment battery scores included the Beck Depression Inventory (BDI: Beck et al., 1961), Outcome Questionnaire (OQ-45.2: Lambert et al., 2004), and Revised Dyadic Adjustment Scale (RDAS: Busby et al., 1995), as well as any subsequent OQ-45.2 scores for

each client. Demographic data, including ethnicity, SES, gender, and age, and total number of sessions were added into the database. Finally, information from the termination form completed by the therapist, specifically the therapist's opinion as to the completion of goals and rationale for termination, were added to the database.

Measures

Intake Questionnaire. At intake, each client completed a one-page demographic questionnaire that asked about gender, age, ethnicity, current contact information, and reason for coming to therapy. The form also included space where clients could indicate possible symptoms and previous therapy experiences. Clients filled this out at the beginning of the first session.

Outcome Questionnaire (OQ-45.2). The OQ-45.2 (Lambert et al., 2004) is a 45-item self-report measure of individual distress on 3 subscales: Symptom Distress, Interpersonal Relations, and Social Role. The Symptom Distress (SD) subscale has 25 questions that examine anxiety (e.g., I feel fearful) and depression symptoms (e.g., I tire quickly). The Interpersonal Relationship distress (IR) subscale has 11 questions that focus on interpersonal relationship satisfaction (e.g., I have an unfulfilling sex life). The Social Role (SR) subscale has nine questions that measure dissatisfaction with social life, work, and family life (e.g., I feel angry enough at work/school, to do something I might regret). Responses are given on a 5-point anchored Likert scale ranging from never (*0*) to almost always (*4*). Total scale scores range from 0 to 180. The OQ clinical cutoff score is 63 of 180; cutoff scores for the subscales are SD: 36, IR: 15, and SR: 12. The OQ-45 was designed to be administered repeatedly to provide information on change, i.e. progress, deterioration, or no change at all (Beckstead et al., 2003). The OQ-45 has good internal consistency (0.93)

and 3-week test-retest reliability (0.84) (Lambert et al., 2013). The OQ-45 also has concurrent validity when compared with other assessments that measure symptoms or functioning (Lambert et al., 2013), such as the Beck Depression Inventory (Beck et al., 1961), as well as good construct validity when tested on sensitivity (0.85) and specificity (0.74) (Lambert et al., 1996). Data from the intake session and subsequent sessions were collected from each client. The three subscale scores were used to create couple profiles, while the overall total score were used for longitudinal analyses.

Beck Depression Inventory (BDI). The Beck Depression Inventory is a 21-item self-report questionnaire that measures symptoms and attitudes of depression (Beck et al., 1961; Beck et al., 1988). The BDI uses a 4-point anchored Likert-scale ranging from no symptoms (*0*) to strong symptoms (*3*). Sample questions include, "*0 - I do not feel sad, 1 - I feel sad, 2- I am sad all the time and I can't snap out of it, 3 - I am so sad and unhappy that I can't stand it"; "0 - I don't feel I am any worse than anybody else, 1 - I am critical of myself for my weaknesses or mistakes, 2 - I blame myself all the time for my faults, 3 - I blame myself for everything bad that happens*" (Beck et al., 1961). Total scores for the BDI range from 0 to 63. The BDI identifies four levels of depression based on cutoff scores, including minimal depression (0-9), mild depression (10-18), moderate depression (19-29), and severe depression (30-63). The BDI-II has shown adequate internal consistency, with alphas ranging from 0.73 to 0.92, as well as test-retest reliability scores, ranging from 0.48 to 0.86 (Beck et al., 1988). Data from the intake session were collected for each client.

Revised Dyadic Adjustment Scale (RDAS). Based on the Dyadic Adjustment Scale (Spanier, 1976), RDAS is a 14-item self-report measure of dyadic adjustment with three subscales, Cohesion, Consensus, and Satisfaction (Busby et al., 1995). The RDAS has a total

score ranging from 0 to 79, and a clinical cut-off of <48 (Anderson et al., 2014; Crane, Middleton, & Bean, 2000). Items on the RDAS are scored on a 6-point anchored Likert-scale range. The Cohesion subscale has 4 questions and assesses the level of agreement on important beliefs and routines within the marriage, such as religious matters, sexual relations, and conventionality. This subscale is scored from always agree (*5*) to always disagree (*0*). The Consensus subscale has 6 questions and assesses the frequency of discussions about divorce and frequency of arguing, with the Likert-scale representing frequencies from all of the time (*0*) to never (*5*). The Satisfaction subscale has 4 questions and assesses the satisfaction of engagement with one's partner. This subscale is measured on 3 questions from never (*0*) to more often (*5*) and on one question from never (*0*) to everyday (*4*). The RDAS has strong internal consistency (Cronbach's alpha of .90). The RDAS can reliably distinguish between distressed and non-distressed relationships (Busby et al., 1995). The RDAS, however, was normed using a heterosexual population, thus may not be acceptable for use with same-gender couples (Belous & Wampler, 2016; Busby et al., 1995). Data from intake were collected for each client, using all 3 subscales and the overall score.

Termination. The termination paperwork was completed by the therapist and provided information about the total number of sessions, intake date, last session date, and termination date. It also confirmed information about the clients' ethnicity and SES. The therapist's detailed the reason that therapy ceased (unknown [*0*], goals met [*1*], no show [*2*], transfer within the clinic [*3*], referral to another agency [*4*], financial [*5*], client stopped services [*6*], and other [*7*]). These reasons for termination were collapsed into three categories (client decision [1], therapist decision [2], or mutual decision [3]) explaining

who made the decision to terminate therapy (*TermDec)*. Client decision was composed of no show, financial, client stopped services, unknown and other; therapist decision was composed of transfer within the clinic and referral to another agency; finally, mutual decision was composed of goals met. This categorical variable was then used in the analyses. The therapists also provided their opinions on the completion of goals (unknown [*0*], goals unmet [*1*], goals partially met [*2*], and goals met [*3*]).

Analyses

Missing data from the intake assessments were imputed prior to analysis using the M*issForest* procedure in *R*. Out of the 376 participants in the study, 7% were missing their initial BDI score, 5% were missing their initial OQ-45 score, and 3% were missing their initial RDAS score. Table 3.3 shows the number of missing intake scores, broken down by scale; the missing data were per participant, not couple. *MissForest* is a single imputation method that can be used with categorical or continuous variables, using a "random forest trained on the observed values of the data matrix to identify missing values" (Stekhoven, 2013, p.1). *MissForest* used the other session scores for the participant as well as the data from other participants' first session score to come up with an estimate for the missing data. Single imputation was chosen over multiple imputations methods because single imputation data produces only one set of estimates, which makes interpretation in further analyses easier, compared to the multiple sets of estimates produced from a multiple imputation method. The M*issForest* method was chosen based on the lack of assumptions around a missingness pattern. Imputed data were then entered into MPLUS for the latent profile analysis.

Table 3.3: *Missing Data per Scale*

Scale	Missing *n*
BDI	26
OQ-45	17
R-DAS	12

Latent Profile Analysis. Latent profile analysis (LPA), also known as latent class analysis, is an approach that seeks to determine whether unobserved latent categorical variables exist that can explain relationships/associations between observed variables (Agresti & Finlay, 2009; Vermunt & Magidson, 2002). Latent class models were traditionally done with dichotomous, categorical observed variables (Lazarsfeld, 1950; Lazarsfeld & Henry, 1968). From these models, LPA was created to try to identify profiles based on observed continuous variables (Gibson, 1959; Lazarsfeld & Henry, 1968). The terms class and profile are often used interchangeably.

LPA is a model-based technique variant of the traditional cluster analysis that focuses on probabilities (Tein, Coxe, & Cham, 2013); it is a more flexible, multivariate approach that creates profiles from multiple variables for each individual simultaneously (Hagenaars & McCutcheon, 2009; Orpinas, Raczynski, Peters, Colman, & Bandalos, 2014). In model-based clustering, the model is created based on the assumption that the observed sample is a mixture of individuals belonging to different groups. Couples within the same group are similar based on the assumption that the indicators are from the same probability distributions (Vermunt & Magidson, 2002). A major assumption of LPA is local independence or conditional independence. This means that after a latent profile is created the membership in the profile explains relationships between variables. This assumption can be relaxed if some of the variables remain correlated even after profile membership, and these correlations are accounted for in the model (Tein et al., 2013). LPA models

produce two types of probabilities, latent profile probabilities and conditional probabilities for each profile (McBride, 2011). Latent profile probabilities are the probabilities related to the number of profiles and the relative sizes of the profiles; these are directly affected by the assumption of conditional independence. Conditional probabilities for each profile describe likelihood of being in each profile for the individual (McBride, 2011). These models can also estimate means, variances, and covariances for each profile, and these are helpful for identifying characteristics of each group and making practical descriptions.

