# PREDICTING COUPLE THERAPY DROPOUTS IN VETERAN ADMINISTRATION MEDICAL CENTERS

A Dissertation

by

ANNIE CHU-CHING HSUEH

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2011

Major Subject: Psychology

Predicting Couple Therapy Dropouts in Veteran Administration Medical Centers

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Approved by:

Chair of Committee, Brian D. Doss
Committee Members, Aaron B. Taylor
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# ABSTRACT

Predicting Couple Therapy Dropouts in Veteran Administration Medical Centers.

(August 2011)

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Chair of Advisory Committee: Dr. Brian D. Doss

The present study examined predictors of couple therapy dropout in the VA medical centers using six different dropout criteria. The most accurate dropout definitions included using a statistical modeling procedure to determine whether the client's rate of change at the final session was greater than average of change for all clients; clients who were still demonstrating gains greater than the average rate of change at the final session were considered to have terminated prematurely. A total of 177 couples (354 individuals) who sought therapy in the VA medical centers in Charleston, SC and San Diego, CA were examined. With a few exceptions, demographic variables generally did not predict dropout. A couple's relationship adjustment and response to conflict were significant predictors of dropout. The content of therapy sessions predicted dropout only when dropout was defined, at least in part, by client's rate of change at the final session, suggesting that such methods of defining premature termination are the most sensitive to the therapy process. Therapists' characteristics, including gender and level of experience, did not predict dropout across all six definitions of dropout.

# ACKNOWLEDGEMENTS

I would like to thank my committee chair, Dr. Brian D. Doss, for his superlative support and guidance during all phases of this study, and my committee members, Dr. Aaron B. Taylor and Dr. Douglas K. Snyder, for their many helpful comments and discussions.

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# INTRODUCTION

Patients who present for therapy in the Veterans Administration (VA) hospital encounter unique challenges that differ from patients in other settings. One unique challenge faced by service members and veterans is the impact of deployment, which may contribute to the high prevalence of physical and mental health conditions for veterans. For example, the prevalence of PTSD ranges from five to 18.7 percent (Dohrenwend et al., 2006; Ramchand, Karney, Osilla, Burns, & Caldarone, 2008), and the prevalence of depression ranges from two to 22.9 percent (Frueh & Grubaugh, 2007; Ramchand et al.). In addition, over 35 percent of veterans with a current mental health disorder had at least one other comorbid mental health disorder (Forman-Hoffman et al., 2005), which is associated with decreased quality of life (Forman-Hoffman et al.; Kazis et al., 1998). A recent large-scale survey of 87,797 VA patients who have had a depression diagnosis revealed that patients had 3.9 chronic medical comorbidities on average, with 3.5 associated with physical conditions and .4 associated with mental conditions other than depression (Zivin et al., 2008). VA outpatients also have substantially worse health status than non-VA populations (Kazis et al.). Given the prevalence of both physical and mental health disorders, it is important to consider how these conditions impact veterans.

## *Effect of Individual Mental Health on Romantic Relationship*

The impact of deployment not only affects service members and veterans;

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This dissertation follows the style of *Journal of Family Psychology*.

because more than half of U.S. troops are married (MCFP Demographics Report, 2005), such impact extends beyond the service members or veterans to their spouses and children. Indeed, the most frequent reason cited for seeking for mental heath care in a recent study on veterans was disruptions in significant relationships (Snell & Tusaie, 2008). Research on veterans and their families has indicated that Post-Traumatic Stress Disorder (PTSD) is related to problems in couple and family adjustment as well as parenting skills (Jordan et al., 1992). Furthermore, higher levels of PTSD affect the ability of veterans to initiate and maintain interpersonal relationships (MacDonald, Chamberlain, Long, & Flett, 1999) and may lead to more steps towards separation and divorce (Riggs, Byrne, Weathers, & Litz, 1998). These relationship difficulties may also be due to a lack of expressiveness and self-disclosure veterans with PTSD show towards their partners (Carroll, Rueger, Foy, & Donahoe, 1985). Female partners of veterans with PTSD have reported that they feel a struggle between fusing with their partners and being more independent (Dekel, Goldblatt, Keidar, Solomon, & Polliack, 2005) as well as feelings of being overwhelmed, trapped, defeated, isolated, and difficulties coping with the veterans' dysfunctional patterns (Coughlan & Parkin, 1987; Verbosky & Ryan, 1988). Furthermore, the mental health status of female partners have been found to relate to their relationships with their veteran partners; in particular, the degree of expressiveness in the relationship is a significant factor in affecting the female partners' mental health (Solomon, Waysman, Avitzur, Enoch, 1991).

Intimate partner violence is another issue faced by many veterans and their partners (e.g., Teten, DeBakey, Sherman, & Han, 2008). Surveys of U.S. service

personnel found the overall prevalence of inter-spousal aggression to be 29.9 percent (Pan, Neidig, & O'Leary, 1994). Combat veterans with PTSD, in particular, are more expressive of hostility and prone to physical aggression, in comparison to combat veterans without PTSD (Carroll et al., 1985). Marital discord and depressive symptoms has also been shown to increase the odds of mild and severe physical aggression (Pan et al.). Indeed, 45 percent of veterans with PTSD and 42 percent of depressed veterans perpetrated at least one severe violent act in the last year (Sherman, Sautter, Jackson, Lyons, & Han, 2006), rates that are higher than the general population (Straus & Gelles, 1990). Sherman and colleagues also revealed that veterans with PTSD or depression perpetrate larger number of violent acts than do other couple-therapy-seeking veterans with adjustment disorder or with generic relationship problems. Husbands' brain injuries have also been found to be associated with a decrease in self-esteem for both husbands and their wives and an increase in marital conflict (Kravetz et al., 1995). There is some evidence that the strain placed on both veterans and their partners have led to increased rates of divorce. Reports on Vietnam veterans indicated much higher rates of divorce compared to the rest of the population (Center for Policy Research, as cited in Dekel & Solomon, 2007). In addition, the divorce rate within the Army doubled between 2001 and 2004 (Associated Press, 2005). These studies combined demonstrate the severity of relationship distress experienced by veterans and their partners.

*Effect of Relationship Distress on Individual Functioning*

Not only do veterans' individual mental health affect the quality of their romantic relationships, the quality of the veterans' relationships itself also affect health and

wellbeing of veterans and their partners. Poor relationship functioning negatively impacts health, including cardiovascular, endocrine, immune, neurosensory and other physiological mechanisms (Kiecolt-Glaser & Newton, 2001; Robles & Kiecolt-Glaser, 2003). In addition to its impact on physical health, relationship dissatisfaction is strongly associated with numerous psychological disorders, including depression (Whisman, 2001), anxiety disorders (McLeod, 1994), and alcohol abuse (Halford & Osgarby, 1993; Whisman, Uebelacker, & Bruce, 2006). The impact of relationship distress extends beyond the couples in distress to their children. Couples' distress can negatively impact parent-child relationships (Erel &Burman, 1995) as well as lead to increased risk for social, emotional, behavioral, and academic problems in the couples' children (Cherlin et al., 1991; Grych & Fincham, 1990; Laumakis, Margolin & John, 1998). A meta-analysis on research of children and divorce suggest children with divorced parents fare relatively poorer than children with continuously married parents; specifically, children of divorced parents have lower levels of success at school, are more poorly behaved, exhibit more behavioral problems, have lower self-concept, and experience more difficulties with social relationships (Amato, 2001). Given the negative impact of relationship distress, effective couple therapy is needed to alleviate these problems.

