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Dropout in Couple Therapy: An Exploration of the
Trajectories of Couples Dropping Out

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A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

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ABSTRACT

Dropout in Couple Therapy: An Exploration of the Trajectories of Couples Dropping Out

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Doctor of Philosophy

Dropout is a problematic phenomenon which wastes community, clinician, client, and researcher resources. Clients who dropout from therapy end up the same, or worse than, those who did not seek out therapy at all. While there is a relatively deep and broad understanding of dropout from individual therapy, an exhaustive review of couple therapy dropout literature reveals a very inconsistent and non-conclusive body of research. This may stem from a lack of a consistently used theory to guide research endeavors in this important realm. Primarily, this seems to stem from treating dropout as a static event rather than a process occurring across time. This study seeks to remedy this and shed new light on dropout from couple therapy by using a growth mixture model analysis to tease out which trajectories of change of predictor variables across time are more likely to predict dropout from couple therapy. While the results of this study did not reveal any significant relationships between class membership and dropout (likely due to a too small sample size), the study did find that there were distinct classes (trajectories of change) among the predictor variables across time.

Keywords: couple therapy, dropout, early termination, unilateral termination, relationship satisfaction, therapeutic alliance, longitudinal analysis

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Dropout In Couple Therapy: An Exploration of the Trajectories of Couples Dropping Out

At times, therapy clients elect to end therapy early, e.g., before reaching therapy goals, before attending a certain number of sessions, etc. This phenomenon is known as dropout. Bischoff and Sprenkle (1993) note that dropout is an ineffective use of economic, agency, and clinician resources. Additionally, Bischoff and Sprenkle indicate that dropout can have a negative impact on clinicians' emotional well-being and on their sense of vocational competence. Other authors have noted that dropout is demoralizing for clinicians (Joyce et al., 2007; Sledge et al., 1990) and leads to job dissatisfaction and burnout (Maslach, 1978). Perhaps more importantly, Bischoff and Sprenkle (1993) suggest that clients who begin attending marriage and family therapy but do not persist may also suffer negative consequences, with many clients who only attend one or two sessions achieving outcomes that are the same as those who did not attend therapy at all (Masi et al., 2003).

Further, Bischoff and colleagues (2020) note that “clients who terminate from therapy [prematurely] may never fully recover or receive full remediation of the symptoms that brought them to therapy” and that they are more likely to be “dissatisfied,” “less adjusted,” and “not receive full treatment effect” (p.36). Indeed, clients who dropout note dissatisfaction with therapy, a sense of failure (Ogrodniczuk et al., 2005) and are less likely to benefit from therapy than those who complete therapy (D’Aniello & Tambling, 2019). Sadly, those who terminate therapy prematurely are also less likely to seek out therapy elsewhere (D’Aniello et al., 2019; Garfield, 1986; Hamilton et al., 2011; Yoo et al., 2016). As Masi and colleagues (2003) state, it is important to better understand dropout in the marriage and family therapy field to help offset the negative impacts of dropout on both clients and clinicians. In short, the primary perception of dropout is that it is synonymous with “negative outcomes” (Bischoff et al., 2020, p. 36).

Not only is dropout harmful to those involved in therapy, but it also disrupts research pursuits regarding therapy (Carter et al., 1995; D'Aniello & Tambling, 2017). Carter and colleagues (1995) note that dropout can lead to holes in data sets, less power in statistical analyses due to fewer data points, as well as problems through selection bias. Thus, dropout also affects those seeking to improve both the understanding and implementation of therapy.

In summary, dropout from couple therapy is problematic and can have a negative impact on clients, clinicians, and researchers. Additionally, research has shown that marriage and family therapy (MFT) is effective so long as treatment takes place (Addison et al., 2002; Clawson et al., 2018). Dropout from couple therapy impedes that treatment taking place and therefore prevents couples from receiving the benefits of couple therapy. Thus, it is important to better understand the phenomenon of dropout in couple therapy to facilitate a greater likelihood that clients receive full effects of treatment. With dropout being such an important and influential phenomenon, this study will highlight what previous research suggests about dropout from couple therapy, gaps in that knowledge base, explore some problems with previous approaches to studying couple therapy dropout, and finally will present an analysis which seeks to address some of the gaps and problems mentioned.

Literature Review

Though it is important to comprehend dropout from couple therapy, little is currently known about what predicts this phenomenon. This is not due to a lack of research nor attempts to understand this topic; many studies have been carried out on couple therapy dropout considering a wide variety of potentially related variables. Unfortunately, these have resulted in mostly inconsistent and inconclusive findings. The next few sections will focus on highlighting the inconsistencies as well as the few findings that are more consistent.

Inconsistent Findings

The predictors of dropout are varied and difficult to definitively identify. For instance, Anderson, Miller and colleagues (2021) noted in a systematic review that nine studies report that client age is a predictor of dropout in couple therapy (with eight indicating age is inversely related to dropout) while 16 articles indicate that it is not. Similarly, six studies indicated education has a significant relationship with dropout (five indicating an inverse relationship, with one indicating a direct relationship) and 13 indicate it does not. Five articles found income to have a significant inverse relationship with dropout while five studies indicated it does not. Similar discrepant findings exist among many variables including how long a couple has been together at the start of therapy, the number of kids the couple has, whether or not one or both partners in the couple had mental illness related symptoms, etc. This list is not exhaustive, but rather highlights a few of the salient discrepancies which surface when comparing findings reported in the couple therapy dropout literature.

This lack of consistency makes it difficult to interpret or make confident conclusions. This is especially true because as a field, marriage and family therapy as of yet lacks an overarching guiding theory to guide dropout from couple therapy research. Related to theory, these inconsistencies may also stem from treating dropout and its predictors as static events rather than processes occurring across time.

Consistent Findings

One common thread among many of these inconsistent results is that they focus on variables that are outside of the influence of the therapist (demographic variables such as age, income, education level etc.). Clinicians can benefit more from understanding how variables which are within their sphere of influence may impact dropout. Interestingly, these variables are

also the ones that are more consistently related to dropout. These include the therapeutic alliance, relationship satisfaction, and the presenting problem (which includes nature of the presenting problem, admittedly outside clinicians' control, but also progress made towards overcoming the presenting problem). As such, it may be that further study focusing on these types of variables will yield more useful results. The following is a review of three main variables with more consistent relationships with dropout from couple therapy.

Alliance

The therapeutic alliance is one of the few consistent correlates of dropout in couple therapy. In each of the five studies that have examined this relationship, lower alliance scores have been associated with higher dropout (Raytek et al., 1999; Bartle-Haring et al., 2012; Yoo et al., 2016; D'Aniello et al., 2019; D'Aniello & Tambling, 2019). This relationship has held in both university (Bartle-Haring et al., 2012; Yoo et al., 2016) and community samples (D'Aniello et al., 2019; Raytek et al., 1999; D'Aniello & Tambling, 2019) and across diagnoses from routine couple distress (Bartle-Haring et al., 2012) to alcohol dependence (Raytek et al., 1999). Emerging research suggests that split alliances may be particularly important predictors of dropout for couples. A split alliance occurs when the quality of the alliance each partner has with the therapist is significantly imbalanced (Bartle-Haring et al., 2012; Jurek et al., 2014).

This relationship is not surprising as the therapeutic alliance is a key element of successful therapy (Friedlander et al., 2018; Swift & Greenberg, 2015). In fact, it is considered vital across therapeutic modalities as a predictor of client outcomes. Swift and Greenberg note that there is a vast body of research which highlights a powerful connection between therapeutic alliance and clients' therapeutic outcomes. Additional support for the therapeutic alliance comes from the common factors literature (Fife et al., 2014).