LPA models do not identify how many profiles best fit the data. LPA requires running the model with different class constraints, and requires the researcher to use fit statistics to identify how many latent profiles exist in the data. Selecting the correct number of profiles has implications for the interpretations of the model; thus, profiles should make statistical sense as well as theoretical sense. Common fit statistics used to compare models are the Akaike's Information Criterion (AIC; Akaike, 1973, 1987) and the Bayesian Information Criterion (BIC; Schwarz, 1978) and are based on maximum likelihood estimates of the model parameters. The model with the lowest AIC and BIC is considered the better fitting model (Tein et al., 2013). Another assessment is entropy. Entropy uses posterior probabilities to measure uncertainty of classification (Celeux & Soromenho, 1996). When posterior probabilities are similar across profiles, the classification uncertainty is higher and entropy is lower. Entropy is on a scale from 0 to 1, the closer the value is to one, the better the fit of the model (Tein et al., 2013). Muthen and Muthen (2007) state that entropy values greater than 0.80 suggest highly discriminated classes.

LPA was used to explore and identify different profiles of couples who come to therapy (RQ1) using *MPLUS* (Version 7; Muthen & Muthen, 1998-2012). To answer this question, the intake scores for depression, individual distress, and relational distress from each member of the couple were used in the model (see Figure 3.1) to determine whether such profiles exist for the couples in the data. The goal was to identify profiles of couples (RQ1) to use to for further analysis. The identified couple profiles were then used as a predictor of differences in dose-response (RQ2) and differences in trajectory and rate of change of therapy (RQ3).

Generalized Linear Models with Varying Distributions. Generalized linear models can be used like any other regression model to explore the effects of a set of predictor variables on an outcome variable and are measured using maximum likelihood estimation. Generalized linear models can accommodate alternative distributions of data that are non-normal and include both continuous and categorical variables (Agresti & Finlay, 2009). Generalized linear models (GLM) depend on a link function and an assumed distribution. The link function is the relationship between systematic and random components in the regression equation. The link function links the mean of the outcome to the predictor variables (Agresti & Finlay, 2009). The systematic component is just another way to refer to the predictor variables, both categorical and continuous, specifically the linear combination of the predictor variables; while the random component is the probability distribution of the outcome variable (y). There are many types of link functions, the most basic is the identity link. The identity link specifies the linear model and is used in linear regressions, ANOVA, and ANCOVA. For models where the mean of the outcome relates to the predictors in a non-linear way, other link options include log link, logit link,

and generalized logit link. Log links are used where the mean of the outcome cannot be negative. These are commonly used with loglinear models and Poisson regression models. Logit links are used for binary data when the mean falls between 0 and 1, as in probability models such as logistic regressions. Finally, the generalized logit link is used similarly to the logit link, for probabilities between 0 and 1, but the outcome is not necessarily binary, like in multinomial regression models (Agresti & Finlay, 2009). Logistic regression, Poisson regression, negative binomial regression, and multinomial regression will be explored in further detail. As a note, all GLM analyses in this study run in SPSS used the *MIXED* command because the data are clustered data by therapist, so *GENLIN* does not work with the sample. Because additional data about specific therapist characteristics were not available for this study, using the *MIXED* command accounted for the clustering of cases within therapist, treating it as a random effect in the model.

Binomial and multinomial regressions. Logistic regressions models are used when the dependent variable is categorical (Agresti & Finlay, 2009). The standard logistic regression is used when the outcome variable has two nominal responses. The most basic example of this is a coin flipping, where the logistic regression can be used to predict the probability of flipping a "heads" versus the probability of flipping a "tails." Logistic regressions provide odds ratios in the output. The logit is the transformation of the odds ratio, shown below (Agresti & Finlay, 2009). The standard equation for a logistic regression model is:

$$Log[P(y=1)/(1-P(y=1)) = \alpha + \beta x \text{ OR } logit[P(y=1)] = \alpha + \beta x$$

To take this a step further, logistic regressions can be applied to generalized linear models (GLM) for non-normal data. If the data follow a binomial distribution, the logistic

regression would be used. When the outcome variable is categorical, but has more than two responses, a multinomial logistic regression can be used. The key to both of these is the link function, $g(\mu)$, which is the link between the explanatory variables and the mean of the outcome variable (Agresti & Finlay, 2009). When using a logistic regression model, the link is the logit because it is the $g(\mu)=log[\mu/(1 - \mu)]$, similar to the basic logistic regression above. GLM logistic regressions will be used as one of the ways to test for premature dropout of participants in the sample. Two logistic regressions were run using the outcome variable: (1) goals met or unmet at termination, and (2) the dummy variable for distressed at termination. Negative binomial regression was also used to test for premature termination (RQ2c).

Multinomial regressions within GLM follow a similar idea, only the outcome variable has three or more categories. There is the option to run multiple logistic regressions models and compare just two of the outcome groups in a single analysis, or multinomial regressions can be used to compare all of the outcome categories at the same time (Tabachnick & Fidell, 2007). This type of analysis has six assumptions that must be met, in order to be used. The first is that the dependent variable is nominal, not ordinal or continuous. Secondly, there needs to be at least one predictor variable, which can be either categorical or continuous. Third, there must be an independence of observations and mutually exclusive and exhaustive categories in the outcome variable. Next there cannot be multicollinearity between independent variables. Multicollinearity occurs when there is redundancy in a set of predictor variables that leads to inflation of the standard errors (Agresti & Finlay, 2009). Multicollinearity can be tested by running a series of regressions with the dummy variables of each categorical predictor to look for strong relationships

between the categories. Next there must be linear relationships between any continuous independent variables and logit transformations of the dependent variable. Lastly, there cannot be any outliers, high leverage values, or influential points in the data. Once all of these assumptions are met, multinomial regression models can be used (Starkweather & Moske, 2011).

GLM logistic and multinomial regressions were used to test the response to therapy (RQ2b). To test therapy response, the *GoalsMet* variable, the therapist's rating of whether goals were met during treatment, was used as the outcome variable. *GoalsMet* was measured on three levels: goals unmet, goals partially met, and goals met. The reference group for the multinomial regression was the "goals met" group. A cross tabulation of the number of couples per profile for each response revealed that a multinomial regression with profile membership as the only predictor was the only appropriate model; other predictor variables such as who decided to stop therapy (*TermDec*; client, therapist, mutual decision), ethnicity, and SES were also considered. However, the distribution of couples across predictors was not close to even, with many low count and even empty cells, potentially leading to inflated standard errors and false significant results (see Table 3.4). As a result, ethnicity and SES were dropped from the analyses. To test the effect of the *TermDec* predictor along with profile, a penalized maximum likelihood logistic regression was run with the *glmmPQL* command in *R*. A penalized maximum likelihood regression is used to help reduce the bias in maximum likelihood estimation for small or moderate sample sizes (Firth, 1993). The outcome variable, *GoalsMet*, was collapsed into a binary variable of goals met or unmet, with unmet including therapist ratings of unmet and partially met.

Table 3.4: *Cross Tabulation for GoalsMet across Profile and TermDec*

Profile	Termination Decision	Goals Unmet	Goals Partially Met	Goals Met
Male-Distress	Therapist	5	2	0
	Client	6	12	1
	Mutual	0	1	8
No-Distress	Therapist	6	2	4
	Client	5	8	2
	Mutual	0	1	8
Relational-Distress	Therapist	11	10	1
	Client	30	18	3
	Mutual	0	1	6
High-Distress	Therapist	7	5	1
	Client	14	8	0
	Mutual	0	1	1

Note. Termination decision is based on the *TermDec* variable, related to who decided to terminate treatment. Couples falling in each group are represented in the columns.

To test whether the question of premature termination (RQ2c), another penalized maximum likelihood logistic regression was used. The outcome variable was a categorical measure of the final total OQ-45.2 score. Session scores were considered the final scores if they were coded as one of the final two sessions, i.e. if a couple attended 17 total sessions, and the final assessment was taken during the 16th session. Predictors included the collapsed version of *GoalsMet* and *profile*.