*Efficacy of Couple Therapy*

Numerous efficacy studies have shown couple therapy significantly reduces relationship distress for the average couple. Efficacy studies are typically associated with randomized controlled trails, which include a relatively homogeneous sample recruited for the research study, random assignment of participants to groups of treatment (e.g.,

treatment group versus control group, or two types of treatments), and the use of therapists who are trained in specific interventions and who are expected to deliver interventions in a consistent manner (Hunsley & Lee, 2007). Meta-analyses suggested that, as a whole, couple therapy is more efficacious than no treatment in fostering changes in couple relationships at both post-treatment ($d$ = .79) and at follow-up ($d$ = .*52)* (Sexton, Alexander & Mease, 2004). A review of meta-analyses on couple and family interventions also showed that couple and family interventions are at least as efficacious as other forms of treatment, such as individual therapy (Shadish & Baldwin, 2003). Behavioral couple therapy (BCT) is the form of couple therapy that has been researched most extensively. BCT has garnered empirical support through more than two dozen clinical trials and its effect has been replicated many times (Christensen & Heavey, 1999; Jacobson & Addis, 1993). Meta-analytic studies have found that couples who receive BCT report less relationship distress than those who receive no treatment, with effect sizes ranging from $d$ = .59 to $d$ =.95. (Dunn & Schwebel, 1995; Hahlweg & Markman, 1988; Shadish & Baldwin, 2005; Shadish et al., 1993). Although other forms of couple therapy including integrative behavioral couple therapy (IBCT; Christensen et al., 2004), insight-oriented couple therapy (Snyder & Wills, 1989), and emotion focused couple therapy (EFT; Greenberg & Johnson, 1988; Johnson & Greenberg, 1985), have not been evaluated as extensively as BCT, their efficacy has also been supported by clinical trials.

*Effectiveness of Couple Therapy*

In contrast to efficacy studies, effectiveness studies typically include the evaluation of treatment-as-usual in the community setting. Such studies include the use of therapists who are already working in a clinical setting with clients who are routinely referred for services (Hunsley & Lee, 2007). The effectiveness of couple therapy in community settings is rarely examined. Indeed, only two studies of couple therapy in uncontrolled, naturalistic conditions to date were conducted. One study in Germany (Hahlweg & Klann, 1997) and found the overall pre-post effect size of treatment of 0.28, which is considerably lower than the effect sizes found in efficacy studies. Another study conducted in Norway (Anker, Duncan, & Sparks, 2009) found small effect size of 0.44 on a broad measure of functioning at post-treatment.

*Moving Beyond Efficacy and Effectiveness Studies*

Recently, researchers have moved beyond the traditional dichotomous distinction between efficacy and effectiveness studies (Wright, Sabourin, Mondor, McDuff, & Mamodhoussen, 2007). Wright and colleagues (2007) examined the clinical representativeness of couple therapy using a dataset of 50 couple therapy clinical trials that included both efficacy and effectiveness studies. Consistent with previous research, the effect sizes from these trials suggested that couple therapy promotes significant changes in relationship distress (Wright et al.). Using the definition of clinical representative as the generalizability of recruitment processes, assessment/diagnostic procedures, treatment protocols, and therapeutic results from research settings to

naturalistic treatment settings, Wright and colleagues concluded that the clinical representativiness of couple therapy outcome studies is only fair.

*Predictors of Couple Therapy Outcome*

*Immediately post-treatment.* Despite evidence that couple therapy is efficacious for the average couple, a sizable number of couples (about 29% to 60%) are not responsive to treatment (Christensen et al., 2004; Christensen & Heavey, 1999; Jacobson & Addis, 1993; Shadish & Baldwin, 2005). In addition, although BCT has garnered a lot of empirical support, its treatment effect may not be long lasting. Some follow-up data for BCT suggest its effect is not maintained at two (Jacobson, Schmaling, & Holtzworth-Munroe, 1987) or four years (Snyder, Wills, & Grady-Fletcher, 1991) after therapy. However, a recent study (Christensen et al., 2006) showed much more favorable outcomes for both BCT and IBCT two years after treatment than previous follow-up data on BCT (Jacobson et al.; Snyder et al.). Studies of predictors of outcome have been conducted to help answer the question of which couples do not respond well to therapy. Such studies, however, have yielded inconsistent results (For a review, see Snyder, Castellani, & Whisman, 2006). A recent study (Atkins et al., 2005) examined demographic variables (e.g., age and years married), interpersonal variables (e.g., communication, closeness, and commitment), and intrapersonal variables (e.g., personality and psychopathology) as predictors of outcome. Interpersonal variables were the strongest predictors among the classes of predictors, but their strength was generally confined to explaining couple' initial relationship distress. However, couples who had been married longer had stronger treatment gains than those who had been married

shorter periods of time. Furthermore, couples with lower desire for closeness ultimately performed better in therapy than couples with greater desire for closeness. Overall, the study concluded little predicts therapy outcome.

Most studies on predictors of couple treatment outcome have used client pre-treatment variables as predictors. However, not much is known about how therapists' interventions affect treatment outcome. To my knowledge, only one study has examined therapists' interventions as predictors of family therapy outcome, which included 38.7% couple therapy cases (Russell, Atilano, Anderson, Jurich, & Bergen, 1984). Intervention strategies representing structural, strategic and behavioral approaches to family therapy were used to predict post-therapy perceived life happiness and relationship satisfaction for both partners. After controlling for length of treatment and pre-treatment life happiness, active, structural interventions were associated with increases in male partners' report of life happiness and relationship happiness, whereas relatively gentle interventions that did not actively challenge the family's structure were associated with favorable response among women partners (Russell et al.).

*Long-term follow-up.* Most predictors of couple therapy outcome studies have focused on outcomes at termination; only three studies to date (Baucom, Atkins, Simpson, & Christensen, 2009; Jacobson et al., 1987; Snyder, Mangrum, & Wills, 1993) have examined predictors of couple therapy outcome two years or longer after the end of treatment. A two-year follow-up study that compared full BCT with two of its major components, behavioral exchange and communication/problem-solving training, revealed that stressful life events subsequent to therapy termination were related to lower

levels of relationship satisfaction (Jacobson et al.). In a separate study, couples were more likely to be distressed in their relationships or divorced four years after the end of treatment if their pre-treatment measures reflected high levels of relationship distress, poor problem-solving skills, low psychological resilience, high levels of depression, low emotional responsiveness, or if neither partner was employed at a semiskilled or higher level position (Snyder et al.).

Finally, in a third study, length of marriage was the only significant demographic predictor of relationship satisfaction two years after therapy; longer marriages were significantly associated with positive treatment outcome (Baucom et al., 2009). Additionally, none of the intrapersonal variables, including overall mental health, presence or absence of DSM–IV diagnoses, neuroticism, and family of origin environment, examined in the study were significant predictors. Moreover, none of the self-reported interpersonal variables, including commitment, influence in decision-making, desired closeness, sexual satisfaction, power bases, or communication, emerged as significant predictors. However, power processes measured by latent semantic analysis and expressed emotional arousal assessed by analyzing audiotaped pretreatment program-solving interactions were the strongest predictors of two-year response to treatment but only for couples who were classified as moderately distressed prior to the beginning of treatment. These two variables also moderated differential treatment response. In particular, higher levels of soft influence tactic were associated with greater likelihood of positive treatment response for couples who received IBCT. Female partners' encoded arousal was significantly associated with treatment response for

couples who received both IBCT or BCT. However, stronger effects of encoded arousal were seen for couples who had received BCT than for couples who had received IBCT. Couples who had low encoded arousal from the female partners were more likely to have positive treatment outcome two years after treatment termination.