Evidence from literature on the therapeutic alliance in individual therapy suggests a reinforcing cycle between alliance, therapy outcome, and thus clients' receptiveness to continued therapy treatment (Halperin et al., 2010), indicating that therapeutic alliance may have important, antidotal effects on dropout. Halperin and colleagues also note a pattern of consistent findings indicating a significant connection between better therapeutic alliance and better treatment outcomes, which they then indicate is likely to reinforce client engagement in therapy. Finally, Wampold and Imel (2015) note that the relationship between alliance and outcome is significant, perhaps even more so than meta-analytic results indicate (due to measurement issues) and that the value of the alliance holds salience in child, adolescent, family, and couple therapy. These initial studies begin to highlight the important relationship between couple therapy dropout and the therapeutic alliance.

Additionally, because of the constantly evolving nature of the therapeutic alliance across time, the change in alliance across time should be used to predict dropout. However, none of the couple therapy dropout studies to date, including those using alliance as a predictor of dropout, have studied the change of alliance across time. Instead, they have treated alliance (or whatever other predictor variable used) as a static, non-changing variable. While some predictor variables are static (demographic variables of client and/or therapist for example), alliance changes across time (Horvath, 2001; Horvath, 2005). Treating the therapeutic alliance as static, when it has the potential to change from one session to another, is problematic. For example, if alliance started out high, but is decreasing consistently across time/therapy sessions, should we still expect it to buffer against dropout? Or the opposite, if alliance starts out low, but trends upward at a significant clip as therapy progresses across time, should we expect the low alliance at the onset

of therapy to lead to dropout? In short, treating the alliance (or its dynamic predictor variable colleagues) as static when studying dropout is problematic.

Relationship Satisfaction

An additional variable which stands out from this proposed group of variables influenceable by the therapist is relationship satisfaction (RS). Effective approaches to couples therapy have been shown to have a significant impact on RS (Wittenborn & Holtrop, 2022), indicating RS is well within the sphere of influence of couple therapy clinicians. This important topic has been a specific focus of 19 different studies from the body of couple therapy dropout literature, with 11 indicating a significant inverse relationship with dropout (Anderson et al., 1985; Noel et al., 1987; Roy, 1989; Catalan et al., 1990; Wylie, 1997; Tambling & Johnson, 2008; Tremblay et al., 2008; Graff et al., 2009; Mondor et al., 2013; Schover et al., 2012, Madsen et al., 2016) while eight indicated RS does not relate to dropout (Allgood & Crane, 1991; Epstein et al., 1994; Everaerd & Dekker, 1985; Heyman et al., 1999; Leff et al., 2000; Kabakçi & Batur, 2003; Shnaider et al., 2015; Fischer et al., 2017).

Those studies which did find a significant relationship between better couples' relationship satisfaction and lower dropout include a diversity of diagnoses ranging from misusing alcohol (Noel et al., 1987; Graff et al., 2009) to physical symptoms (Roy, 1989; Schover et al., 2012), to sexual dysfunction (Catalan et al., 1990; Wylie, 1997). Further, these studies include a variety of clinical settings from the VA (Madsen et al., 2016), to university clinics (Tambling & Johnson, 2008; Mondor et al., 2013), and community clinics (Noel et al., 1987; Wylie, 1997; Tremblay et al., 2008). All eleven of these studies indicated that couples with higher RS were less likely to dropout from therapy.

Alternatively, and as noted above, several studies suggest there is not an association between RS and dropout from couple therapy. These studies also include a variety of clinical settings including US MFT training clinics (Allgood & Crane, 1991), the VA (Fischer et al., 2017) and community clinics from multiple nations, including Turkey (Kabakçi & Batur, 2003), the UK (Leff et al., 2000), and the US (Epstein et al., 1994). These studies also include a variety of presenting problems ranging from alcoholism (Epstein et al., 1994), to inter-partner violence (Heyman et al., 1999), and depression (Leff et al., 2000).

One potential reason for these discrepant findings is that the studies have treated relationship satisfaction as a static, non-changing variable. Of these studies, the majority measured relationship satisfaction only once, during the intake process, but not during treatment. The few exceptions include RS being measured twice-before and after treatment (i.e., Roy, 1989; Wylie, 1997; Schover et al., 2012, Everaerd & Dekker, 1985; Leff et al., 2000;), at intake-once during, and once after treatment (Tambling & Johnson, 2008) and one studying measuring RS at intake and then twice during treatment (Graff et al., 2009). This seems to be treating RS as if it were a static variable that cannot be influenced through therapy when research shows that RS is regularly improved through couple therapy approaches (Wittenborn & Holtrop, 2022). These discrepant findings may arise from the mentioned studies not considering the trajectory of change of RS as therapy continues across time. Interestingly, of the seven studies that measured RS more than once, six found a significant relationship between RS and dropout with only the Leff and colleagues (2000) study finding no relationship between the two.

Clearly the association between RS and dropout is an important topic for further study. As noted earlier, a lack of a guiding theory on dropout in couple therapy makes it difficult to make sense of these discrepant results. This lack seems to have led to atheoretical analytic

approaches. More to the point, studying the change of potential predictors of dropout *across time* is more in line with prevailing theory and conceptualization of dropout (see Swift & Greenberg, 2015). According to Swift and Greenberg's (2015) work on dropout (explored in greater detail later) couples who experience an increase in a desired outcome of therapy across time are more likely to perceive increased benefits from therapy, and thus more likely to continue attending therapy in comparison to those who don't experience said increase. As such, RS as well as other potential predictors of dropout need to be studied dynamically rather than statically.

Presenting Problem

Another area which has been studied in relation to dropout from couple therapy is the original reason for which couples presented for couple therapy, commonly known as the presenting problem. This is a static variable and one which is not something a clinician can influence as it is something that develops prior to beginning therapy. However, progress towards resolving the presenting problem is both within the sphere of influence of clinicians (e.g., relationship satisfaction as described previously) and non-static, meaning it can change and that change can be measured across time. Nine different studies have indicated that the presenting problem has a significant association with dropout (Noel et al., 1987; Harris et al., 1988; Allgood & Crane, 1991; McCrady et al., 1996; Stanton & Shadish, 1997; Tremblay et al., 2008; Graff et al., 2009; Moore et al., 2011; Mondor et al., 2013). These studies included populations with a variety of diagnoses/primary concerns ranging from substance or alcohol abuse (Noel et al., 1987; McCrady et al., 1996; Stanton & Shadish, 1997; Graff et al., 2009), to individual dysfunction (Allgood & Crane, 1991), and inter-partner violence (Harris et al., 1988). These studies also took place with demographically variable populations including French-Canadian couples in Quebec, Canada (Tremblay et al., 2008), couples in Montreal, Canada (Mondor et al.,

2013), and several populations throughout the US (Allgood & Crane, 1991; Noel et al., 1987; etc.).

Alternatively, four studies found that the presenting problem is not related to dropout (Sarwer & Durlak, 1997; Kabakçi & Batur, 2003; Anderson & Miller, 2006; Fawcett & Crane, 2013). However, it should be noted that one study (Sarwer & Durlak, 1997) reported that only six couples dropped out, which may be too small of a sample to provide reliable results. Three of these studies focused on populations with sexual dysfunction, two in the US (Sarwer & Durlak, 1997; Fawcett & Crane, 2013) and one in Turkey (Kabakçi & Batur, 2003). The final study also focused on couples in the US (Anderson & Miller, 2006).

In summary, there are more than twice (or three times if you discount the Sarwer & Durlak article due to the small dropout sample) as many articles in the current body of literature on couple therapy dropout that suggests there is a significant relationship between presenting problem and dropout that suggest there is not. To me this variable also stands out in the review of the couple therapy dropout literature as one which seems to have sufficient evidence to suggest this relationship at least deserves further investigation. Perhaps some of the discrepancy in the literature regarding this variable is also due to the field wide lack of theory on how to approach dropout. More specifically, and as noted earlier, this discrepancy may be due to not looking at the variable of interest, and it's change (or lack thereof), across time.