Poisson and negative binomial regressions*.* Another type of non-normal distribution used by GLM is the Poisson distribution. The Poisson distribution is used for count data. The data must always be numerical and continuous. Poisson regression cannot be used for categorical outcomes. A Poisson regression requires that there is an equal dispersion between the mean and the variance for the outcome variable. Specifically,

$$E(Y)=Var(Y)=\lambda.$$

When the conditional variance is larger than the conditional mean, this is called over-dispersion. Negative binomial regression can be used with count data that is over-

dispersed. It has the same mean structure as a Poisson regression, but is a generalized version of the Poisson regression because of the extra parameter to allow for over-dispersion.

Given that the sample variance was much larger than the sample mean, over-dispersion was identified in the data, ruling out Poisson. Thus, a negative binomial regression was used to test for effect of profile on dosage as measured by the total number of sessions (RQ2a). In *SPSS*, the *MIXED* command was used to test the effect of profile membership on treatment length to account for the possible random effect of therapist. Two models were run and compared using the likelihood ratio test. The first model just included profile as a predictor, while the other also added the variable for who decided to end therapy (*TermDec*); both included the random effect of therapist in the model and high-distress profile (Profile 4) as the reference group. A likelihood ratio test was completed to find the best fitting model.

Multivariate Linear Mixed Model (MLMM). Multilevel modeling (MLM) is an approach that is used for participant data that can be organized on more than one level (Tabachnick & Fidell, 2007). Multilevel modeling allows for prediction of couple scores adjusting for group differences, while also allowing for prediction of group scores adjusting for couple differences within groups (Tabachnick & Fidell, 2007). Multilevel modeling accounts for the effects of being part of a group and the group differences as well as accounting for the couple differences within the group. For longitudinal data sets, a repeated-measures model is utilized. This type of model has time as the lowest level analysis with cases or profiles as the grouping variable. MLM has many advantages over other methodologies for analyzing this type of data. Repeated-measures MLM does not

require complete data over occasions, something which is required for repeated-measures ANOVA tests, it uses whatever data is available. MLM also does not have a requirement of large numbers of occurrences, as is required for time-series auto-regressions (a minimum of four occurrences is required). Whereas sphericity is a concern in a repeated-measures ANOVA, it is not an issue using MLM, because it is a more complex version of linear regression model. Sphericity is an issue of equal variances or uncorrelated errors over time; MLM examines the trends for couples over time. Time-related predictors can be interpreted in the equation as if it is a linear relationship between time and the dependent variable, making a longitudinal growth curve (Tabachnick & Fidell, 2007).

Again, since the data are clustered data, the linear model needs to be a mixed model. Another name for the multivariate linear mixed model is the multivariate hierarchical model. This technique has been used when exploring couple data and psychological change (e.g., Raudenbush, Brennan, & Barnett, 1995). In these types of models, each person's growth curve is looked at as the function of change over time. *SPSS* was used to run a multivariate linear mixed model to test (RQ3) the trajectory and rate of change of scores on the OQ-45.2 of each profile in therapy. For this longitudinal model, the outcome variable was the total OQ-45.2 score for each participant for each session. The model was originally run using an unstructured covariance type; however, results showed that there was no covariance between the outcome variables. Thus, shifting to the diagonal (aka variance component) covariance type allowed for the assumption of independence between parameters and measured only the variance of each. This model had three levels, time nested in participant, participant nested in therapist. Because the unit of analysis for this analysis is on the individual level, gender was used as the repeating measure. Responses

for males and responses for females were modeled as separate, but correlated outcomes. Random effects for gender and time were also looked at across levels, both on the individual and therapist levels.

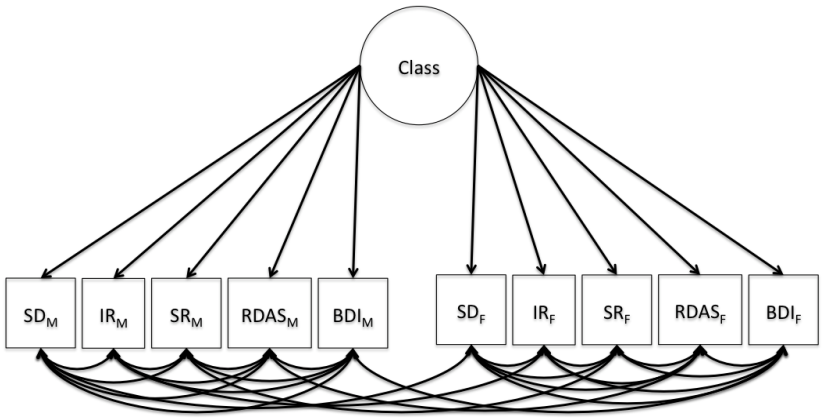

Figure 3.1: Latent Profile Analysis Model. *The LPA model used the intake assessment scores from both partners. Five scales for each member of the couple were included: the three subscales from the OQ-45.2 (Symptom Distress, Interpersonal Relations, and Social Role), the total from the RDAS, and the total from the BDI.*

CHAPTER 4: Results

Latent Profile Analysis

Latent profile analyses were run for a two-profile, three-profile, four-profile, and five-profile model. The fit statistics for each model are reported in Table 4.1. The two-profile model was the only model that fit significantly better than the model below it, according to the comparison indices (VLMR and LMR tests). With this said, the AIC and BIC continued to be lower for each additional profile. Also, as the number of profiles increased, the entropy for classification also increased. When comparing the mean estimates for each scale, a four-profile model was selected as it made the most sense in practice based on the clinical cutoffs for each assessment. When looking at the mean scores, there were four distinct groups of couples that could present for therapy, supporting Hypothesis 1. Based on the mean estimates, the four groups were identified as a male-distress group, no-distress group, a relational-distress group, and a high-distress group. The mean estimates for each scale, by profile, are provided in Table 4.2.

Table 4.1: *Latent Profile Analysis Fit Statistics*

	Number of Latent Profiles				
	1	2	3	4	5
Average LC	1	0.9545	0.94233	0.94225	0.935
Entropy	-	0.835	0.874	0.887	0.901
Information Criteria					
AIC	13463.221	13083.090	12944.894	12803.506	12732.171
BIC	13528.161	13183.747	13081.269	12975.598	12939.980
adjusted BIC	13464.810	13085.552	12948.231	12807.716	12737.255
Comparison Indices					
VLMR LRT	-	*p=0.0112*	*p=0.1076*	*p=0.1850*	*p=0.4094*
LMR LRT	-	*p=0.0121*	*p=0.1111*	*p=0.1896*	*p=0.4139*
Bootstrapping LRT	-	*p<0.0001*	*p<0.0001*	*p<0.0001*	*p<0.0001*

Table 4.2: *Mean Scores for the Overall Sample by Profile at the First Session*

	BDI	SD	IR	SR	RDAS
Male	14.309	34.773	18.720	9.668	38.908
Female	12.095	33.310	17.993	10.302	41.022

	Male-Distress 1 (*n=35*)	No-Distress 2 (*n=36*)	Relational-Distress 3 (*n=80*)	High-Distress 4 (*n=37*)
Male				
BDI	18.131	5.486	11.252	25.599
SD	43.416	17.574	30.454	52.224
IR	21.061	11.509	18.443	24.052
SR	11.694	5.246	8.632	14.182
RDAS	37.944	47.300	37.903	33.811
Female				
BDI	7.254	4.921	14.820	22.417
SD	19.525	18.806	38.989	48.505
IR	15.301	11.187	19.861	23.218
SR	6.369	6.109	12.109	14.300
RDAS	42.077	47.600	39.838	36.141

Generalized Linear Models

Therapy Dose. Three models were run and compared using the likelihood ratio test to test for different doses, total number of sessions, and between couples profiles (Table 4.3). In the first two models, profile was the only predictor, in the third model both profile and who decided to terminate therapy were used as predictors; all three accounted for the random effect of therapist. Model 1 used the high-distress group (Profile 4) as the comparison group for the model, while Model 2 used the no-distress group (Profile 2) as the comparison group.

In the Model 1, the effects of profile were significant for each profile. The male-distress profile (t=3.190, p=0.002), the no-distress group (t=3.190, p=0.036), and the relational-distress group (t=2.432, p=0.015) all attended more sessions than the high-distressed group did. Specifically, when compared to the high-distressed group, the male-

distress group attended 1.70 times more sessions; the no-distress group attended 1.42 times more sessions; and the relational-distress group attended 1.41 times more sessions. There was also a significant variability in average number of sessions even after controlling for profile membership (p=0.011), suggesting that who the therapist was had a significant effect on the number of sessions attended. In Model 2, the only significant effect when comparing to the no-distress group was for the high-distress group (t= -2.109, p=0.036), who attended therapy 1.42 times fewer sessions. The male-distress group (t= 1.109, p=0.268) and relational-distress group (t=-0.062, p=0.951) were not significantly different from the no-distress group in the total number of sessions. There was again a significant random effect (p=0.011) for therapist in this model, as in Model 1.