*Predictors of Couple Therapy Dropout*

Another way to understand variability in couple therapy outcome is through investigating predictors of dropout, or premature termination of treatment. Although the issue of early termination or dropout has been extensively examined in the adult (e.g., Beckham, 1992; Renk & Dinger, 2002) and child (e.g., Kazdin & Mazurick, 1994; Kazdin & Wassell, 1998) treatment literature, there is a relative lack of literature on this topic for couple therapy. In university clinics, the rates of dropout are relatively equal in couple, individual, and family therapy, regardless of whether dropout was defined as not arriving for the initial appointment, attending less than three sessions, or discontinuing treatment before the therapist felt treatment goals were completed (Masi, Miller, & Olson, 2003). Dropout rates in previous studies of couple therapy conducted in university clinics typically range from 15 to 30 percent depending on the definition used (e.g., Mamodhoussen, Wright, Tremblay, & Poitras-Wright, 2005; Masi et al.). The dropout rates in tightly-controlled efficacy studies of couple therapy are typically lower. For example, in the efficacy study of BCT versus IBCT (Christensen et al., 2004), only six percent of couples were considered as dropouts when treatment completion was defined as completing at least ten sessions. However, in this same clinical trial, if the definition of dropout were to include all couples who completed the initial phone screen

but then did not follow through with the pre-treatment assessments, the percentage of dropout increases to 26% (Atkins et al., 2005).

Demographic variables are often investigated as predictors of couple therapy dropout. A study that examined predictors of dropout for 474 couples who attended only the intake interview and the first therapy session found that couples who had less than two children were more likely to drop out of therapy (Allgood & Crane, 1991); demographic variables such as age, education level, and previous therapy experience did not significantly predict dropout (Allgood & Crane). Another study examining couple therapy for couples who attended only one or two sessions found that ethnic minority couples showed a significantly higher rate of dropout (Boddington, 1995). Other demographic variables examined, which included age, number of children, and length of relationship, were not significant predictors of dropout (Boddington). Davis and Dhillon (1989) examined prediction of dropout for couples who attended four or fewer sessions; out of six demographic variables examined, having a common-law relationship was the only variable associated with dropout. Overall, demographic variables are generally not found to be predictive of rates of couple therapy dropout. However, a number of studies examining dropout rates in family therapy demonstrated that socioeconomic status is inversely related to premature termination (e.g., Lake & Levinger, 1960; Pekarik & Stephenson, 1988; Viale-Val, Rosenthal, Curtiss, & Marohn, 1984). Additionally, although some studies of couple (Boddington) and family therapy (Sager, Masters, Ronall, & Normand, 1968; Slipp & Kressel, 1978) have found ethnicity or race of participants to be a significant predictor of dropout, the effect of ethnicity or race is

likely to be spurious and may be washed out when socioeconomic status or the similarity of ethnicity or race of client to therapist is controlled (Bischoff & Sprenkle, 1993; Viale-Val et al., 1984).

Other client variables besides demographics have also been investigated as predictors of dropout in couple therapy. Having a presenting problem relating to only one partner predicted higher rates of early termination (Allgood & Crane, 1991). Additionally, clients who dropped out of couple therapy communicated less overall and initiated less reflective communication than clients who continued therapy (Hollis, 1968). In another study of couple therapy, having low nonmortgage debt within the previous year was the only variable that significantly predicted higher rates of dropout out of ten variables associated with situation and life changes that were examined (Davis & Dhillon, 1988). Pre-treatment relationship satisfaction and individual psychopathology have not been found to significantly predict dropout (Allgood & Crane; Boddington, 1995).

In addition to studies of couple therapy, a variety of predictors of dropout in family therapy have been examined. A study of family therapy showed that families that drop out tend to be less open in the expression of dissatisfaction and disagreement than families who continue in treatment (Kressel & Slipp, 1975). In their review of the family therapy literature, Bischoff and Sprenkle (1993) also found the following variables to be associated with higher likelihood of dropout from family therapy: (1) ethnic background of the client diverges from that of the therapist; (2) clients referred by an institution rather than self-referred or referred by an individual professional; (3) clients who have

not had prior involvement in therapy; (4) male partners' who lack involvement in treatment; (5) parents who are emotionally disturbed when the child is the identified patient; (6) clients in relationship therapy identify their presenting concern as residing in an individual; (7) clients whose presenting concerns cannot be considered chronic, and (8) client expectations for therapy are not met. Additionally, families in family therapy that dropped out tended to be less open in the expression of dissatisfaction and disagreement than families who continued in treatment (Kressel & Slipp).

Therapy process variables have been understudied as predictors of dropout in couple therapy. An early study of dropout in couple therapy found that therapists tended to be more active in making both reflective comments and "ventilative-descriptive-exploratory communications" (p. 171) with clients who dropped out (Hollis, 1968). A study of marriage and family therapy (MFT) that analyzed both couples and families together found certain interventions to significantly discriminate between dropouts and completers of MFT (Anderson, Atilano, Bergen, Russell, & Jurich, 1985). Specifically, families who completed therapy were more frequently exposed to such interventions as firming up appropriate boundaries, escalating conflict, establishing individual boundaries, and advice giving over the entire course of therapy, and such interventions as escalating conflict, paradoxical interventions, advice giving, defusing conflict, restructuring dysfunctional boundaries and homework prescriptions during the initial session (Anderson et al). In addition, active interventions from therapists were also associated with clients completing therapy (Anderson et al.). Research also suggested that family therapists who structure the initial interview (Shields et al., 1991), and family

therapists who remain active in therapy (Alexander et al., 1976; Anderson et al.) were associated with clients continuing therapy.

The association of therapist variables to dropout has also been investigated. Previous research on the association between therapist gender and dropout in couple and family therapy has been mixed. For example, Allgood and Crane (1991) found that having a male therapist at intake predicted increased likelihood of clients dropping out of couple therapy. In contrast, there have been studies of family therapy that did not find male therapists to have a significantly higher dropout rate (Beck & Jones, 1973; Berg & Rosenblum, 1977). There is modest evidence from the individual and family therapy literature to suggest that matching client gender with therapist gender results in lower dropout rates (Beck & Jones; Viale-Val et al., 1984). Previous research on therapist race in predicting dropout in family therapy also had mixed results (Beck & Jones; Viale-Val et al.). Another therapist variable that has been examined in family therapy is therapist experience. Some studies (e.g., Berg & Rosenblum; Slipp & Kressel, 1978) found that therapists with less family therapy training experience had higher dropout rates. Therapist experience particularly affected dropout rates for insight-oriented therapy rather than problem-solving therapy (Slipp & Kressel). Therapist ability to build a strong relationship with families was also somewhat related to families' continuation of therapy (Shields, Sprenkle, & Constantine, 1991). Finally, therapist trainees who were rated high on relationship skill also had fewer client dropouts (Alexander, Barton, & Schiavo, Parsons, 1976).