Problems With Current Research

Inconsistency in the Definition of Dropout

Multiple elements make studying dropout difficult. One is a lack of a consistently used term or definition for dropout (Brown et al., 1997; D'Aniello et al., 2019; Bischoff et al., 2020; Masi et al., 2003; Tambling & Johnson, 2008). The many terms used include, among others:

premature termination (Bartle-Haring et al., 2007; Carter et al., 1995; Williams et al., 2005), early termination (Wong et al., 2013; Heilbrun, 1961; Bischoff et al., 2020; Tambling & Johnson, 2008; Hamilton et al., 2011), dropout (or drop out; Chen et al., 2017; Fischer et al., 2017; Hamilton et al., 2011; Wong et al., 2013), unilateral termination (Ward & McCollum, 2005; Bischoff & Sprenkle, 1993; Hamilton et al., 2011; Wierzbicki & Pekarik, 1993), and attrition (Hamilton et al., 2011; Zweben et al., 1983; Tilden et al., 2020; Schover et al., 2012). Equally problematic are the many operationalizations used, which include terminating: after at least one session but before session 10 (Heyman et al., 1999), before session three (Allgood & Crane, 1991; Anderson & Miller, 2006; Boddington, 1995) or four (Davis & Dhillon, 1989; Graff et al., 2009), after just one (Hamilton et al., 2011) or no sessions (Kelly et al., 2004; Manne et al., 2007), missing three consecutive sessions after attending at least one (Carter et al., 1995), terminating without therapist's support (e.g. Allgood et al., 1995; Bartle-Haring et al., 2007; Bartle-Haring et al., 2012), before having met (as assessed by clinician) goals for therapy (Anderson et al., 1985), before completing a prescribed proportion of a predetermined number of sessions (Denton et al., 2000; Harris et al., 1988; Leff et al., 2000), etc. It is important to note that many authors indicate that the inconsistent terms and/or operationalizations used for dropout can make it hard to accurately study the topic (Mondor et al., 2013; D'Aniello et al., 2019; Bischoff et al., 2020; Masi et al., 2003; Bischoff & Sprenkle, 1993). This, along with the inconsistent findings mentioned previously make it difficult to know how to make sense of the varied findings from current literature regarding couple therapy dropout.

A Lack of a Guiding Theory

A lack of theory regarding what leads to dropout in couple therapy makes it difficult to interpret the range of findings in the current literature. In their 2015 work, Swift and Greenberg

identify a guiding theory for what causes dropout, drawn from their review of dropout research in individual therapy. Swift and Greenberg hypothesize that “premature discontinuation [is] more likely to occur when the patient’s perceived or anticipated costs associated with therapy attendance outweigh the perceived or anticipated benefits” (p. 29). I’ll refer to this theory from this point forward as the cost-benefit dropout theory or CBDT. Swift and Greenberg also explain that there seem to be two main types of “costs associated with therapy” (p. 29). One has to do with the expenditure of fiscal, emotional, temporal, social, relational and/or physical resources. The other type of cost involves anxiety about potential or realized pain, drain, exertion, embarrassment, etc. which may arise through attending therapy. In short, the CBDT (Swift & Greenberg, 2015) theorizes that dropout is a product of clients reaching a tipping point wherein perceived benefits of therapy are overshadowed by the perceived costs continued attendance may exact. Bischoff and Sprenkle have noted something similar, stating that clients’ “early disengagement is a representation of the unacceptability of the treatment being offered” (1993, p. 353). In short, individual therapy dropout studies’ findings culminated into this working theory from Swift and Greenberg.

After reviewing a large number of studies, Swift and Greenberg (2015) categorized many contributing factors of dropout into three types of perceived costs of therapy: external difficulties (e.g., the cost and effort of obtaining childcare, difficulty with transportation, limited time, cost of therapy, etc.), dissatisfaction with therapy (e.g., unmet expectations in therapy, unresolved alliance ruptures, lack of progress toward therapy goals, etc.), and distress regarding therapy work (e.g., worry about stigma, concern regarding discussing painful topics, etc.). This described tipping point may help illuminate why there are many discrepant findings regarding couple therapy dropout as there seems to be no such overarching theory/guide for couple therapy

dropout. This is most evident in the structure of the couple therapy dropout studies, in that no studies to date have looked at the change of predictors of dropout across time, a potential problem given CBDT's theory that dropout is a process and manifests once a tipping point is reached. Along the same lines, O'Keeffe and colleagues (2019) performed a mixed methods study seeking to understand dropout from therapy amongst adolescences who had sought therapy for depression. Notably, their findings largely align with the CBDT, indicating that clients who dropped out indicated they felt dissatisfied with therapy and that they were not benefitting from therapy, some referring to practical issues regarding therapy, inconveniences of attending therapy, and that difficulties outside of therapy sessions contributed to dissatisfaction with therapy which eventually led to drop out. Yet, the lack of studies which track the change across time of predictors of dropout from couple therapy in the current literature seems to indicate a lack of an overall guiding theory such as CBDT, as previously noted. In other words, couple therapy dropout research efforts would benefit from an overarching theory to guide future studies.

Using CBDT as a Guide

The CBDT may provide a beneficial framework for an overarching theory and understanding of couple therapy dropout as it has benefitted individual therapy dropout research. Clients experience many barriers to attending therapy sessions (Kazdin et al., 1997; e.g., resistance to attendance of therapy from a family member/partner, financial burdens, transportation, time constraints, etc.). According to the CBDT (Swift & Greenberg, 2015), the perceived benefits of therapy must outweigh the perceived costs of therapy for clients to attend (or at least continue to attend) therapy, as just explored. Depending on couples' unique perspectives and circumstances, couples may experience vastly different margins separating the

perceived benefits of therapy and the perceived costs, meaning for some the benefits may just barely outweigh the costs, for others there may be a wide margin between the benefits and costs, and still for others the costs may outweigh the benefits. Because these costs and benefits are perceived, these perceived margins are likely to change across time and from one therapy session to another. For example, an alliance rupture may happen in one session (leading to a potential increase in perceived costs or decreased perceived benefit) and in another the couple may experience a powerful increase in alliance or a meaningful insight or breakthrough in therapy (leading to an increase in perceived benefit). Due to the ever-changing nature of these perceived margins, dropout is best conceptualized as a process rather than a single event, as conceptualized in the CBDT. For that reason, it is vital to align the analysis of predictors of dropout with this theoretical conceptualization of the dropout phenomenon. In short, the potential predictors of dropout should be studied in terms of their change across time instead of being used to predict dropout from a single (or a few), static, timepoint(s).

As a part of this trajectory of change, where couples start out on important predictors may matter. Couples with significant conflict and thus low relationship satisfaction may see an increase in RS as vital, and thus continue to attend therapy even if the perceived benefits only marginally outweigh the perceived costs. On the other hand, those with high RS at the onset may not see marginal gains as enough benefit to outweigh the costs of therapy. Overall, the trajectory of change becomes more and more important as therapy progresses. In either case, couples who do not experience meaningful (to them) improvement may not feel that the perceived benefits of therapy outweigh the perceived costs enough to sustain therapy attendance. In other words, both where couples start on important predictors of dropout *and* their trajectory of change over time

matter, but that the latter is likely to be more influential, especially over time. This element has yet to be explored in the couple therapy dropout literature.

An exhaustive review of couple therapy dropout literature (Anderson, Miller et al., 2021) reveals that no studies to date have studied change in predictors of dropout across time. The study of dropout predictors' change across time is more in line with the phenomenon of dropout, and it would also allow researchers to begin to pinpoint when dropout occurs in the change (or lack of change) process of its predictors. As current research stands, most studies (90.41%) measure predictor variables of dropout: only once (either before, during, or after treatment; 39.73%), twice, both before and after treatment (26.03%), three times – once before, once during, and once after treatment (6.85%), or were inconsistent in measurement implementation procedure, such as in meta-analyses (17.81%). In contrast, only six studies (Anderson et al., 1985; Bartle-Haring et al., 2012; Graff et al., 2009; Helmeke et al., 2002; Noel et al., 1987; Thalmayer, 2018) indicate that more than one measurement took place *during* the therapy process. Still, none of these studies use the trajectory of change across time in their analyses.