Given that Model 1 demonstrated that high-distress group was significantly different from all of the other groups, that model was used to proceed with additional analysis. Results from Model 3 suggest that, when controlling for who decided to terminate therapy, the male-distress group (t=2.802, p=0.005) and the relational-distress group (t=2.553, p=0.012) attended more sessions than the high-distress group. When compared to the high-distress group, controlling for who made the decision to terminate, the male-distress group attended 1.57 times more sessions and the relational-distress group attended 1.41 times more sessions. The no-distress group (t=1.096, p=0.274) was not significantly different in the total number of sessions attended than the high-distress group. Also, significant was the difference in total number of sessions for both client-decision (t=-5.990, p<0.001) and therapist-decision (t=-5.453, p<0.001) when compared to the goals-met group, when controlling for profile group membership. In both cases, clients who stopped services because of a mutual decision that goals were met attended more

sessions than the groups where the decision was made unilaterally. In cases where the decision to terminate therapy was made mutually, clients attended 2.48 times more sessions than clients who decided unilaterally and 2.47 time more sessions than cases where therapists made the decision. There was also a significant effect of therapist on the model (p=0.012), suggesting that who the therapist was impacted the length of treatment as well. The likelihood ratio test supported using the model with both profile and termination decision (χ^2(25.316, 2), p<0.001). Comparing the AIC and BIC for both models also supported the use of the second model (Table 4.3 contains fit statistics and a comparison of estimates for each model). Means for the total number of sessions attended by each group were calculated post-hoc and graphed in a histogram (see Table 4.4 and Figure 4.1).

Table 4.3: *Negative Binomial Model Comparisons*

	Model 1 (Profile Only; Profile 4 Comparison)	Model 2 (Profile Only; Profile 2 Comparison)	Model 3 (Profile & TermDec)
df	4	4	6
AIC	1028.547	1028.547	1003.231
BIC	1032.455	1032.455	1007.133
-2LL	1026.536	1026.536	1001.220
Intercept	5.54 (p<0.001)	7.58 (p<0.001)	12.13 (p<0.001)
Male-Distress	1.70 (p=0.002)	1.20 (p=0.268)	1.57(p=0.005)
No-Distress	1.42 (p=0.036)	-	1.19 (p=0.274)
Relational-Distress	1.41 (p=0.015)	-1.01 (p=0.951)	1.41 (p=0.012)
High-Distress	-	-1.42 (p=0.036)	-
Therapist-Decision	-	-	-2.47 (p<0.001)
Client-Decision	-	-	-2.48 (p<0.001)
Random Effect (Therapist)	0.208 (SE= 0.082; p=0.011)	0.208 (SE=0.082; p=0.011)	0.202 (SE= 0.081; p=0.012)

Table 4.4: Descriptive Statistics for Total Number of Sessions within Sample

	Mean	Standard Deviation	Median
Male-Distress	10.71	9.79	8.00
No-Distress	8.75	7.59	6.50
Relational-Distress	9.07	8.98	6.00
High-Distress	6.30	7.44	4.00
Full Sample	8.77	8.69	6.00

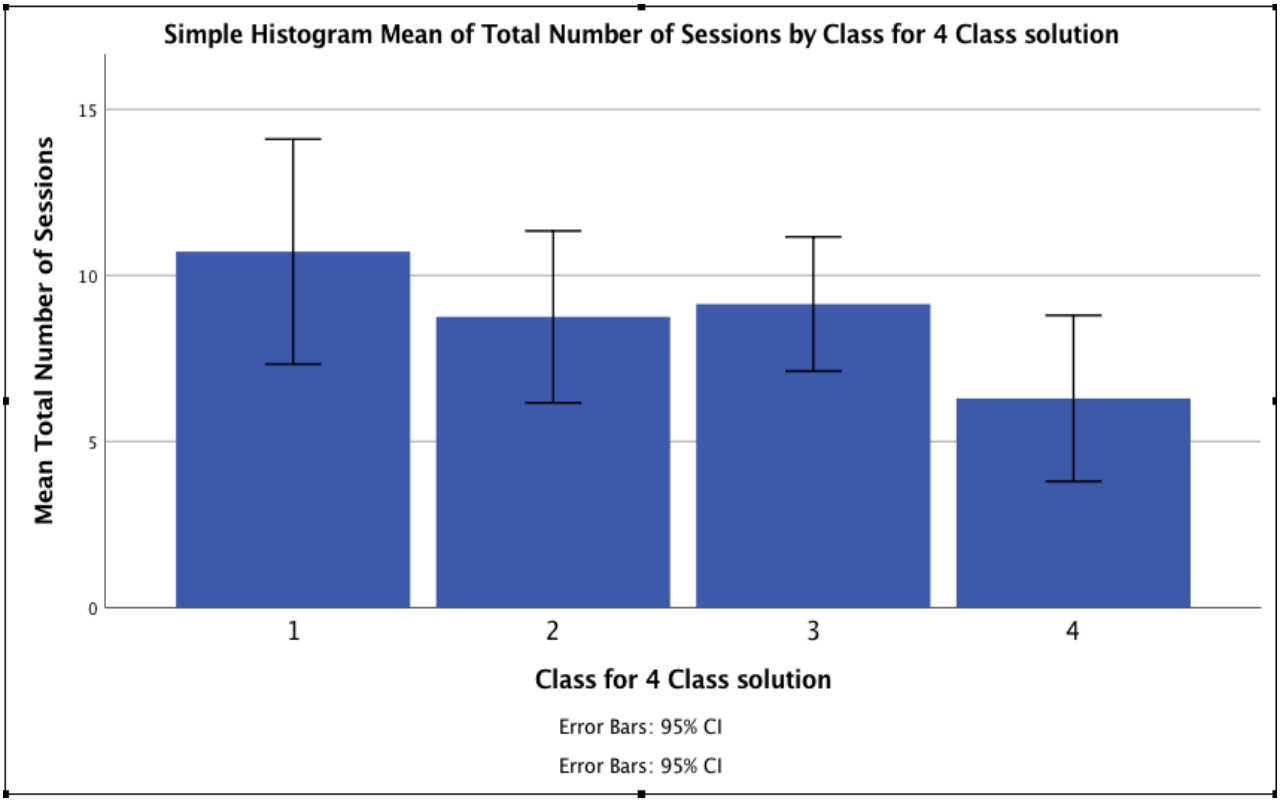

Figure 4.1: Average Number of Sessions per Couple Profile. *Profile 1 is the male-distress group, Profile 2 is the no-distress group, Profile 3 is the relational-distress group, and Profile 4 is the high-distress group.*

Therapy Response. A multinomial regression was run to test for the effect of profile membership on therapy response, specifically the likelihood of successfully completing therapy, as measured by therapist's rating of whether goals were met (Table 4.5). The reference group for the outcome variable was the category "goals met", while the reference group for the predictor of profile was the high-distress profile. In both conditions of goals unmet and goals partially met, in comparison to goals met, the no-distress profile

was significantly different from the high-distress group. In both cases, the high-distress group was more likely to have goals left unmet (t=-4.004, p<0.001) or partially unmet (t=-2.750, p=0.006), according to the therapist's rating of progress at termination. Similarly, the male-distress group was also significantly less likely to have goals left unmet (t= -2.912, p=0.004) when compared to the high-distress group. There were no significant differences between the high-distress group and the relational group as far as therapist rating of goals met at termination.

Table 4.5: *Multinomial Regression Model Estimates*

Unmet versus Met		
	Estimate	Significance (p)
Intercept	2.296 (0.583)	<0.001
Male-Distress	-1.896 (0.651)	0.004
No-Distress	-2.560 (0.639)	<0.001
Relational-Distress	-0.738 (0.639)	0.226
Therapist -Random effect	1.343 (0.578)	0.020
Partially Met versus Met		
	Estimate	Significance
Intercept	1.567 (0.630)	0.013
Male-Distress	-0.853 (0.662)	0.199
No-Distress	-1.811 (0.659)	0.006
Relational-Distress	-0.488 (0.630)	0.439
Therapist -Random effect	2.605 (1.019)	0.011

Note. Standard error in parenthesis

The outcome variable was collapsed to run a logistic regression to test the effect of who decided to terminate therapy along with the effect of profile (Table 4.6). When controlling for profile, both client-decision (t=-25.432, p<0.001) to terminate and therapist-decision (t= -26.690, p<0.001) were significant less likely to have goals met at the completion of therapy. Couples who decided to leave therapy without goals met, according to their therapist, as well as couples who had therapy terminated based on the therapist's decision, were significantly more likely to have a rating of goals unmet (rated by the

therapists) than couples who shared in the mutual decision to end therapy, controlling for profile membership. Being in the relational-distress, high-distress, and the no-distress groups, while controlling for who decided to terminate therapy, increased the odds of having goals met. The high-distress group was 58.265 times more likely to have goals met when the decision to terminate was mutual (t=12.566, p=<0.001); the relational-distress group was 10.268 times more likely (t=7.480, p<0.001); and the no-distress group was 249.386 times more likely (t=15.389, p<0.001).