*Defining Dropout*

In addition to the relative paucity of consistent, significant predictors of dropout, drawing conclusions from the literature on dropout in couple therapy is difficult because a number of definitions have been used to define dropout. Indeed, several researchers have commented on the inconsistency for the defined criteria for dropout or commented on the need for a common definition (e.g., Bischoff & Sprenkle, 1993; Brandt, 1965; Garfield, 1989). Previous dropout criteria include: (1) number of sessions in therapy (e.g., Allgood & Crane, 1991; Boddington, 1995; Carter, Turovsky, Sbrocco, Meadows, & Barlow, 1995; Kressel & Slipp, 1975), (2) failure of the client to show up to a scheduled appointment, regardless of number of previous sessions (Fiester, Mahrer, Giambra, & Ormiston, 1974), (3) therapist classification of client dropout, such as therapists' judgment of whether termination was planned or unplanned (e.g., Allgood, Parham, Salts, & Smith, 1995), therapist judgment that client did not accomplish therapy goals (e.g., Anderson et al., 1985) or client decision to terminate against therapist recommendation (e.g., Fassino, Abbate-Daga, Peiro, Leombruni, & Rovera, 2003), (4) a combination of attending less than a specified number of sessions and therapist classification of client dropout (e.g., Le Fave, 1980; Slipp & Kressel, 1978; Robbins et al., 2006).

There are challenges that relate to common definitions of dropout. For example, dropout criteria relating to number of sessions may be problematic because it is not clear that the minimum number of sessions is able to be determined before the initiation of treatment and, even if it were, that this minimum number of sessions for effective

treatment would be the same for all couples. In contrast, dropout criteria that relate to therapist judgment may be susceptible to therapist bias and likely confounded with level of functioning at the end of therapy and/or amount of gains made in therapy. For example, in individual therapy, therapists have been shown to prefer longer treatment duration than clients (Pekarik & Finney-Owen, 1987) despite evidence that clients in individual therapy show the most rapid change early in therapy (Baldwin, Berkeljon, Atkins, Olsen, & Nielsen, 2009).

Meta-analyses on premature termination have investigated whether rates of dropout varied as a function of dropout definition. A meta-analysis (Sharf, 2008) on individual adult psychotherapy found that rates of dropout did not vary as a function of the four definitions of dropout presented above. In contrast, another meta-analysis (Wierzbicki & Pekarik, 1993) that included individual therapy, group, family, and couple therapy, found that studies that defined dropout in terms of failure to attend a scheduled session had significant lower dropout rates than studies that defined dropouts in terms of therapist judgment or number of sessions attended. In addition, a study that investigated predictors of two different definitions of dropout (in individual and group therapy; Pekarik, 1985) found important differences between these two methods. Specifically, when number of sessions was used to define dropout, no significant predictors of dropout were found. In contrast, when dropout was defined using therapist judgment, significant differences were found between treatment dropouts and completers on 11 of 18 client and therapist variables. Specifically, dropouts included a higher proportion of clients who were eligible for federal assistance, non-Caucasian, had lower

income, and lower education. Dropouts also included higher percentages of children, clients referred by another person or agency, and clients without previous treatment experience. In addition, dropping out was associated with therapists who had little experience, preferred long treatments, and used treatments oriented toward personality change rather than problem-oriented approaches.

The therapist judgment criterion has historically been considered the "gold standard" of defining dropout in that therapists are closely involved in the therapy process and have an inside view on what happens in therapy (Swift, Callahan, & Levine, 2009, Weirzbicki & Pekarik, 1993). However, it is possible that these predictions may be biased due to characteristics of the therapists doing the ratings than with the couples who discontinued treatment. Therapists may base their judgment of whether clients prematurely terminated simply based on how well the couple is faring in therapy at the end of treatment rather than on whether couples have made gains or could continue to make gains in treatment. In the present study, when relationship variable predictors that were reported at pre-treatment significantly predict therapist-defined dropout, follow-up analyses were conducted to examine whether these variables still predict dropout after controlling for amount of change made in therapy. Doing so would help clarify two possible explanations for why pre-treatment relationship characteristics would predict dropout. One possible explanation is that couples who are high or low on a certain pre-treatment relationship characteristic (e.g., low relationship adjustment) would be harder to treat, and therefore making smaller gains in therapy. Another possibility is that a couple who start out low on relationship adjustment in comparison to other couples

simply end up low on the relationship adjustment in comparison to other couples. However this couple has made the same amount of gain as a couple who started out high on the relationship characteristic. If the relationship variable predictors are no longer significant after controlling for amount of change in therapy, this finding would suggest that these relationship characteristics are related to the total gains couples made in therapy. In contrast, if the relationship variables remain significant after controlling for amount of change in therapy, then another phenomenon explains why the relationship variables are related to dropout.

In more recent years, there has been a movement towards moving beyond traditional methods of defining dropout. Researchers have recommended conceptualizing dropout based on client's scores on outcome measures completed at intake and throughout treatment (Hatchett & Park, 2003, Swift et al., 2009). Two particular methods have been proposed (Swift et al.): The more stringent approach classifies clients who discontinue therapy prior to attaining clinically significant change (CSC) to be prematurely terminated. The less stringent approach classifies clients who discontinue therapy prior to attaining reliable change (RC) to be prematurely terminated. One study (Swift et al.), that classified individual adult clients from a university-based training clinic into dropouts and completers using the CSC and RC methods in addition to four traditionally popular methods of defining dropout (failure to attend the intake session, failure to attend median number of sessions, failure to return after a missed appointment, and therapist's judgment), found a large amount of discrepancy in dropout rates among the six methods ranging from 8.1% for the intake only criterion to 77% for

the CSC method. Although the CSC and RC methods provide objective measurements of client recovery, these methods essentially examine treatment outcome rather than "premature" termination because these measures do not determine whether clients would continue to make gains if they were to continue treatment. Furthermore, these methods assume that as long as clients stay in therapy long enough, clients would achieve clinically significant change ore reliable change. In addition, studies on predicting dropout in couple therapy have not employed methods that incorporated such objective measures.

*The Present Study*

Although previous researchers have examined predictors of dropout (Allgood & Crane, 1991; Boddington, 1995; Hollis, 1968), their results may not generalize to couple therapy in VA medical centers, where couples likely experience more distress created by deployment or other stressors relating to service. The goal of the present study was to investigate predictors of dropouts for couple therapy in VA medical centers. In addition, the present study investigated the effect of using three main types of criteria for dropout. Specifically, consistent with previous research, the present study examined dropout defined by not completing a minimum number of sessions and according to therapist judgment (both described in more detail in the method section).

In addition to conventional methods of defining dropout, a third type of criteria defined as whether or not an individual was estimated to be changing at a certain rate at the last session, and therefore could be expected to continue to make important gains if they had continued treatment, was used in the present study. This definition was first

used alone then it was used in combination with a cut-off of whether clients ended therapy in the "recovered" range. This third definition, described in more detail in the method section, is perhaps the most accurate measure of dropout for several reasons. First, research suggest that a statistically method of judgment is more accurate than the previous "gold standard" for defining dropout, therapist judgment (Garb, 2005, Grove, Zald, Lebow, Snitz, & Nelson, 2000, Swift et al, 2009). Second, this method is most consistent with Standard 10.10a outlined in the 2002 American Psychological Association (APA) Ethical Principles of Psychologists and Code of Conduct, which states, "Psychologists terminate therapy when it becomes reasonably clear that the client/patient no longer needs the service, is not likely to benefit, or is being harmed by continued service." Statistically modeling a client's rate of change at their final session is perhaps the best estimate of whether clients would have been likely to continue benefitting from therapy if they had continued in that therapy. This, used in combination with whether clients ended in the "recovered" range also taps into the standard of the client no longer needing services. Third, this method is sensitive to changes in couple therapy given that session-by-session measure of client's relationship satisfaction was used. Having session-by-session information allows for more accurate and sensitive measure of client progress in therapy.

Based on previous research, the following hypotheses were proposed:

(1) Couples with lower socioeconomic status, defined by level of education and income, will be more likely to drop out of therapy.

(2) Relationship variables, including relationship satisfaction, and communication style in response to conflict, will be related to dropout.