A Consistent Operationalization

Beyond any potential holes in couple therapy dropout literature due to the methodology of most studies, an additional adjustment may be beneficial. As the body of literature on dropout has grown, significant support and acceptance has grown for the idea that the best operationalization of dropout is unilateral termination (O'Keeffe et al., 2019). This definition means that the client(s) stopped attending therapy despite the clinician's belief that therapy should continue or that clients have not yet fully met her/his/their therapy goals (Swift & Greenberg, 2015). From a research standpoint, Swift and Greenberg (2015) note that such a

conceptualization of dropout not only may increase understanding of it, but also to help guide endeavors to reduce it.

In summary, couples perceive and experience several barriers to therapy and costs to attending therapy. Similarly, these same client couples can experience benefits of couple therapy. The ever-shifting margin between these two sides of a scale are theorized to play an important role in therapy dropout. Unfortunately, there is little to no research regarding couple therapy dropout which reflects this understanding of the changing nature of these margins across time. I therefore wish to better understand how the trajectory of these identified predictors of dropout in couple therapy impact dropout. Specifically, I will attempt to highlight how the nature of the trajectory of these variables of interest is different for couples who dropout from the trajectory of those who complete therapy. This is in line with the proposed guiding theory for future research on couple therapy dropout I have just laid out.

Finally, as noted by Arriaga and Agnew (2001), there is a significant amount of research which explores the important impact of commitment to relationships through a number of factors. Commitment to a relationship, as noted by Arriaga and Agnew, has an impact and outcome on relationships lasting and on relational quality. Thus, this study will focus on couples who are in committed, long-term relationships with couples living together. In addition to this operationalization, I chose to focus on cisgender, heterosexual couples in an effort to decrease any potential confounding variables.

Research Questions

Wanting to research variables which clinicians can influence readily through therapy, and to better understand dropout in couple therapy, I have decided to study the following research questions:

1. Do couples who drop out of therapy experience different trajectories of change in progress of their identified presenting problems across time when compared to those who complete therapy?
2. Do couples who drop out of therapy experience different trajectories of the development and maintenance of the therapeutic alliance across time when compared to those who complete therapy?
3. Do couples who drop out of therapy experience different trajectories of change in relationship satisfaction across time when compared to those who complete therapy?

Methods

Data Source

This project used data from the Marriage and Family Therapy Practice Research Network (MFT-PRN; Johnson et al., 2017). The MFT-PRN is a collaboration between therapists and researchers around the common goal of improving client outcomes. Clinics within the MFT-PRN use an internet-based assessment system that allows couple therapists to monitor client progress during therapy. Clients complete formal assessment measures throughout treatment with immediate graphical feedback of the results provided to therapists. Clients can consent to allow their de-identified data to be used for research. This analysis involved all available data points from all available couple therapy cases from the inception of the MFT-PRN to the most current data available at the time analysis begins. Key variables (described later in this section) as well as demographics of participants were obtained to provide a description of the sample population.

Relationship Satisfaction

The Couple Relationship Scale (CRS; Anderson, Johnson et al., 2021) was used to measure relationship satisfaction. The CRS is a 10-item scale which assesses for general relationship functioning and relational happiness. It is composed of eight areas of focus which measure emotional closeness, commitment, trust, safety, teamwork, criticism, conflict, and physical affection in the couple's relationship. It is administered to couples before every session after treatment begins. CRS total scores correlate strongly (and in the expected direction) with CSI-16 total scores, and all areas of focus but one strongly correlate with the CSI-16, the exception being the acceptance items, which was only moderately correlated with a measure of perceived criticism. It has also been shown to have internal reliability and acceptable test-retest reliability (Anderson, Johnson et al., 2021). In this study, male partners' relationship satisfaction had an internal reliability of $\alpha = .95$ and female partners' $\alpha = .94$.

Therapeutic Alliance

The Intersession Alliance Scale (IAS; Anderson & Johnson, 2020) was used to assess for alliance. It is a brief four item scale which measures four facets of alliance: bonds, goals and tasks, the within system alliance, and safety in the system. This scale and the mentioned facets correlate well with the Couple Therapy Alliance Scale (CTAS) and its respective subscales and has shown good reliability. The safety in the system item, which is not included in the CTAS, did not correlate well with the CTAS subscales, suggesting it is measuring a unique element (Anderson & Johnson, 2020). This measure is administered before each session beginning at the second session. In this study, male alliance had an internal reliability of $\alpha = .94$, and female alliance $\alpha = .95$.

Progress Towards Resolving the Presenting Problem

The Presenting Problem Progress scale (PPP) was used to assess for progress made towards couples' primary presenting problem. This is a three-item questionnaire designed to measure progress towards the original presenting problems which clients report at the beginning of therapy, within which clients identify concerns with which they would like help. The PPP was created by consolidating concepts and findings from three studies (Doss et al., 2004; Whisman et al., 1997; Heafner et al., 2016) which studied commonly reported presenting problems in couple therapy. This measure allows clients to choose the top three presenting problems for which they are seeking help at the beginning of therapy. Each session after the first, clients are asked to rate progress made towards resolving those three reported problems on a 7-point Likert scale ranging from -3 to 3, with the middle point indicating no change. For this study the presenting problem was operationalized as just the primary presenting problem reported by couples, meaning the secondary and tertiary problems were not analyzed. Unfortunately, to date there is no research literature addressing the validity and reliability of the PPP. However, in this study, male PPP had an internal reliability of $\alpha = .79$ and female PPP of $\alpha = .77$.

Dropout

Dropout was measured using a therapist driven termination report wherein each therapist is asked to note why therapy ended. Therapists must choose from one of five categorical options which include:

1. Client dropped out of therapy (stopped attending without giving notice)
2. Client decided therapy was finished and notified therapist
3. Therapist provided a referral for additional treatment
4. Therapist decided therapy was finished

5. Therapist and client both agreed that therapy was finished.

From this termination report I generated a binary dropout variable wherein a unilateral termination type definition, as described previously, defined dropout. In other words, if the therapist selected option one or two, that couple was considered to have dropped out. If any other option was marked, the couple was considered to have not dropped out.

Participants

While the MFT-PRN is open to all couples, only 14 same-sex couples sought treatment during the time of data collection. As noted by Bartle-Haring and colleagues, (2012) same-gender partners are indistinguishable from one another statistically (there is no clear way to identify who is “partner 1” and “partner 2” as with heterosexual couples, wherein gender can be used) and this thus creates analysis difficulties. Following Bartle-Haring and colleagues' suggestion, I decided to remove all same-gender couples from the study. This decision was further spurred by the small number of same-gender couples ($n = 14$) which is too small of a sample to yield statistically meaningful results. For example, Soloski and Durtschi (2020) indicate that individual classes in growth mixture modeling should have at least 30 participants to be considered valid. Similarly, couples with partner(s) who identify as non-cisgender were also dropped from the study (a total of 90 dropped cases) to eliminate potentially confounding variables. Additionally, only couples who identified as being in a committed relationship, and who indicated were living together were used for the study. Finally, cases wherein data for only one partner was available were also dropped. This left me with a sample of 427 couples (854 individuals).

Participating couples consisted of 94.93% married couples. Average number of years participating couples had been together was 7.60 years ($SD = 8.22$). The vast majority of

participants indicated her/his ethnicity to be White (81.85%) with a designation of multiracial making the second largest ethnic group (6.91%), Latinxs the next largest minority group at 5.62% of participants, followed by Asian (2.46%) and Black (2.34%). Participants had a mean age of 31.73 (SD = 9.84) years old, median income of \$40,000-49,000 per year, an average of 2.5 children (SD = 1.55), with the majority of participants having a bachelor's degree or graduate degree (57.14%).