Table 4.6: *Treatment Response Logistic Regression Model Estimates*

	Unmet versus Met	
	Estimate	Significance (p)
Intercept	2.29 (1.051)	0.005
High-Distress	4.065 (0.324)	<0.001
No-Distress	5.519 (0.358)	<0.001
Relational-Distress	2.329 (0.311)	<0.001
Client - Decision	-12.518 (0.492)	<0.001
Therapist -Decision	-13.566 (0.508)	<0.001

Premature Termination. The logistic regression testing premature termination compared the high-, relational-, and no-distress groups to the male-distress group (Table 4.7). The high-distress group was 4.6 times as likely to leave therapy still distressed as compared to the male-distress group (t=5.003, p<0.001), controlling for level of goal completion. While the no-distress group was 7.481 times less likely to leave therapy distressed when compared to the male-distress group, controlling for level of goal completion (t=-3.254, p=0.001). There was no significant difference between the relational-distress group and the male-distress group, when controlling for level of goal completion. Couples who were rated as having their goals met at the end of treatment by

their therapists were 6.06 times less likely to leave therapy distressed, when controlling for profile membership.

Table 4.7: *Premature Termination Logistic Regression Model Estimates*

Distressed at Termination		
	Estimate	Significance (p)
Intercept	-2.636 (0.310)	<0.001
High-Distress	1.521 (0.304)	<0.001
No-Distress	-2.012 (0.618)	0.012
Relational-Distress	0.256 (0.295)	0.3853
Goals Met	-1.802 (0.364)	<0.001

Multivariate Linear Mixed Model

Trajectory of Therapy. For this longitudinal model, the outcome variable was the total OQ score for each participant for each session. Figure 4.2 shows the average trajectory for each profile. The profile reference group was the no-distress group of couples. Males in the male-distress group (t=10.852, p<0.001), high-distress group (t=15.127, p<0.001), as well as the relational distress group (t=7.269, p<0.001), all experienced a significantly higher total OQ-45.2 score than males in the no-distress group. Males in the male-distress group saw a significant decrease in their total OQ-45.2 scores across time (t=-2.189, p=0.007), when compared to the males in the no-distress group over time. Males in the high-distress group also saw a significant decrease in the total OQ-45.2 scores over time as compared to males in the no-distress profile (t=-4.171, p<0.001).

Females in the relational-distress group (t=11.010, p<0.001) as well as the high distress profile (t=13.997, p<0.001) had significantly higher total OQ-45.2 scores when compared to females in the no-distress profile. There were no significant effects of being female in any profile over time. There were also no significant effects of time across gender.

There were significant random effects for the variance of being male (p<0.001) and being female (p<0.001) on the individual participant level, as well as significant random effects of time for both males (p<0.001) and females (p<0.001) on the participant level. There were no significant random effects on the therapist level. Table 4.8 shows the fit statistics for the model and the model estimates as well as the variance for the random effects.

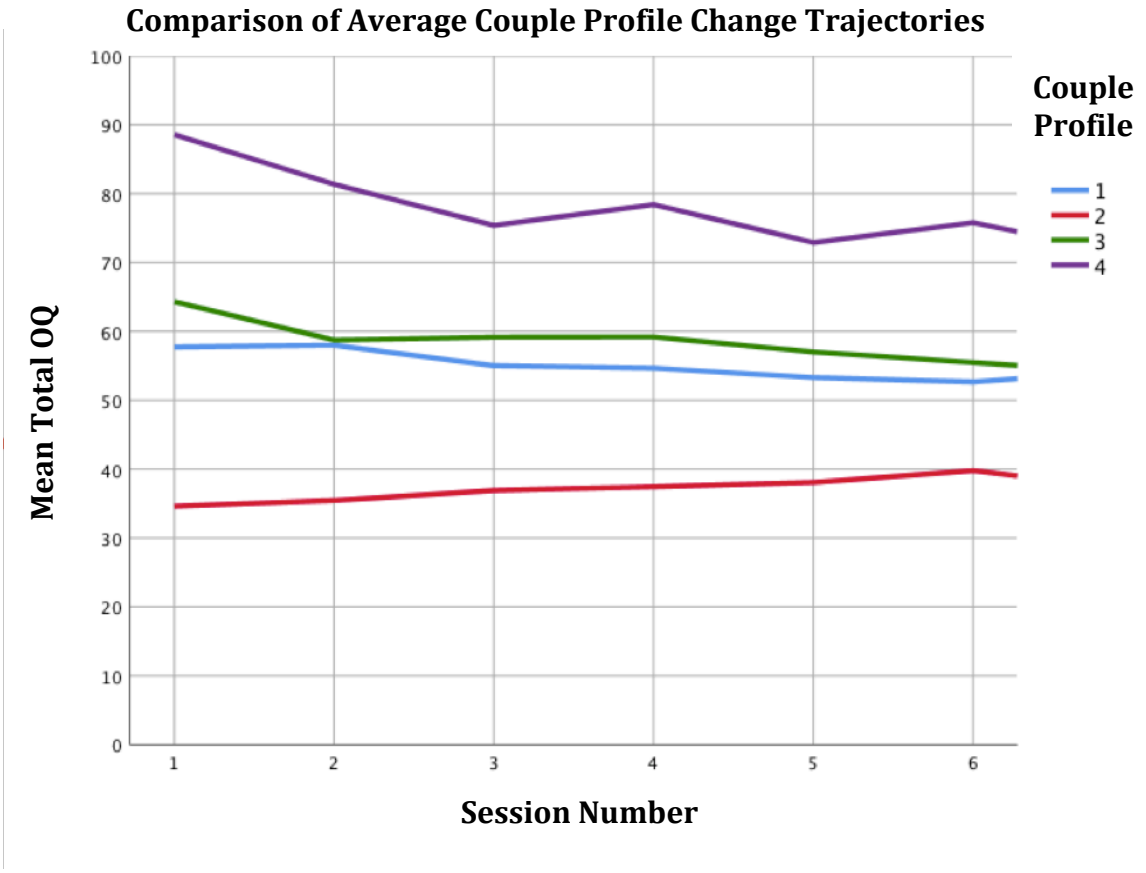

Figure 4.2: Comparison of Average Couple Profile Change Trajectories. *Average trajectory of change per couple profile. Profile 1 is the male-distress group, Profile 2 is the no-distress group, Profile 3 is the relational-distress group, and Profile 4 is the high-distress group.*

Table 4.8: MLMM Fit Statistics and Estimates

-2LL	17126.989
AIC	17174.989
Schwarz BIC	17311.534

Table 4.8: (cont'd.)