(3) Couples will be more likely to drop out if their sessions overall focused more on partner individual problems, transportation or scheduling difficulties, or other non-relationship topics rather than on relationship areas.

(4) Couples will be more likely to drop out if the session content in their last session differed from what happened in a typical session for that particular couple.

(5) Couples who had a team of male therapists will be more likely to drop out of therapy.

(6) Couples who had a team of less experienced therapists will be more likely to dropout of therapy.

(7) Therapist predictors will be most related to therapist defined dropout (criterion 2a).

(8) The session cut-off criterion (1a) will have the least number of predictors.

(9) Session content predictors will be most related to dropout classified at least in part by client's rate of change at the final session (criteria 3a and 3b).

# METHOD

## *Participants*

*Couples*. The present study was conducted as part of a larger ongoing project exploring the effectiveness of care-as-usual couple therapy in the VA healthcare system. A total of 177 couples (354 individuals) who sought therapy in the VA medical centers in Charleston, SC and San Diego, CA were examined. At the start of treatment, 83% of couples were married, 11.4% were cohabiting, and the remaining couples were dating, divorced or separated. Couples had been together for a mean of 13.6 years (*SD* = 12.8; median = 8) and had a mean of 0.9 child (*SD* = 1.2; median = 0). On average, participants were middle-aged (men = 50.2 years, *SD* = 13.6; women = 46.8, *SD* = 13.2) and had some college education (men = 14.2 years, *SD* = 2.7; women = 14.1 years, *SD* = 3.0). Participants were primarily Caucasian (68.5%); other race or ethnicities include African American (18.2%), Latino/Hispanic (9%), Asian or Pacific Islander (3.1%), Native American (0.9%) and other ethnicities (0.3%). Most participants (74.7%) identified with a particular religion. The mean annual household income for the participants were $56,250 (*SD* = $59,672). Participants' level of relationship satisfaction reported on the Dyadic Adjustment Scale varied widely (range = 17-142, with the average participant scoring in the distressed range (for men: mean = 90.6; *SD* = 20.2; for women: mean = 84.9, *SD* = 22.8).

*Therapists*. Therapists with varying level of training, including licensed psychologists, psychology interns, a psychology graduate student, Marriage and Family Therapists (MFT), and MFT trainees, participated in the present study. Therapists also

had varying theoretical orientations, although the majority of treatment was conducted within a behavioral, cognitive-behavioral, or integrative behavioral framework. Most couples were seen by two therapists in a co-therapist team, while other couples were seen by a sole therapist. There was a total of 55 sole or co-therapist teams. Therapists saw couple clients either conjointly as a therapist team or individually on their own. Therapists' level of experience was coded the following way: 0 = MFT trainees, 1 = Psychology trainees, 2 = Psychology interns, 3 = master's level therapists, and 4 = Ph.D. level therapists. For therapists that worked together conjointly as a therapist team, their experience level was coded in two ways: (1) as the mean experience level of the two therapists, and (2) as the person with the highest experience level out of the two therapists.

*Treatment Description*

Couples at the San Diego, CA VA attended a mean of 12.3 sessions (*SD* = 7.8), and couples in Charleston, SC VA attended a mean of 4.5 sessions (*SD* = 3.4). The difference between the number of sessions attended at each site was statistically significant, $t(171) = -8.417$, $p < .001$. According to therapist report, the most commonly used intervention at the two sites were discussions of recent, ongoing conflicts or problems (76% in San Diego and 72% in Charleston) and reviewing couples' patterns (72% in San Diego and 69% in Charleston); the frequency of using these common techniques across the two sites was not statistically different. Therapists at Charleston were significantly more likely to use communication training with couples than therapists in San Diego (53% vs. 30% of sessions, $\chi^2(1) = 56.4$, $p < .001$). In contrast,

therapists in San Diego were more likely to use the following techniques than therapists in Charleston: Discussions about relationship cognitions (48% vs. 14% of sessions; $\chi^2(1) = 111.97$, $p < .001$), empathic joining (46% vs. 11% of sessions; $\chi^2(1) = 121.89$, $p < .001$), behavioral homework (30% vs. 3% of sessions; $\chi^2(1) = 92.32$, $p < .001$), problem-solving training (17% vs. 9.5% of sessions; $\chi^2(1) = 10.41$, $p < .01$), and discussions of upcoming events (7.8% vs. 4.3% of sessions; $\chi^2(1) = 4.60$, $p < .05$).

*Procedure*

During their initial appointment, all couples that were in heterosexual relationships and determined by clinic staff to be appropriate for couple therapy through the two VA clinics were asked to participate in the larger study. The couples were informed that whether or not they choose to participate in the study would not affect the assessment and therapy they will receive. Couples who chose to participate consented for their data to be used for the study. Before the start of couple therapy, participants completed a series of questionnaires about their demographics, individual, and relationship functioning. Additionally, before every therapy session, both partners separately completed a brief measure of relationship functioning. Throughout the course of therapy, and as part of the required charting process, therapists documented the contents covered and techniques used in each session through an electronic form. The institutional review boards (IRBs) at the San Diego, CA and Charleston, SC VA medical centers as well as the IRB at Texas A&M University approved all procedures.

*Measures*

The questionnaires that were used in the present study are described below; except where noted, all measures were administered only at the pre-treatment assessment.

*Demographics questionnaire.* During the intake session, participants completed the demographics and relationship questionnaire, which included questions on age, ethnicity, religiosity, education, income, relationship status, relationship history, and alcohol and drug use history.

*Dyadic Adjustment Scale (DAS; Spanier, 1976).* The DAS is a widely used measure of relationship adjustment consisting of 32 items tapping areas of relationship agreement, satisfaction, and behavior. The DAS had excellent internal consistency in the present study (Cronbach's alpha = .93 for both men and women).

*Therapist record.* After each therapy session, therapists documented the content covered and techniques used in each session through a standardized electronic progress note; the present study used the data on session content. Therapists entered the percentage of time spent on discussing couple-defined target relationship areas, therapist-defined target relationship areas, non-target relationship areas, men's individual problems, women's individual problems, transportation or scheduling difficulties, completion or lack of completion of tasks or homework assignments, couple's lack of commitment to treatment, individual or couple strengths, and other non-relationship topics in the session. The average percentage of time spent on each of these content areas during each session was calculated as a measure of the typical focus of

sessions throughout the course of therapy. In addition, to determine if the focus of the last session differed from a typical session, the average percentage of time spent on a particular content area was subtracted from each content area in each couple's last session.

*Brief Symptom Inventory (BSI; Derogatis,1993).* The BSI is a 53-item self-report questionnaire designed to measure various domains of psychological symptoms. Each item of the BSI is rated on a five-point scale of distress ranging from "not at all" to "extremely." The BSI has demonstrated high test-retest reliability as well as convergent validity, discriminate validity, predictive, and construct validity (Derogatis). In the present study, the global severity index (GSI) was used as a measure of psychopathology. Internal consistency established for the present study was good (Cronbach's alpha = .86).