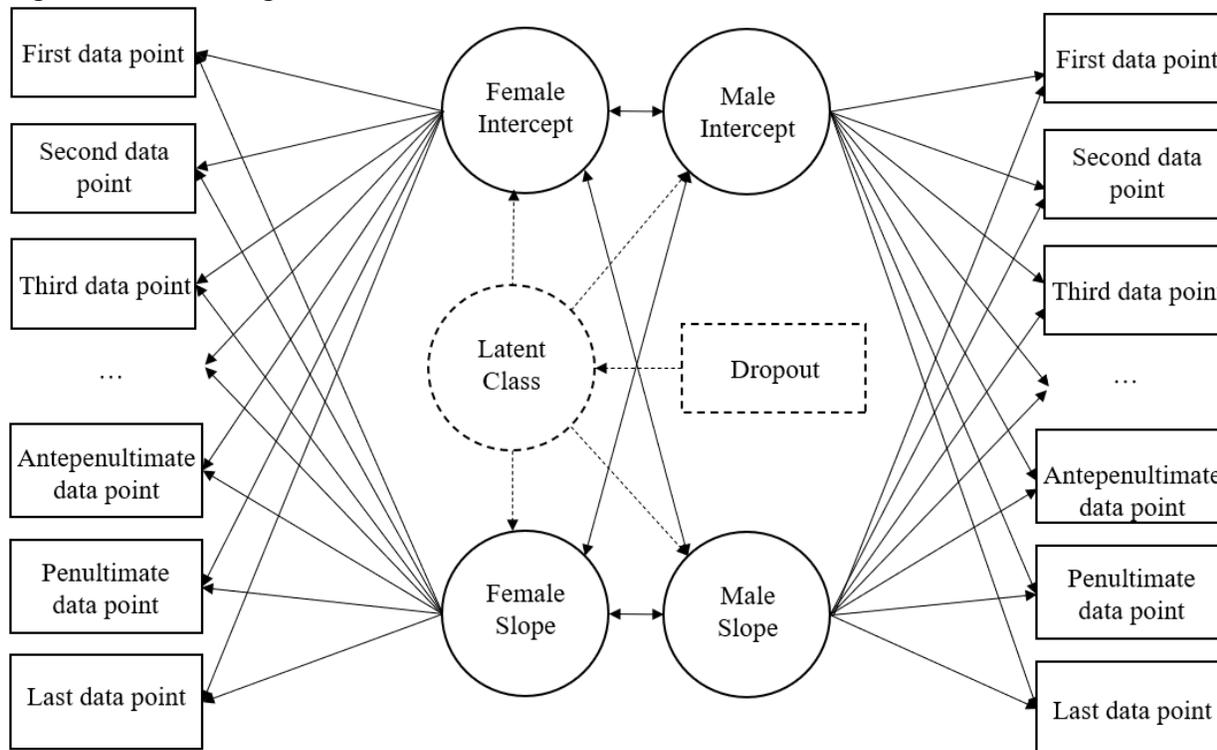
Analysis

The statistical analyses for this project primarily involved separate actor-partner latent growth mixture models for each predictor variable of interest (presenting problem progress, relationship satisfaction, and alliance). Growth mixture models were used to identify distinct groups based off unique trajectories (derived from what is commonly referred to as unobserved heterogeneity) of the independent variables. Class membership was then regressed on dropout to address whether specific trajectories were significant predictors of dropout. The non-independence of couple data was accounted for through the actor-partner interdependence model structuring of the chosen latent growth mixture model (effectively latent growth curve models in the single class iterations). See Figure 1 for a generic diagram of the models performed.

To address my specific research questions, dropout was regressed on class membership within each model to determine whether those couples who dropped out of therapy (or those who did not) were more likely to have experienced a specific trajectory of change. An iterative process, as prescribed and described by Soloski and Durstchi (2020), also covered in more detail later in this paper, used a single-class growth mixture model to establish initial model fit. After performing the initial, single-class growth mixture model (GMM), an additional four iterations of

each model were performed, with each additional iteration increasing in number of latent classes from one up through five. These iterations also contained the dropout variable regressed onto

Figure 1 – Model Figure



Note: Elements drawn with non-solid lines were not included in the single class iterations

each class. Five different variants of each GMM, each with its own five iterations of increasing classes, were performed in accordance with the Soloski and Durtschi approach. Once all iterations were performed, fit for each model was compared to find the model which best fits the data.

Results

Stata 17.0 was used for data management, cleaning, and basic statistics such as the demographic information just provided. Mplus 8.5 was used for the primary analyses. Soloski and Durtschi's 2020 article provides a detailed, step-by-step analysis plan/procedure which I followed strictly for the original analyses. The outcome of these models contained errors which

made the results unreliable. To correct these errors, a more parsimonious version of the Soloski and Durtschi approach was used. In short, the analyses performed included an iterative process wherein an unconditional latent growth curve analysis for each variable of interest (each couple's total therapeutic alliance score, relationship satisfaction, and progress made towards overcoming the primary presenting problem) was used to establish the latent slope and intercept variables and to assess for model fit. It was during this process I culled out many of the later sessions' data as much of it had too much missing data and this hindered analyses and caused model goodness of fit problems. Specifically, the therapeutic alliance models used sessions two through 10 (no alliance score is gathered before session one), relationship satisfaction models used sessions one through eight, and the presenting problem models used sessions two through eight (no progress towards overcoming primary presenting problem data is collected prior to session one). Finally, to account for missing data, I used full information maximum likelihood estimations.

Once goodness of model fit benchmarks were established, an iterative process was carried out wherein, as per Soloski and Durtschi (2020), I ran multiple GMM variant models, including a latent class growth analysis model, a class-invariant diagonal GMM, a class-varying, diagonal GMM, a class-invariant, non-diagonal GMM, and class-varying, non-diagonal GMM, with five iterations of each type of model, with each iteration increasing in classes, starting with a single class and working up to five classes for each type of analysis (GMM, class-varying GMM, etc.). This iterative process is used to tease out the analysis type and number of latent classes that best fit the data. During this iterative process, freely estimated growth curves were allowed per Soloski and Durtschi's (2020) article. However, this freely estimated slope often resulted in errors within those models which allowed for multiple classes, rendering the results unreliable. I thus moved towards more parsimonious models, using linear and quadratic slopes

instead of freely estimated, and simplifying to basic GMMs (in place of the class-varying, diagonal GMM, etc.). This proved to eliminate many errors. I believe these errors arose largely due to a too small sample size for these more complicated analyses. This process was carried out for each of the three predictors of dropout of interest: the therapeutic alliance, relationship satisfaction, and progress towards resolving the presenting problem. The data for the latter proved unable to run without errors even at the growth curve model level. This is likely due to the large amount of missing data (all the waves of data for presenting problem progress had more than 50% missing data, and some as high as 76.6%). To get this model to run and establish fit, I ran separate growth curve models for each partner.

Presenting Problem

In the iterative process of exploring models for the progress towards resolving the presenting problem variable, the latent growth curve analysis, which is the initial model from which one may scale up to the class-based latent growth mixture models, problematic errors arose with each iteration, as mentioned previously. The model fit for the non-dyadic, separate models did not both have sufficiently good fit to allow for scaling the model up into the class-based GMMs (Male only model: CFI = .93, TLI = .94; Female only model: CFI = .77, TLI = .79). Due to this poor fitting initial model, no further results will be reported for this particular model. Because of the poor fit, no analyses to determine if unique classes would arise in the PPP model were performed.