Fixed Effects			
	Estimate	S.E.	Sig.
Male – Intercept	34.1856	2.470	<0.001
Female – Intercept	35.1908	2.477	<0.001
Time – Male	0.1555	0.349	0.658
Time – Female	-0.5486	0.463	0.242
MLMM Fit Statistics and Estimates			
Time –Male, Male-distress	-1.3122	0.465	0.007
Time – Male, Relational-distress	-0.5426	0.424	0.206
Time – Male, High-distress	-2.2327	0.535	<0.001
Time – Female, Male-distress	0.8290	0.631	0.195
Time – Female, Relational-distress	32.816	2.980	0.735
Time – Female, High-distress	-0.6948	0.709	0.331
Male-distress, Male	37.3752	3.444	<0.001
Relational-distress, Male	21.5250	2.961	<0.001
High-distress, Male	52.1086	3.445	<0.001
Male-distress, Female	5.0811	3.492	0.147
Relational-distress, Female	32.8157	2.980	<0.001
High-distress, Female	48.6442	3.475	<0.001

Random Effects			
	Estimate	S.E.	Sig.
Variance - Male	105.5912	5.107	<0.001
Variance - Female	85.4200	4.261	<0.001
Individual Level			
Male Variance	156.5797	21.663	<0.001
Female Variance	169.5341	22.862	<0.001
Time –Male (Variance)	1.0266	0.320	0.001
Time – Female (Variance)	2.6270	0.715	<0.001
Therapist Level			
Male Variance	2.3387	9.297	0.801
Female Variance	1.2847	7.498	0.864

CHAPTER 5: Discussion

A high percentage of US couples experiences some level of distress; however, only about 40% of couples seek out therapy to resolve their problems. Couple therapy has been effective in the treatment of a number of presenting problems, including those related to relational distress as well as individual distress of one or both members of the couple. Despite the demonstrated effectiveness, couple therapy still averages a 50% premature termination rate, on par with other therapy modalities (e.g., Bartle-Haring et al., 2007). The most common questions that therapists receive in the first session from clients are regarding how long will treatment take or how long until they feel better. Despite collecting a vast amount of information from the client during that first session, including self-report measures of distress, therapists still struggle to provide specific answers to these questions. Answers can be provided in general, depending on therapeutic modality used by the therapist, but given the variation between client presentations, these can be considered guesses. Given that clients are often the primary driving force for termination, and client expectations do not always align with therapist expectations, therapists need a tool for quickly organizing this information collected from clients to help establish appropriate expectations early on with their clients.

Summary of Main Study Findings

This dissertation had three major objectives: (1) identify different profiles of couples who attend couple therapy, (2) use those couple profiles to predict dose and response to therapy, and (3) explore individual trajectories factoring in the profile of the couple. Data were collected from a university-based couple and family therapy clinic in a Midwestern state in the United States; 188 couples were included in the analysis.

Different Profiles of Couples. To achieve the objectives above, this dissertation explored three main research questions. The first asked: Is there a distinct profile of couples who present for therapy as defined by initial assessment scores? The following was hypothesized:

> *H1: There are at least three differing profiles of couples, one that presents related to strictly relational distress, one that presents because of one member's individual distress, and one that presents because both members are suffering from high levels of both individual and relational distress.*

This hypothesis was supported; four couple profiles were identified from the data. The profiles included (1) the male-distress group: a group of couples where the male demonstrated moderate distress on four out of the five scales included in the analysis, while their female partner was only mildly relationally distressed; (2) no-distress group: a group of couples who did not demonstrate a clinically significant level of distress on any of the scales; (3) relational-distress group: a group of couples who demonstrated higher relational distress with mild individual distress on fewer than two scales; and (4) high-distress group: a group of couples where both members had high levels of clinically significant measures of distress on all five scales. These results are similar to previous research where groups were identified based on distress (Hammett et al., 2016) and adds support to the concept that couple profiles of distress may be a better fit than a dichotomous rating of distressed or not distressed (Whisman et al., 2008).

Therapy Dose-Response and Premature Termination. The second research question was broken down into three parts, the first asked: Does a couple's profile, based on intake measures, predict the dose of therapy? The following was hypothesized:

> *H2a: The number of sessions for clients with each profile will differ based on their initial intake scores. Clients with profiles showing higher levels of overall distress at intake will stay in therapy longer than clients with profiles with moderate distress. Clients with profiles with moderate distress will stay in therapy longer than clients with profiles with low overall distress, or whose profiles are limited to relational distress.*

Previous research has shown that at 50% of clients show improvement by Session 8, but to reach improvements in 85% of clients it can take up to 52 sessions (Howard et al., 1986). Other studies have shown that it takes up to three months for 50% of clients to show improvement in therapy (Anderson & Lambert, 2001; Harnett et al., 2010; Kadera et al., 1996). This variability has been explained by a number of factors including presenting problem (e.g., Gottman, 1999; Johnson, 2004) as well as client response to therapy (Barkham et al., 2006; Barkham et al., 2008). Proper dosage for therapy length also varies based on the modality being used in treatment, as each intervention has its own prescribed "dosage" (Dimidjian et al., 2008; Johnson, 2004). There is also the issue of whether the proper dosage is considered from a perspective of effective treatment or efficacious treatment, which also often do not match. To complicate further, the idea of the good enough dose comes into play (Barkham et al, 2006). This is based on the idea that clients often drive termination decisions, and they often make this decision based on having a

good enough level of improvement. Thus determining a proper dosage for therapy is difficult.

In this study, three models were run to examine the possible different levels of dosage between profiles. The first two models considered the impact of the different profiles on dosage, while controlling for variability between therapists. In these models, there were significant differences between the profiles confirming the hypothesis. However, the high-distressed group attended the least number of sessions of all the profiles, averaging only 6.30 sessions. The group of couples where the male demonstrating moderate levels of distress, while his female partner was only relationally distressed actually attending the greatest number of sessions averaging 10.71 sessions. This is in line with previous findings that when men are distressed and the female partner is not, the couple has better outcomes than the reverse situation (Isakson et al., 2006). Model 2 showed that there was no significant difference in outcome between the no-distress group and the relational-distress group although the no-distress attended fewer sessions.

The other major finding about dosage was that for couples where there is a unilateral decision to end therapy, whether made by the client or the therapist, these couples stayed in therapy less time than those who decided jointly with their therapist to end therapy. For both groups of couples, those who decided to end therapy and those who had therapy ended by the therapist, therapy lasted about 2.5 times fewer sessions. This is not surprising given the literature on the amount of time it takes to reach successful completion of therapy, a decision commonly made by both the therapist and clients about having met the therapeutic goals.

Therapy response. The second part of the second research question asked: does the couple's profile predict their response to therapy as defined by the therapist, i.e., the probability of successfully completing therapy? It was hypothesized that:

> *H2b: Couples with profiles with moderate levels of overall distress at intake are more likely to terminate with a higher rating of goals met by the therapist, when compared to couples with profiles with only higher levels of relational distress and couples with profiles of highest levels of overall distress.*

Therapy response refers to the amount of change the client experiences. Therapy response is often tied to the dosage of therapy received. Clients who stayed longer in therapy, according to the prescribed dose, generally had better outcomes and response to therapy (Saxon et al., 2017). To measure response, this study used a rating of goals met made by the therapist at termination as the outcome. This rating was a subjective rating completed by therapist alone after therapy had ended and originally had three options to select from: unknown/unmet, partially met, and fully met. The first analyses looked at the effect of profile on receiving one of the three ratings. Again, the high-distress group was used as the comparison group for consistency. When comparing the high-distress group to the no-distress group, the no-distress group was much more likely to receive a rating of goals met. This confirms part of the hypothesis that high-distress groups would be much less likely to receive a goals-met rating, however, it neither confirms nor denies the hypothesis about the no-distress group. This was also true when looking at goals-unmet versus goals-met variable for the male-distress group when compared the high-distress group. Again, the high-distress group was less likely to receive the rating of goals met. Interestingly though, there were no significant differences between the high-distress group

and the relational-distress group. This lack of significant difference between the high-distress group and the relational-distress group lends support to the hypothesis that low distress and/or relational distress groups are less likely to receive a rating of goals met at termination. However, all of this is hard to interpret because of the lack of information related to length of treatment.

A second analysis was done including who made the decision to terminate as a predictor as well. It was believed that the person making the decision, especially if it was the therapist, may impact the therapists rating on goal completion as well. This analysis used the dichotomous outcome of goals met versus unmet to simplify the analyses. Not surprisingly, the results confirmed that unilateral decisions to terminate were very much less likely to receive a rating of goals met, when considering profiles, than when there was bilateral agreement. Secondly, the high-distress group was significantly less likely to receive a rating of goals met when compared to all other groups. Again, the no-distress group was the most likely to receive goals met, which is not surprising. One would assume if they present to therapy with low to no distress, they would not have trouble meeting goals. This lends support to the idea that client response could dictate length of treatment and should be considered when rating treatment success (Barkham et al., 2006).

Premature termination. The final part of research question two asked: does the couple's profile predict the probability of prematurely terminating therapy? It was hypothesized:

> *H2c: The couples with profiles with the extremes of overall distress at intake, either extremely high levels of distress or low levels of distress, will be more likely to end therapy prematurely, as judged by their therapist.*

The literature suggests that when couples are not at the same level of distress or motivation for change, they are less likely to stay in therapy (e.g., Jurek, Janusz, Chwal, & de Barbaro, 2014). Anecdotally this is observed often when one member of the couple is ready to end the relationship and the couple comes to therapy as a last-ditch effort to fix things or to confirm their decision. This study used the male-distress group as the comparison group for analyses for these reasons, based on the fact that it is the one group where the clients are at different levels of distress. The hypothesis that the group with only member experiencing distress would terminate prematurely was partially confirmed using a logistic regression. The male-distress group was more likely to leave therapy early when compared to the no-distress group, but less likely to leave therapy when compared to the high-distress group. The male-distress group and the relational-distress group were not significantly different.