*Responses to conflict (RTC; Birchler & Fals-Stewart, 1994).* The RTC is a self- and partner-report measure of conflict management. The published RTC (Birchler & Fals-Stewart) contains 24 items providing information on how often one and one's partner engage in maladaptive responses to relationship conflict such as "hit, bite, scratch," "criticize," and "refuse to talk about it." As part of the larger study, four constructive responses to conflict were added to the questionnaire: (1) Focus on solving problem; (2) Discuss differences constructively; (3) Find alternatives; and (4) Negotiate and compromise. As a result, eight items were added as participants reported on both their own behaviors and their partners' behaviors. As part of the larger study, an exploratory factor analysis with direct oblimin rotation was conducted separately for

men and women for the adapted RTC used in the present study. Analyses of scree plots and rotated factor matrices indicated a three-factor solution best fit the data, explaining 73 to 76% of the variance in items. The subscales for the adapted RTC were Criticism (5 items: complain, criticize, sarcasm, yell/scream, swear), Positive Communication (4 items: focus on solving problem, find alternatives, discuss differences constructively, negotiate/compromise), and Withdraw, (3 items: ignore, refuse to talk about it, leave the scene). These subscales demonstrated acceptable to good internal consistency (mean Cronbach alpha = .87, range = .72-.95).

*Quality of Marriage Index (QMI; Norton, 1983).* The QMI is a six-item self-report questionnaire for assessing relationship satisfaction. Respondents indicate their level of agreement to broad, general statements such as "We have a good relationship" and "My relationship with my partner makes me happy." The last question on the QMI is a 10-point scale that asks respondents to rate how happy they are in their relationship, all things considered. In the present study, the QMI had high internal consistency (Cronbach's alpha = .94 for men and .95 for women at intake) and was highly correlated with the Dyadic Adjustment Scale at the intake ($r$ = .73 and .77 for men and women, respectively). Participants completed the QMI at the intake session and at the beginning of all subsequent sessions. In the present study, the QMI was used to model clients' rate of change.

*Termination questionnaire.* At termination, therapists completed a questionnaire to indicate whether or not the "couple had completed what [the therapist] considered to be a full course of therapy."

*Dependent Variables*

The present study used six different definitions of dropout:

*Minimum number of completed sessions.* (1a) A cut-off for minimum number of sessions attended to have a full course of therapy; this number was determined after consultation with the clinic directors at the two VA clinics. The cut-off was determined to be four sessions for the Charleston, SC VA hospital and14 sessions for San Diego, CA VA hospital. Although such cut-off procedure is commonly used in the literature, it is not clinically sensitive because it is difficult to establish a common cut-off across all couples. Therefore, the next criterion was selected to bring more accuracy to the cut-off procedure.

(1b) Establish cut-offs for a minimum number of completed sessions based on each couple's pre-treatment characteristics. Specifically, clinic directors at the two VA couple therapy clinics provided estimates of the minimum numbers of sessions needed to have a full course of therapy based on high, medium, and low level of relationship adjustment and high, medium and low level of individual partner's psychopathology. Given that dropout in couple therapy can be affected by either partner (i.e., both partners are classified as dropping out if one partner does not wish to continue therapy), the weak-link approach (Attridge, Berscheid, & Simpson, 1995) was used. Therefore, consistent with the weak-link model, the highest session cut-off determined by each couple's pre-treatment characteristics was used.

Using the DAS (Spanier, 1976), couples were categorized into high (values above one standard deviation below the population mean; 98 or higher), medium

(between one and two standard deviations below the mean; 97 to 80), or low (two standard deviations or more below the mean; 79 and below) levels of relationship adjustment. Consistent with the weak-link model (Attridge et al., 1995), the level of their relationship adjustment was classified using the score from the partner with the lower score on the DAS (Spanier). At the San Diego, CA and Charleston, SC sites, respectively, the clinic directors expected couples with high levels of relationship adjustment would need a minimum of 14 and three sessions, couples with medium relationship adjustment would require a minimum of 14 and four sessions, and couples with low relationship adjustment would need a minimum of 22 and six sessions.

High, medium, or low levels of individual partner's psychopathology was classified as BSI GSI (Derogatis, 1993) values that are above the population mean (greater than .25 for men; greater than .35 for women), values between the population mean and one standard deviation below the mean (values between .25 and .01 for men, and values between .35 and -.02 for women), and values that are one standard deviation or more below the mean (.01 and below for men, and -.02 and below for women). For each couple, the level of individual psychopathology was classified as low, medium, or high using the score from the partner with the higher score on the BSI GSI (Derogatis). The session cut-off determined for high psychopathology was eight sessions for the Charleston, SC VA hospital, and 22 sessions for the San Diego, CA VA hospital. The director at the Charleston, SC clinic established the session cut-off for medium and low psychopathology to be based entirely on the couple's relationship adjustment. For the San Diego, CA VA hospital, the session cut-off for medium level of psychopathology

was 16 sessions and the session cut-off for low level of psychopathology was 14 sessions.

*Therapist ratings.* (2a) The therapist's rating (Yes/No) of whether the couple had completed "what you consider to be a full course of therapy." Given therapist's rating of whether couple had a full course of therapy may be heavily influenced by how well couple did in therapy, the following modification to criterion (2a) was also examined. (2b) Dropout was classified using a combination of therapist rating, as described in (2a), and a cut-off of whether couples ended therapy in the "recovered" range. This cut-off of whether or not couples ended in the "recovered" range was defined as the midpoint between non-distressed and distressed couples using a score of 30.5 on the QMI (Norton, 1983), identified through IRT analysis of the QMI (Funk & Rogge, 2007). A couple was only classified as prematurely terminated if the couple was both rated as not having a full course of therapy by the therapist and if either partner's estimated level of relationship satisfaction at the final session was below the cut-off for relationship satisfaction (i.e., not in the "recovered" range).

*Estimated rates of change at final session.* The last two criteria of dropout were determined by statistically modeling the clients' rate of change at the final session. (3a) Statistical modeling was conducted to examine whether a client's rate of change at the final session was more than the average rate of change for all clients (ran separately for men and women) across the entire course of therapy; clients who were still demonstrating gains greater than this average rate of change at the final session were considered to have terminated prematurely. The average rate of change across the entire

course of therapy and sample was used as the comparison because it reflected an estimate of the "typical" effectiveness of therapy. A within-individual average was not used as the comparison because it would simply indicate whether an individual's change had begun to slow, which previous analyses in this sample (Doss et al, under review) and other samples of couple therapy (e.g., Christensen et al., 2004) have showed is typical by the end of therapy. (3b) Dropout was classified using a combination of estimated rate of change at the final session (described in 3a) and a cut-off of whether the client ended therapy in the "recovered" range. The cut-off used was the same as the cut-off in (2b). A client was only classified to be prematurely terminated if the client's rate of change at the final session was above the average rate of change for all clients across the entire course of therapy and the client's estimated level of relationship satisfaction at the final session was below the cut-off for relationship satisfaction (i.e., not in the "recovered" range). Each partner's rate of change was modeled in (3a) and (3b). Therefore, predictors of dropout will be examined separately for men and for women for definitions (3a) and (3b).

*Statistical Analysis*

*Classifying dropout.* The last two criteria of dropout (3a and 3b) involving client's rate of change at the final session, was modeled using the following equations with Hierarchical Linear Modeling (HLM; Raudenbush & Bryk, 2002). The level 1 equation was:

$$\text{QMI} = \pi_1(\text{man}) + \pi_2(\text{man time}_{linear}) + \pi_3(\text{man time}_{quadratic}) + \pi_4(\text{woman}) + \pi_5(\text{woman time}_{linear}) + \pi_6(\text{woman time}_{quadratic}) + e \quad (1)$$

Time in level 1 was centered around the final session. Therefore, the value of time became weeks prior to the final session. With this coding, the linear coefficients, $\pi_2$ and $\pi_5$, in Equation 1 represented the instantaneous rate of change at the final session ($\pi_2$ represents the instantaneous rate of change for man, and $\pi_5$ represents the instantaneous rate of change for woman). When these values are greater than the average rate of change for men or women across the entire course of therapy, the couple was classified to have prematurely terminated in definition (3a). For definition (3b), these values are combined with the individual's relationship satisfaction at the final session.