Therapeutic Alliance

As a result of the iterative process described previously in the methods section, I chose to report and interpret the two-class growth mixture model with the freely estimated slope (note, per Soloski & Durtschi (2020) the “freely estimated” slope fixes the first and last time point and

allows the remainder to be freely estimated). While the quadratic slope growth curve had (marginally) better fit than the freely estimated growth curve, this model did not have any errors, and had better fit than the linear growth curve. Further, the two class GMM had lower AIC and BIC coefficients than the growth curve, implying better fit than the growth curve (see Table 1). Thus, this model struck the best balance between good original fit to the data, starting with the growth curve as a benchmark, best addressed my research questions, and provided reliable, error-free results. This choice is supported by Soloski and Durtschi (2020), who note that “Mixture modeling is a somewhat artistic process that requires researchers to think critically about their data and employ theory in their decision-making process” (pp. 646-647). This freely estimated model with multiple classes best fits my theory, previously described herein, which suggests that those who dropout follow a different trajectory than those who do not. Two additional results are important to highlight, the first being the entropy estimate of .72 for this iteration. Entropy indicates the degree of confidence of the model’s capacity to parse participants out into distinct classes. Per Soloski and Durtschi, .80 entropy or above is appropriate. Additionally, as noted previously, classes ought to have 30+ participants. Unfortunately, this model does not fit the ideal entropy cut off, but still represents the best overall fit and comes closest to satisfying the prescribed requirements for a GMM.

The overall mean intercept (initial measurement of alliance) and slope for both partners of each class can be found in Table 2. I named Class 1 the high initial, ascending, and class 2 I named moderate initial, stable (as the slope was not significant for class 2). Both male and female partners from both classes had significant intercepts, indicating that these starting points (initial alliance scores) were significantly different from zero. Both male and female partners from the high-initial, ascending class had significant slopes, meaning that the average change in

Table 1													
<i>Model Fit Indices for Unconditional Growth Mixture Models - Alliance</i>													
	Converge	CFI	TLI	AIC	BIC	Errors	Entropy	Class size (number of couples)					
Linear Slope													
Growth Curve	Y	0.92	0.92	24738.62	24863.85	N	-						
GMM								Class 1	Class 2	Class 3	Class 4	Class 5	
2 Classes	Y	-	-	24706.17	24854.89	N	0.85	339	31				
3 Classes	Y	-	-	24672.38	24844.58	Y	0.89	336	2	32			
4 Classes	Y	-	-	24656.79	24852.47	Y	0.81	102	2	248	18		
5 Classes	Y	-	-	24644.28	24863.43	Y	0.83	100	245	2	20	3	
Quadratic Slope													
Growth Curve	Y	0.96	0.95	24652.07	24828.18	Y	-						
GMM								Class 1	Class 2	Class 3	Class 4	Class 5	
2 Classes	Y	-	-	24606.89	24814.31	Y	0.78	55	315				
3 Classes	Y	-	-	24581.54	24820.27	Y	0.80	302	12	56			
4 Classes	Y	-	-	24565.92	24835.95	Y	0.84	52	11	5	302		
5 Classes	Y	-	-	24548.33	24849.67	Y	0.81	245	25	93	4	3	
Freely Estimated Slope													
Growth Curve	Y	0.95	0.94	24676.63	24856.65	N	-						
GMM								Class 1	Class 2	Class 3	Class 4	Class 5	
2 Classes	Y	-	-	24511.15	24769.44	N	0.72	308	62				
3 Classes	Y	-	-	24439.03	24775.59	N	0.68	282	26	62			
4 Classes	Y	-	-	24394.71	24809.54	N	0.73	17	270	61	22		
5 Classes	Y	-	-	24418.72	24911.82	Y	0.74	23	22	47	7	271	

slope between sessions was significantly different from no change.

Slope figures, seen in Table 3, represent the average increase in alliance which took place between the session indicated and the previous session (e.g. for the high initial, ascending class, the session three loading for male partners was 3.02, indicating that from session 2 to 3, there was an average increase in alliance for said partners that was 3.02 times greater than the overall average male slope change for male partners of this class, resulting in a total change of 3.23 alliance units (e.g. $\lambda * \text{slope} = 3.02 * 1.07 = 3.23$; $p < .001$). Note that sessions two and 10 are not

Table 2 <i>Latent variable means - Alliance</i>								
	High-initial, ascending class				Moderate-initial, stable class			
	Male		Female		Male		Female	
	Estimate	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value
Intercept	75.57	.000***	77.44	.000***	67.21	.000***	65.82	.000***
Slope	1.07	.000***	1.12	.000***	0.30	0.190	-0.05	0.770

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

included as they were fixed per Soloski and Durtschi's (2020) suggestion.

To assess for a relationship between dropout and class membership, dropout was regressed onto class membership, seeking to determine if dropout predicted membership to a

Table 3 <i>Slope estimates by session - Alliance</i>								
Session #	High-initial, ascending class				Moderate-initial, stable class			
	Male		Female		Male		Female	
	Estimate	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value
Session 3	3.02	0.000***	2.88	0.000***	11.22	0.001**	12.05	0.000***
Session 4	3.70	0.000***	4.31	0.000***	6.92	0.034*	0.81	0.833
Session 5	6.63	0.000***	5.31	0.000***	0.06	0.987	-1.69	0.401
Session 6	7.39	0.000***	6.71	0.000***	-10.24	0.061	-7.43	0.031*
Session 7	7.79	0.000***	6.23	0.000***	6.25	0.033*	4.79	0.212
Session 8	6.34	0.000***	6.69	0.000***	2.12	0.501	10.35	0.000***
Session 9	6.93	0.000***	8.25	0.000***	9.07	0.000***	13.24	0.000***

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

specific class. Results of this analysis indicated that whether or not a couple dropped out of therapy did not significantly predict membership to a class ($OR = .96, p = .937$).

Relationship Satisfaction

The initial Relationship Satisfaction growth curve model, which is the first step in the aforementioned iterative process, yielded adequate fit results for the linear slope (CFI = .91, TLI = .91), the quadratic slope (CFI = .92, TLI = .92), and the freely estimated slope (CFI = .91, TLI = .91). However, the initial iteration of the quadratic slope model had unresolvable errors which rendered the results unreliable and therefore was not used for this analysis despite its slightly better model fit. Of the two remaining models, the AIC and BIC fit statistics were fairly similar, with the linear slope model having a slightly higher AIC and BIC (meaning worse fit) than the “freely estimated” slope model. With two models that appeared to have similar fit, I chose the model which had slightly better fit and which best aligned with the theory guiding my study. The freely estimated slope model fits better as it would allow for a closer and more nuanced examination of the trajectory of change of relationship satisfaction for the different potential classes. Of the iterations of multiple classes of the freely estimated slope model, only one yielded errors which rendered the results unreliable. However, only the two-class model met the minimum requirements for the suggested minimum class size of 30 or more (Soloski & Durtschi, 2020). Unfortunately, this model had a somewhat low entropy estimate, indicating that the model’s ability to place participants accurately/confidently into distinct classes was lower than preferred and therefore must be interpreted with caution. These estimates and all fit results can be seen in Table 4.