The findings that the male-distress group was more likely to terminate therapy prematurely compared to the no-distress group confirms the hypothesis and is in line with the literature base about one member experiencing distress. Given the previous literature on the gender specific differences of the effect of treatment when one member of the couple experiences distress, i.e., when the male has a clinically significant level of individual distress and his female partner does not, he will show clinically significant gains throughout treatment; where the opposite is not substantiated, e.g., when the female partner is clinically distressed and her male counterpart is not, she is better off to go to therapy individually for greater gains (Isakson et al., 2006). This could be explained a number of ways. Perhaps this is true because of how our society teaches and manages gender roles. Traditional gender roles teach girls that they should grow up to be supportive

wives, helping their husbands through anything that bothers them, whereas the same is not always true for young boys. Boys are traditionally taught to be protectors and problem solvers, so attending therapy as a supporter is a new idea. Another reason why this may be true could be the differences in willingness to participate between men and women. Men are much less likely to seek out psychological services on their own than women (Addis & Mahalik, 2003; Liddon, Kingerlee, & Barry, 2018). With their partner there to support them, they may be more comfortable to stay in therapy and make the necessary improvements. While this group is more likely to terminate prematurely compared to the no-distress group, they are also the group with highest average number of sessions. Perhaps the higher likelihood to terminate is related to the pressure clients feel to experience early change when they have higher levels of distress. This could potentially be mediated by having their partner there as a support system, further supporting the benefit of the systemic approach of couple therapy.

The fact that the high-distress group actually attended the fewest sessions is well documented in previous literature (e.g., Anderson, Tambling, Yorgason, & Rackham, 2018; Lampropoulos, Schneider, & Spengler, 2009; Moore, Tambling, & Anderson, 2013; Tambling & Johnson, 2008). A number of reasons could explain this finding. One explanation could be that the case is beyond the scope of practice or is not deemed safe to continue as a couple case. This could be related to issues with addiction, interpersonal violence, and the like. (Carr, 2014; Cox, Ketner, & Blow, 2013; Epstein & McCrady, 1998; Fals-Stewart et al., 2009; McCollum & Stith, 2008; Rotunda, O'Farrell, Murphy, & Babey, 2004). Another hypothesis is that these couples may be experiencing such high levels of distress because of a number of external factors in their lives, e.g. unemployment or

financial issues, transportation issues, lack of social support for things like childcare, etc. If these additional factors are prevalent, it could be possible that they are serving as barriers to treatment, and are preventing the couples from continuing (e.g., Helmeke et al., 2002; Jurek et al., 2014; Kadzin, Holland, & Crowley, 1997). Another explanation could relate to client expectations. It is possible that the couples experiencing the highest levels of distress come to therapy and hope for things to change quickly. If after 6 sessions they are not experiencing the levels of change they expected, they leave therapy dissatisfied (e.g., Allgood & Crane, 1991; Bischoff & Sprenkle, 1993; Jurek et al., 2014; Masi et al., 2003; Sprenkle & Blow, 2004). A fourth hypothesis is related to therapist alliance. If the couple does not feel like the therapist understands their problems or can relate to them, or if one partner feels the therapist is against them, therapy could be terminated (e.g., Bartle-Haring et al., 2012; Johnson & Wright, 2002, Kadzin et al., 1997; Shields, Sprenkle, & Constantine, 1991). In cases where one partner refuses to return to therapy, alliance issues are often the culprit. One final hypothesis is that one member in therapy is less motivated or ready to do the work required for the change the couple is looking to achieve (Doherty et al., 2016; Doss et al., 2004; Helmeke et al., 2002; Mondor et al., 2013). All of these have been suggested by previous research and could explain why the high-distress couples are leaving therapy earlier than other couples.

Trajectory of Therapy. The final research question asked: does the couple's profile predict the trajectory or rate of change in therapy? It was hypothesized:

H3a: Profile type will be associated with different rates of change of couple's scores on the OQ-45.2 in therapy.

The trajectories of change over time in this study were looked at on the individual client level through a three-level multilevel mixed linear model. Time was the first level, individual client was the second level, and therapist was the third level. For ease in interpretation, the sample was divided by gender. Again, the no-distress group was used as the comparison group for both genders. The no-distress group had an average total OQ-45.2 score for males of 34.19 at intake, putting them well below the established standard for distress, while females in the same profile had a starting score of 35.19. The starting score for males in the male-distress group was significantly different from males in the no-distress group; these males started an average of 37.38 points higher (mean~72). The starting point for a female in the male-distress group was not significantly different from females in the no-distress group. Both females and males in the relational-distress group had significantly different starting points from their counterparts in the no-distress groups, males started an average of 21.53 points higher (mean~56) and females started an average of 32.82 points higher (mean~68). Finally, both males and females in the high-distress group had significantly different scores than those in the no-distress group. Males in the high-distress profile started an average of 52.11 points higher (mean~90) than males in the no-distress profile, while females started an average of 48.64 points higher (mean~86) than females in the no-distress profile.

The hypothesis about different profile groups having a different trajectory over time was only partially confirmed. While each group had a different starting point for males and females when compared to the other groups, time as a predictor alone was not significant. So simply spending more time in therapy did not predict a change in trajectory or rate of change in total OQ-45.2 scores. However, there were significant effects of time on the rate

of change for males in the male-distress profile as well as males in the high-distress group when compared to the no-distress group. Males in the male-distress group saw distress scores go down on average about 1.3 points per session in therapy; while males in the high-distress group saw scores go down on average about 2.23 points per session.

Limitations and Considerations for Future Research

The results of this study provide insight to address a gap in the literature and provide a possible tool for therapists to use with their clients when treatment planning. The current study was limited by the number of eligible couples available for analysis. Future studies need to increase the sample size to enhance the results of the complex analyses completed. Ideally, most studies range from 400 to 4000 or more participants for a latent profile analysis (Chng, Li, Chu, Ong, & Lim, 2018; Hawkins, Galovan, Harris, Allen, Allen, …, Schramm, 2017; Lanza & Rhoades, 2013; Roberson, Norona, Lenger, & Olmstead, 2018). The more participants that can be included in the analysis, the stronger the power within; specifically in LPA, the more participants the easier it is to distinguish distinct profiles. To increase the sample size, data that has been pooled across many different sites (clinics, private practices, etc.) would be especially useful (Johnson, Miller, Bradford & Anderson, 2017).

The data came from a university clinic's terminated cases, thus, categories for constructs, like ethnicity and socioeconomic status (among others) were predetermined based on preexisting clinic policies. A further test of the results would allow for finer analysis by (1) separating the information into more narrowly defined categories, (2) other client data could be used, e.g., length of relationship, presence of children, and (3) adding

supervisor comments, objective outcome measures, and/or using 6- and 12-month follow-up client interviews.

The variable for SES is an example of how this would be helpful in future research. SES could be broken down into additional categories according the national standards (e.g., US Census), especially if the clientele had a wider range of income. Another way to ensure accuracy of the information and establish more distinct categories would be to request tax documentation or paystubs from the clients. Prior research has demonstrated clients of lower SES and minority status as having a higher likelihood of premature termination (Lampropoulos et al., 2009; Reis & Brown, 1999; Wierzbicki & Pekarik, 1993). Given the small sample size and seemingly arbitrary categories used to identify SES in the current study, the variable was not included in any of the analyses. Similarly, given the limitations of recording the data on ethnicity for the couple, ethnicity was also left out of analyses.

As is common to naturalistic studies, the current study was limited in the amount of contextual information that was available about each client. Information such as age at treatment, marital status, number of children, and presenting problem was not readily available. Given the systemic approach that CFTs follow, having more information on the system within which the client lives could also possibly benefit the creation of distinct profiles of couples that present for therapy. While the assessment data are useful in measures the amount of distress, having these contextual factors would help to understand the "why" of the numbers. For example, it could be suggested that distress related to the loss of a family member may be different than distress from work or school difficulties. The role of differences in presenting problems and demographics (e.g., age, number of children,

& marital status) have all produced mixed results in the literature as well (Lampropoulos et al., 2009; Reis & Brown, 1999; Wierzbicki & Pekarik, 1993).