In level 2 equations, change within individuals was nested within couples.

$$\pi_1 = \beta_{10} + r_1 \quad (2a)$$

$$\pi_2 = \beta_{20} + r_2 \quad (2b)$$

$$\pi_3 = \beta_{30} \quad (2c)$$

$$\pi_4 = \beta_{40} + r_4 \quad (2d)$$

$$\pi_5 = \beta_{50} + r_5 \quad (2e)$$

$$\pi_6 = \beta_{60} \quad (2f)$$

Finally, in the level 3 equations, couples were nested within therapists. Only two VA medical centers were included in the present study. Therefore, the weighted effect codes for the VA medical centers were entered in the level 3 equations to control for variability due to the clinics.

$$\beta_{10} = \gamma_{100} + \gamma_{101}(\text{hospital}) + \mu_{10} \quad (3a)$$

$$\beta_{20} = \gamma_{200} + \gamma_{201}(\text{hospital}) \quad (3b)$$

$\beta_{30} = \gamma_{300}$ (3c)

$\beta_{40} = \gamma_{400} + \gamma_{401}(\text{hospital}) + \mu_{40}$ (3d)

$\beta_{50} = \gamma_{500} + \gamma_{501}(\text{hospital})$ (3e)

$\beta_{60} = \gamma_{600}$ (3f)

Model fitting was conducted to test whether there is significant between therapist variability in intercept, linear change, and quadratic change components. Random effects were included for the components that have significant between therapist variability. Because the effects of predictors were assumed to be invariant across therapist and hospitals, the weighted effect of hospitals were not included in Equations 3c and 3f.

*Analytic approach for dropout analyses.* HLM (Raudenbush & Bryk, 2002) was conducted to account for the nesting of instances of dropout within therapists and therapists within hospitals. Equations were formed using guidelines for couples presented by Raudenbush, Brennan, and Barnett (1995). Given the dichotomous nature of our dependent variable, dropout, in (1a), (1b), (2a), and (2b), the HLM 6.08 program (Raudenbush, Bryk, Cheong, & Congdon, 2004) used the following logit link function to model the dependent variable, where $\eta_{cj}$ was the log of the odds of success. While $\phi_{cj}$ was constrained to 0 or 1, $\eta_{cj}$ could take any real value.

$$\eta_{cj} = \log\left(\frac{\phi_{cj}}{1-\phi_{cj}}\right)$$

*Predicting dropout.* The following equations were used to analyze whether therapist and client characteristics predict premature termination.

Level 1

$$\eta_{cj} = \beta_{0j} + \beta_{1j}(\text{predictor}) \quad (4)$$

In level 2 equations, couples were nested within therapists. As in Equations 3a, 3b, 3d, and 3e, the weighted effect code for the two hospitals was entered as a predictor of the intercept at level 2 to account for the nesting of therapists within clinics.

Level 2

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{hospital}) + \gamma_{01}(\text{predictor})_j + \mu_{0j} \quad (5a)$$

$$\beta_{1j} = \gamma_{00j} \quad (5b)$$

The couple and therapist predictors were explored in separate equations, such that when a couple predictor was entered in level 1, no therapist predictors were entered in level 2, and vice-versa.

*Follow-up analyses.* Follow-up analyses were conducted for any significant relationship variable predictors, which included relationship adjustment, and communication style in response to conflict. Specifically, the client's estimated total amount of change was added into equation (4) above to control for amount of change in therapy. For criteria (1a), (1b), (2a), and (2b), a mean average of the amount of change was entered in the equation by taking the average of both partner's scores. For criteria (3a) and (3b), men and women were analyzed separately. These follow-up analyses were intended to bring clarity to reasons why relationship variable predictors would predict dropout.

# RESULTS

## *Frequency of Dropout*

Descriptive analyses were conducted to examine the frequency of dropout determined by the six definitions. Table 1 presents the percentages of couples who were classified as dropouts under each definition in each site. Criterion 1b (session cut-off based on couple's pre-treatment characteristics) had the highest rate of dropout at 84.7% and 90.5% for Charleston and San Diego, respectively, which is over 30% higher than the dropout rate when a uniform session cut-off procedure was used in criterion 1a. Criterion 2a (therapist definition) and criterion 3a (rate of change) identified approximately half of the sample as prematurely terminating. When a distress cut-off was added to criterion 2a and criterion 3a to form criterion 2b and criterion 3b, the dropout rates were cut approximately by a third to a half. Criterion 3b has the lowest rates of dropout (Charleston: 22.7% for men; 30.7% for women; San Diego: 11.9% for men, 13.1% for women).

## *Predictors of Dropout*

HLM were conducted to analyze whether client and therapist characteristics predict premature termination. A number of client characteristics predictors were examined, including demographic variables (income, years of education, relationship status, length of relationship, number of children), relationship variables (level of relationship adjustment, and communication style in response to conflict), and session content variables (overall focus of sessions throughout course of therapy, and whether

the content of the last session differed from that of a typical session). To be conservative, robust standard errors were used for all analyses.

*Minimum number of completed sessions.* As presented in Table 2, there were no significant predictors of whether a couple completed a minimum number of sessions required for a full course of therapy (criterion 1a). When the minimum number of sessions was adjusted based on pre-treatment characteristics (criterion 1b), again no significant demographic variables, relationship variables, or therapist characteristics were found. However, therapy sessions that generally focused on discussing the men's individual problem significantly predicted higher likelihood of premature termination ($b$ = .12, $OR$ = 1.13, $p < .05$).

*Therapist ratings.* As indicated in Table 2, there were four significant relationship variable predictors of therapist's rating on whether the couple had a full course of therapy (criterion 2a). Men's higher relationship adjustment significantly predicted lower likelihood of premature termination ($b$ = -.03, $OR$ = .97, $p < .01$). Additionally, both men's ($b$ = .23, $OR$ = 1.26, $p < .05$) and women's ($b$ = .19, $OR$ = 1.21, $p < .01$) active negative response to conflict such as complaining, criticizing, and swearing, significantly predicted higher likelihood of premature termination. Men's passive response to conflict such as refusing to talk and leaving the scene also significantly predicted higher likelihood of premature termination ($b$ = .29, $OR$ = 1.34, $p < .01$). All of these relationship variable predictors remain significant after controlling for couple's estimated total amount of change in therapy (man's relationship adjustment: $b$ = -.03, $OR$ = .97, $p < .01$; man's active response to conflict: $b$ = .26, $OR$ = 1.30, $p <$

.05; woman's passive response to conflict: $b = .19$, $OR = 1.21$, $p < .01$; man's passive response to conflict $b = .31$, $OR = 1.37$, $p < .01$; see Table 4). Finally, there was also one significant session content predictor: Sessions that typically focused on discussing transportation and scheduling difficulties significantly predicted higher likelihood of premature termination ($b = .52$, $OR = 1.68$, $p < .05$). None of the demographic or therapist characteristics significantly predicted likelihood of dropout.