The overall mean intercept (initial measurement of relationship satisfaction) and slope for both partners of each class can be found in Table 5. I again named the two classes, calling class 1

Table 4												
<i>Model Fit Indices for Unconditional Growth Mixture Models - Relationship Satisfaction</i>												
	Converge	CFI	TLI	AIC	BIC	Errors	Entropy	Class size (number of couples)				
Linear Slope												
Growth Curve	Y	0.91	0.91	29904.58	30031.66	N	-					
GMM								Class 1	Class 2	Class 3	Class 4	Class 5
2 Classes	Y	-	-	29862.03	30012.93	N	0.81	360	32			
3 Classes	Y	-	-	29880.07	30054.80	Y	0.87	359	27	6		
4 Classes	Y	-	-	29836.70	30035.27	Y	0.82	316	40	6	30	
5 Classes	Y	-	-	29831.27	30053.66	Y	0.83	40	5	5	30	312
Quadratic Slope												
Growth Curve	Y	0.92	0.92	29856.42	30035.12	Y	-					
GMM								Class 1	Class 2	Class 3	Class 4	Class 5
2 Classes	Y	-	-	29809.00	3019.47	Y	0.74	88	304			
3 Classes	Y	-	-	29785.16	30027.40	Y	0.85	33	12	347		
4 Classes	Y	-	-	29749.60	30023.61	Y	0.80	286	27	10	69	
5 Classes	Y	-	-	29731.63	30037.42	Y	0.78	65	3	23	58	243
Freely Estimated Slope												
Growth Curve	Y	0.91	0.91	29894.11	30076.79	N	-					
GMM								Class 1	Class 2	Class 3	Class 4	Class 5
2 Classes	Y	-	-	29701.19	29963.30	N	0.70	325	66			
3 Classes	Y	-	-	29604.89	29946.72	N	0.73	64	25	303		
4 Classes	Y	-	-	29515.17	29936.12	N	0.74	80	266	29	17	
5 Classes	Y	-	-	29480.41	29980.79	Y	0.76	27	19	294	33	19

moderate initial, ascending as both partners have a significant, upward trending slope, and class 2, the discrepant class, as males had a higher intercept and a significant upward slope, while females had a lower intercept and a non-significant slope. Both male and female partners from both classes had significant intercepts, indicating that these starting points (initial RS scores) were significantly different from zero. Both male and female partners from the moderate initial, ascending class had significant slopes, as well as male partners from the discrepant class, meaning that the average change in slope between sessions was significantly different from no change.

Slope figures for the RS model, seen in Table 6, represent the average increase in RS which took place between the session indicated and the previous session (e.g. for the moderate initial, ascending class, the session two loading for male partners was 3.03, indicating that from session 1 to 2, there was an average increase in alliance for said partners that was 3.03 times greater than the overall average male slope change for male partners of this class, resulting in a total change of 3.58 RS units (e.g. $\lambda * \text{slope} = 3.03 * 1.18 = 3.58$; $p < .001$). Note that sessions one and nine are not included as they were fixed per Soloski and Durtschi's (2020) suggestion. To

Table 5 <i>Latent variable means - Relationship Satisfaction</i>									
	Moderate initial, ascending				Discrepant				
	Male		Female		Male		Female		
	Estimate	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value	
Intercept	68.54	.000***	66.84	.000***	67.40	.000***	57.84	.000***	
Slope	1.18	.000***	1.49	.000***	0.76	.001**	0.65	0.080	
Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$									

assess for a relationship between dropout and class membership, dropout was regressed onto class membership, seeking to determine if dropout predicted membership to a specific class.

Results of this analysis indicated that whether or not a couple dropped out of therapy did not significantly predict membership to a class (OR = .99, $p = .984$).

Table 6 <i>Slope estimates by session - Relationship Satisfaction</i>								
Session #	Moderate initial, ascending				Discrepant			
	Male		Female		Male		Female	
Estimate	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value	
Session 2	3.03	0.000***	2.66	0.000***	-3.10	0.370	-4.15	.146
Session 3	3.37	0.000***	2.79	0.000***	5.14	.006**	6.95	.044*
Session 4	4.76	0.000***	4.39	0.000***	5.16	0.121	2.98	.332
Session 5	5.74	0.000***	5.26	0.000***	-2.98	.406	-1.14	.706
Session 6	7.68	0.000***	6.98	0.000***	-22.73	.002**	-17.96	.016*
Session 7	7.90	0.000***	7.31	0.000***	3.72	.507	-1.60	.713
Session 8	7.95	0.000***	7.28	0.000***	0.09	.984	8.03	.001**

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Discussion

As noted at the onset of this paper, dropout negatively impacts therapists (Bischoff & Sprenkle, 1993; Joyce et al., 2007; Sledge et al., 1990; Maslach, 1978), clients (Bischoff et al., 2020; Masi et al., 2003; Bischoff & Sprenkle, 1993), and research endeavors (Carter et al., 1995; D’Aniello & Tambling, 2017). Further, we know that those who persist with relational therapy treatment instead of dropping out benefit from therapy (Masi et al., 2003). It is therefore vital to come to better understand the phenomenon of dropout.

As reviewed earlier in this work, the dropout phenomenon has almost exclusively been treated as a static event in couple therapy research to date. Yet a leading compilation of research on dropout suggests that dropout is a *process* which takes place across time, rather than a momentary event (Swift & Greenberg, 2015). In an effort to address this potential misconception of this important phenomenon, I set out to answer three questions:

1. Are couples who drop out of therapy experiencing different trajectories of change across time in overcoming their primary concern for therapy when compared to those who complete therapy?
2. Are couples who drop out of therapy experiencing different trajectories across time of the development and maintenance of the therapeutic alliance with their therapist when compared to those who complete therapy?
3. Are couples who drop out of therapy experiencing different trajectories of change across time in relationship satisfaction when compared to those who complete therapy?

The CBDT indicates that dropout happens when clients feel that the costs of therapy (as perceived by clients) outweigh their perceived benefits of therapy. I therefore used the trajectory of change across time of my three primary variables (progress in overcoming the presenting problem, the therapeutic alliance, and relationship satisfaction) to measure clients' perceived benefits of therapy as therapy occurred over time.

Presenting Problem Progress

Progress towards overcoming the primary concern each couple reported at the onset of therapy is in line with the CBDT, as overcoming this concern is likely to play a role in the perceived benefits (or lack thereof) of therapy and thus dropout. Unfortunately, the simplest and initial iteration of my statistical model resulted in poor model fit for this variable, indicating the theorized model used for analysis was not an appropriate fit for the data. This poor statistical fit may be in part due to the preliminary nature of this measure. This measure is the only one used of the three primary measures in this study which has not undergone at least initial validity and reliability studies. Other possibilities for this poor fit may be an inadequate sample size, though 250+ participants is typically considered adequate for a growth model with missing data (the

simplest and initial iteration of my model; Muthén & Muthén, 2002). However, as Muthén and Muthén note, it can be difficult to assess for sufficient sample size as this depends on various elements of the data. This concept is discussed in greater detail in the Limitations section.

Whatever the reason for the poor fit of this model, I was unable to test my research question regarding the relationship between dropout and the progress made towards overcoming couples' primary reason for attending therapy as it occurred across time because of the model's poor fit.

Therapeutic Alliance

It is a well-established fact that therapeutic alliance is important to client outcomes in therapy (Friedlander et al., 2018; Swift & Greenberg, 2015; Fife et al., 2014). Monitoring and maintaining the alliance is also important, as what a therapist does in any given session may add to or be detrimental to the therapeutic alliance (Boswell & Constantino, 2022). This model revealed one important finding about alliance and couple therapy dropout, that through using growth mixture modeling, indeed multiple classes emerged. This is an important finding, as it may help illuminate the need for tracking important variables of therapy such as alliance across time rather than treating them as static variables. Further, this finding highlights the importance of allowing for different trajectories of change across time on key predictor variables. However, contrary to my predictions, class membership did not have a significant association with dropout.

These findings may be due to a number of reasons. One, it may well be that the trajectory of change of important therapeutic variables does not influence dropout. Two, it may be that this theory is valid, but that the sample was not large enough to capture the complexity of the theorized differences in change across time. That is to say, looking at the alliances from the two classes across time, the vast majority of participants (high-initial, ascending class, 308 participants) reported a fairly high alliance, and that alliance increased significantly over time.

On the other hand, the moderate-initial, stable class, and theoretically the more likely to drop out, only had 62 couples. It may be that the trajectory, or perhaps more likely, trajectories, of alliance that would lead to dropout happen so infrequently, that a much larger sample size would be needed to sufficiently capture the problematic trajectories of alliance. Ultimately, all that can be concluded from the alliance model of this work is that multiple classes surfaced, as expected by the working theory herein, but that there was not a significant relationship between either of those groups' trajectory of change and the variable of primary interest, dropout.