Future studies might find ways to limit missing assessment score data as well. The current study was able to limit missing intake data, but trajectory data and outcome data from clients and therapists are critical. While this may not be possible for other naturalistic studies, given the lack of control by the researcher over the existing data, this is an important aim for practices that often collect data for research purposes, such as university clinics. Within these clinics, it is never easy to ensure 100% compliance with policies and data management, but firmer policies and more oversight of case management by therapists and supervisors through such practices as more immediate electronic scoring of the assessments each client completes at each appointment or by blocking scheduling the next appointment until the data for each client are posted. Further, future research in the identification/substantiation of couple profiles would benefit from university clinics having a more controlled assessment schedule, with repeated measures of both the individual distress measures as well as the relational distress measures. There are a vast number of assessments that could be used for repeated assessments of both constructs, and as previously stated, finding a way to increase the efficiency of gathering and storing these results would be beneficial. As technologically advanced as the society we live in, university clinics could have clients take their assessments using a computer or tablet, adding the scores and documents to the file instantaneously upon completion. With the movement towards electronic record keeping and online management systems, this could help increase compliance and accuracy of records, while also adding ease to the data collection and management processes. Having these additional measures might assist in studying a

variety of questions, similar to the questions of the current study related couple profiles and differences in the processes of change (e.g., trajectories) in more nuanced ways.

By increasing the amount of longitudinal data collected, future research could look at within-group differences as far as progress and change in therapy. Because of the small sample size and a median number of sessions of six, the present analyses were not able to compare the trajectories of change for those couples who stayed longer than the median number of sessions to see if differences existed between couple profiles. It is possible, by removing the clients who did terminate prematurely, that trajectories may have differed. Future research should consider ways to look at the differences between profiles removing those who do not stay in therapy long enough to reach reliable or clinically significant change. This could benefit greatly in treatment planning. Also, increasing the amount of longitudinal data collected could help to look at within-group differences of change and try to better understand those clients who show improvement, but not in clinically-significant or reliable ways.

Using a client rating of therapy outcome could also increase the strength of the results regarding proper dosage, response to treatment, and premature termination. The lack of client input is an important component missing in the current study, given the literature on how clients' and therapists' experiences are typically different and how clients tend to be the driving forces to termination (Garfield, 1994;Reis & Brown, 2006; Swift & Callahan, 2008; Tambling, Anderson, & Wong, 2014). Also, when looking at who makes the decision to terminate, a better understanding of why clients stopped coming back from the client perspective would be helpful (Hatchett & Park, 2003). It would be useful to be able to

compare both the therapists' and the clients' view of therapy outcome to have the possibility to use both as predictors in the models.

Lastly, future research should focus on trying to reduce the random effect of who the therapist is or at the very least find a way to control for it when identifying profiles. Creating variables based on therapist gender and ethnicity, previous education, years of experience, and training background would all be possible ways to control for the random effect of therapist. This study is only the tip of the iceberg on this important topic, much more research is needed.

Implications

Couple and family therapists are presented with the same challenge facing all mental health providers, how to keep clients in therapy for an appropriate amount time. With premature termination rates hovering around 50% for couple therapy, CFTs are up against a lot (Knobloch-Fedders et al., 2015; Ward & McCollum, 2005; Wong et al., 2013; Yoo et al., 2016). CFTs collect a lot of information from their couples during the first session that can be compiled to be used to attempt to prevent this premature termination. This study proposed one such use of the data to share with couples to help establish appropriate expectations for treatment planning.

By identifying profile groups of couples who come to therapy, therapist can move away from the standard dichotomous measure of distressed or not distressed, which does not provide a great deal of information about length of treatment or even expected rate of change. These group profiles provide a more specific set of data that give a better picture of the couple (Whisman et al., 2008). If such profiles are shared in some form with clients with an expected length of treatment and standard trajectory, clients can set expectations

more in line with therapist expectations, preventing premature termination, especially for highly distressed couples who are more likely to terminate prematurely without meeting therapy goals.

Given the findings that the male-distressed group stays in therapy longer than any other group, clinicians can use this information to reinforce the importance of the relational dynamics and support systems built into couple therapy. Therapists can discuss with clients how it is important to have a support system available and the benefits of having that system present for the work. This can be a reminder that may reinforce the strength and resiliency of the couple relationship. Given that the high-distress groups stays the fewest number of sessions, therapists can have a conversation with clients about this risk. While it is not clear as to why this groups is most likely to leave therapy prematurely, knowing this can serve as a way to discuss possible barriers to treatment, help negotiate ways to keep the people who need therapy the most in therapy longer. These findings on the differences between profiles are most useful in terms of starting and continuing the conversation of what to expect from therapy and how to manage expectations, they also open the door for future feedback conversations by setting a precedent of transparency.

Preventing premature termination benefits not only the clients, but also the therapist and the organization/community served. Clients who leave therapy after only two sessions experience similar outcomes to couples who never attended therapy at all (Stark, 1992). Often the clients who are dropping out prematurely are the clients who need services the most (Kadzin, 1990). Any gains made in therapy are often lost after leaving prematurely. This study demonstrates that the couples who experience the highest levels

of distress were more likely to drop out prematurely and stayed in therapy for the shortest amount of time, reinforcing what the previous research has stated.

Premature termination also has an impact on the therapist. Beginning therapists tend to have higher rates of early dropout; this can really impact the therapist's sense of competency and self-efficacy (Garfield, 1994;Pekarik, 1985). This impact on the therapist's belief to do their job effectively can lead to earlier burnout, high therapist turnover rates, and lost revenue, which begins to impact the organization and the community (Barrett et al., 2008; Ogrodniczuk et al., 2005). When organizations experience shortages of qualified therapists, the community suffers in terms of longer wait times, more spaced visits, and potentially ineffective therapists due to high caseloads. Thus by reducing premature termination, everyone benefits.

Conclusion

Levels of individual and relational distress were examined in an attempt to identify different profiles of couples presenting for couple therapy. The goal was to identify distinct groups of couples and use those groups to examine important factors related to therapy planning, such as dosage, response, and trajectory. Four distinct profiles were identified through latent profile analysis using intake scores on three assessments, a male-distress only group, no-distress group, a relational-distress group, and a high-distressed group. These profiles were then analyzed through a series of generalized linear mixed models to identify proper dosage, therapy response and trajectory for each profile. The average number of sessions for each profile was significantly different, with the high-distressed group attending the fewest number of sessions and the male-distress group attending the most. Multinomial and logistic regressions were used to identify differences in therapy

responses between the profiles finding that the no-distress group was most likely to receive a rating of goals met, while the high-distress group was least likely. Further, cases where the termination decision was made unilaterally by either the therapist or the clients were also less likely to receive a rating of goals met from the therapist at termination. Logistic regression was also used to identify groups who were more likely to terminate prematurely. The high-distress group and the male-distress group were more likely to terminate prematurely when compared to the no-distress group. A number of hypotheses were presented to explain these findings. Finally, a multilevel multivariate linear model was run to identify the different trajectories of each profile. Differences were found in rate of change for a number of groups, as well as differences in the starting points for each profile. However, given the limited size of the sample and the availability of and specificity of the data mean that results should be interpreted with caution.

The findings of distinct couple profiles are important; however, they are really understudied. In order to further substantiate and understand the implications of distinct couple profiles, CFT training programs should consider a few changes. As a field, CFT would benefit from enhancing the policies in place and strategies used within university clinics with regards to data collection. Having policies about paperwork and assessment compliance, increasing training in the usefulness of the assessments mandated within the clinic and the importance of using them could benefit not only the clinic, but also impact the treatment-planning process and the effects of therapy on the clients. The field would also benefit from the creation and compilation of a shared database between university clinics with standardized methods for data collection. Such a database, the MFT-PRN, has been proposed by Johnson and Colleagues (2017) to help bridge this type of gap between

practice and research. Having a database of this size could enhance the literature base on clinical outcomes in a variety of ways. This type of database would allow for more naturalistic studies to look at the effectiveness of couple and family therapy on a larger scale, and compare that data to those from RCT studies looking at efficacy. Johnson et al. (2017) discuss how the use of the PRN system could help address a number of the concerns that most studies, including this current study, face such as smaller sample sizes, limited input from clinicians, and inconsistent measures. This current study again lends support to the idea of a need for a shared network for continued CFT research.

A number of implications of these findings for clients, therapists, and organizations/communities were explored and suggestions for future research were made. The findings of this study provide an alternative tool for therapists in treatment planning with clients and help to fill a gap within the current literature. Therapists can use these findings as a way of starting the treatment planning conversation with clients to help set appropriate expectations.

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