Relationship Satisfaction

Relationship satisfaction is, according to Schofield and colleagues (2012), the most common outcome variable in evaluating couple therapy. Research also indicates that there are many effective couple therapy approaches in improving relationship satisfaction (Schofield et al., 2012; Wittenborn & Holtrop, 2022), and Schofield and colleagues (2012) indicate that this is, in many studies, shown through a pre to post treatment assessment, suggesting that change in RS is important.

Similar to the therapeutic alliance model, this model revealed the same important finding regarding an important predictor variable of couple therapy dropout (in this case relationship satisfaction) and couple therapy dropout. That is that indeed multiple classes, and thus unique trajectory of changes in RS emerged. Just as with the therapeutic alliance, this is an important finding as it may help illuminate the need for tracking important variables of therapy such as RS across time rather than treating them as static variables, when they are not static. Further, this finding highlights the importance of allowing for different trajectories of change across time on key predictor variables. However, contrary to my predictions, class membership was not a significant predictor of dropout.

Just as with the therapeutic alliance, these findings may be due to a number of reasons. One, it may well be that the trajectory of change of important therapeutic variables does not influence dropout. Two, it may be that this theory is valid, but that the sample was not large enough to capture the complexity of the theorized differences in change across time. That is to say, looking at the relationship satisfaction from the two classes across time, the vast majority of participants (moderate initial, ascending class, 325 participants) reported a moderate initial RS, and the level of relationship satisfaction increased significantly over time. On the other hand, the discrepant class only had 66 couples. It may be that the trajectory, or perhaps more likely, trajectories, of RS that would lead to dropout happen so infrequently, that a much larger sample size would be needed to sufficiently capture the problematic trajectories of RS. Finally, this lack of significant findings could be due to a once again sound theory, but that the sample size was not sufficient to yield accurate findings from the complex statistical analyses used. Ultimately, all that can be concluded from the RS model of this work is that multiple classes surfaced, as expected by the working theory proposed in this work, but that there was not a significant relationship between either of those groups' trajectory of change and the variable of primary interest, dropout. A larger sample size is recommended for future analyses of a similar nature to allow for a greater confidence in the model results without caveats pertaining to a potentially too small sample size.

Clinical Implications

While there were not any significant relationship found between the trajectories of change of different participants and dropout from couple therapy, I believe there are a few important clinical implications of this study. First, I believe that clinicians need to be aware that not every client/couple follows the same trajectory of change across time. Fortunately, this

sample indicates that many will start with fairly high scores of important predictor and outcome variables such as therapeutic alliance and relationship satisfaction, and that as therapy progresses these important scores will increase for the majority as therapy progresses. In other words, therapists can take comfort in knowing that therapy does seem to help couples improve the quality of their relationships (both with their spouse and with their therapist), even if they started out with a relatively high scoring RS or alliance.

Second, there are unique clusters/classes of change. While much more data and research needs to be performed to further expand our understanding of this, it is an important finding in and of itself. This finding suggests that many (perhaps most) will experience positive change through therapy, but that there are those (the minority) who experience an overall downward trend. Thus, tracking progress on key variables such as RS and alliance may be important to facilitating progress, and turning things around, before an overall downward change trajectory sets in for the long haul.

Limitations

There are a number of important limitations of this study to address. One is the homogenous nature of the sample. The vast majority of this sample is made up of white, married couples. It is also exclusively made up of heterosexual couples. Therefore, the findings from this study must be generalized to those couples who do not fit this same demographic with extreme caution. Additionally, only progress towards resolving the primary presenting problem was used in the data despite couples having the opportunity to report up to three presenting problem and this measure may not adequately capture the overall picture of why the participants presented for therapy.

Additionally, after running the three separate models, the sample size appears to be inadequate for the types of analyses employed herein. This limitation became most apparent as I ran the initial, and most simple version, of the progress towards resolving the presenting problem model. This version, which is effectively a dyadic linear growth curve model, yielded errors which rendered the results unreliable. Typically, a sample size of 200+ is sufficient for a GMM with high class separation, two classes, and 20% missing data (Kim, 2012). However, Kim notes that for a model with 20% missing data and low class separation, a minimum of 800 participants is needed. Unfortunately, there is no way of knowing the degree of class separation before running a GMM, and thus no way of knowing if my sample size was sufficient for the chosen analyses.

Additionally, Kim (2012) also indicates that GMMs with more classes may require a larger sample size. Identifying the optimal number of classes before running a GMM is impossible as the iterative process of increasingly adding classes, one iteration and class at a time, to check and compare model fit, is how class number is decided upon (Soloski & Durtschi, 2020). Therefore, it was impossible to know beforehand whether the 400+ participating couples available for this study would be sufficient, despite knowing it is sufficient for some GMMs. To further highlight the challenge of identifying the minimum number of participants needed for this assessment, research literature indicates that determining sample size can be difficult as the required sample size may fluctuate due to a number of factors including model complexity, number of repeated measures, the strength of the relationship between variables (Muthén & Muthén, 2002), and, specific to GMMs, the degree of class separation and the best fitting number of classes (Kim, 2012).

As statistical errors and poor model fit arose, I began to address these concerns a number of ways. First, I began pairing down the number of sessions being used in the across time analyses (dropping later sessions which had more missing data than earlier sessions), which increased the number of observations available in the data set. As additional errors arose, I began simplifying the models I was using. As discussed in the Results section, I began by freeing up fixed parameters Soloski and Durtschi suggest (i.e. eliminating the elements used to distinguish class-variant or class-invariant, or diagonal or non-diagonal models). From there as errors continued to arise, I changed slope parameters for the GMM by fixing slopes to be either linear or quadratic (depending on model fit) rather than freely estimated. Finally, as I continued to run into errors, I split up the dyadic models into separate models for both male and female participants. This process eliminated the model errors, though did not yield sufficient model fit for some models, as noted earlier.

Conclusion

Regardless of the outcome of this study, dropout is an important phenomenon for researchers and clinicians alike to understand. It is also important to better develop an understanding of this phenomenon in the couple therapy field, as dropout negatively impacts clients, clinicians, and researchers. This work set out to add to that understanding and knowledge through a unique approach, that of making a case for and implementing a new and important change in how dropout from couple therapy is studied and researched. Namely, that dropout must be studied through using the change of predicting variables in this realm across time instead of treating dropout as a static variable, treating it as a process instead of as a moment or event.

Primarily, the findings of this study indicate that models which allow for unobserved heterogeneity to be split into appropriate, separate classes as change occurs across time, do seem

to fit (at least this) couple therapy data better than those which do not. Additionally, this study may lend support to suggestions that indeed a larger sample size may be necessary than the minimum suggested requirement to accommodate the complex nature of GMMs. Specifically, future research should focus on gathering larger data sets, and especially data sets wherein more couples have dropped out of therapy. This will allow for a more reliable test of whether or not specific trajectories of change (in theory, dropouts would belong to their own GMM classes) are predictive of dropout. Finally, researchers should also focus further on testing the Swift and Greenberg (2015) theory that dropout is a process and that it occurs when clients' perceived costs of therapy begin to outweigh the perceived benefits of therapy.

In conclusion, dropout is a crucial topic which needs more attention and better guiding theories for research in the couple therapy dropout world. Additionally, and more specifically, future studies need to treat dropout as a process by studying the change of its predictors over time. Further, growth mixture models may be an important tool for this endeavor, but due to the complexity of this analytic approach, a larger than normally anticipated sample size may be necessary. Indeed, due to the potentially too small sample size of this study, the results of this model may not be as accurate (or perhaps as insightful to this phenomenon) as they might have otherwise been. To that end, I recommend further endeavors like this one, which focus on studying the change of potential indicators of dropout therapy across time, with this same analytic approach, but using data sets which have fewer missing data and most importantly, a larger sample size.

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