When the therapist's ratings were used in combination with client's estimated level of relationship satisfaction at the final session (criterion 2b), there were eight significant relationship variable predictors (see Table 2). Both men's and women's relationship adjustment were negatively related to premature termination (men: $b = -.04$, $OR = .96$, $p < .01$; women: $b = -.05$, $OR = .95$, $p < .01$). Men and women's relationship adjustment remained significant predictors even after couple's estimated total amount of change was controlled (women: $b = -.05$, $OR = .96$, $p < .01$; men: $b = -.06$, $OR = .94$, $p < .01$; see Table 4). Additionally, all of the communication style variables were significant predictors of premature termination under criterion (2b). More frequent active and passive responses to conflict significantly predicted higher likelihood of dropout (woman active: $b = .19$, $OR = 1.21$, $p < .05$; man active: $b = .30$, $OR = 1.35$, $p < .01$; woman passive: $b = .16$, $OR = 1.18$, $p < .05$; man passive: $b = .35$, $OR = 1.42$, $p < .01$), whereas more frequent constructive responses to conflict significantly predicted lower likelihood of dropout (woman constructive: $b = -.16$, $OR = .85$, $p < .05$; man constructive: $b = -.18$, $OR = .84$, $p < .05$). All of these communication style in response to conflict variables remained significant predictors even after the couple's estimated

total amount of change was controlled (woman active: $b = .22$, $OR = 1.24$, $p < .01$; man active: $b = .33$, $OR = 1.40$, $p < .01$; woman passive: $b = .16$, $OR = 1.18$, $p < .05$; man passive: $b = .38$, $OR = 1.46$, $p < .01$; woman constructive: $b = -.18$, $OR = .84$, $p < .05$; man constructive: $b = -.21$, $OR = .81$, $p < .01$; see Table 4). None of the demographic and session content predictors were significant. In addition, none of the therapist characteristic predictors were significant.

*Statistical modeling of client change.* As presented in Table 3, when client's rate of change in the final session was used to define dropout (criterion 3a), there were a total of five significant predictors when men's rate of change was used, and a total of two significant predictors when women's rate of change was used. There was one significant demographic variable predictor of whether clients' rates of change at the final session were greater than the average rate of change for all clients across the entire course of therapy (criterion 3a). For men, but not women, having more children significantly predicted lower likelihood of premature termination ($b = -.62$, $OR = .54$, $p < .05$). There were four significant session content predictors for men and two significant session content predictors for women. Specifically, men were more likely to drop out if the sessions on average focused on other non-relationship topics ($b = .05$, $OR = 1.05$, $p < .05$). Furthermore, when the last session focused less on other non-relationship topics in comparison to a typical session, men were more likely to be classified as prematurely terminated ($b = -.10$, $OR = .90$, $p < .01$). An increase in focus on transportation and scheduling difficulties in comparison to a typical session was related to higher likelihood for men to dropout ($b = .04$, $OR = 1.04$, $p < .05$). In addition, clients were more likely to

be classified as prematurely terminated when the last session focused more on couple's target relationship area than in a typical session (men: $b = .02$, $OR = 1.02$, $p < .01$; women: $b = .02$, $OR = 1.02$, $p < .01$). Additionally, for women, but not men, when the last session focused more than usual on men's individual problems, women were less likely to be considered as having terminated prematurely ($b = -.05$, $OR = .95$, $p < .01$). None of the relationship variables and therapist characteristics were significant predictors of criterion (3a).

When client's rate of change in the final session was used in combination with client's estimated level of relationship satisfaction (criterion 3b), more consistent prediction was found across women's and men's categorizations of premature termination. There were a total of seven significant predictors when men's rate of change was used, and a total of eight significant predictors when women's rate of change was used (see Table 3). There was one significant demographic predictor when women's rate of change was used in criterion (3b). In contrast to the results from other criteria used in the present study, higher income predicted lower likelihood of premature termination for women ($b = -.00$, $OR = 1.00$, $p < .01$). There were three relationship predictors for men and two relationship predictors for women. Higher relationship adjustment predicted lower likelihood of premature termination for both men ($b = -.05$, $OR = .95$, $p < .01$) and women ($b = -.03$, $OR = .97$, $p < .01$). Relationship adjustment remained a significant predictor for both men ($b = -.04$, $OR = .96$, $p < .01$) and women ($b = -.02$, $OR = .98$, $p < .05$) even after estimated total amount of change in therapy was controlled (see Table 4). Higher active, negative response to conflict predicted higher

likelihood of premature termination for both men ($b$ = .18, $OR$ = 1.20, $p$ < .05) and women ($b$ = .22, $OR$ = 1.25, $p$ < .05). However, when estimated total amount of change was controlled, active response to conflict only remained a significant predictor for women ($b$ = .18, $OR$ = 1.20, $p$ < .01), but not men. Additionally men's passive response to conflict predicted a higher likelihood of dropout for men ($b$ = .25, $OR$ = 1.28, $p$ < .05). Men's passive response to conflict was also not significant after controlling for estimated total amount of change in therapy.

In addition to the significant demographic and relationship variable predictors described above for criterion (3b), the content of the average session as well as deviations from that average in the last session predicted dropout for men and women. Sessions that typically focused on non-target relationship areas significantly predicted a lower likelihood of premature termination for men ($b$ = -.07, $OR$ = .94, $p$ < .05) and women ($b$ = -.12, $OR$ = .89, $p$ < .05). In contrast, sessions that typically focused on discussing the strength of individual partners or the couple predicted a higher likelihood of men's premature termination ($b$ = .27, $OR$ = 1.31, $p$ < .01). When the last session focused more on transportation and scheduling difficulties than a typical session, the couple was more likely to be classified as prematurely terminated (men: $b$ = .14, $OR$ = 1.15, $p$ < .01; women: $b$ = .14, $OR$ = 1.15, $p$ < .01). Additionally, women were significantly more likely to be classified as a dropout when the last session focused more on couple's target relationship areas ($b$ = .03, $OR$ = 1.03, $p$ < .05) or on other non-relationship topics ($b$ = .05, $OR$ = 1.05, $p$ < .05) than a typical session for that particular couple. Finally, an increase in the focus on the other partners' individual problems in the

final session, but not their own problems, predicted a lower likelihood of men ($b$ = -.09, $OR$ = .91, $p < .05$) and women ($b$ = -.12, $OR$ = .89, $p < .01$) being classified as prematurely terminated. None of the therapist characteristic predictors were significant predictors of criterion (3b).

# DISCUSSION

There has been a relative lack of studies examining dropout in couple therapy in comparison to studies in individual adult (e.g., Beckham, 1992; Renk & Dinger, 2002) and child/family (e.g., Kazdin & Mazurick, 1994; Kazdin & Wassell, 1998) treatment literature. The purpose of the present study was to examine predictors of dropout in couple therapy in the VA medical centers. In addition, the present study investigated the effect of using six definitions of dropout: (1a) a fixed number of minimum sessions, (1b) a fixed number of minimum sessions based on couples' pre-treatment characteristics, (2a) therapist judgment, (2b) therapist judgment combined with level of relationship satisfaction at termination, (3a) estimated rates of change at the final session, and (3b) estimated rates of change in the final session combined with estimated level of relationship satisfaction at termination. Criteria (3a) and (3b) are new procedures of defining dropout that are likely more accurate.

## *Rates of Dropout across Definitions*

The rates of dropout varied widely depending on the definition used to classify dropout. Criterion (1b), session cut-off procedure based on high, medium, and low level of relationship adjustment and high, medium and low level of individual partner's psychopathology, had the highest rates of dropout at 84.7% to 90.5% for Charleston and San Diego, respectively. In other words, nearly 9 out of 10 couples terminated before they received the course of treatment that clinic directors believe they needed as they begun therapy. This high rate of dropout was likely due to the high number of sessions indicated as needed by the clinic directors at the two VA clinics. For example, in the San

Diego, CA VA, the clinic director rated 22 sessions as the minimum number of sessions needed for couples who have low relationship adjustment or high level of psychopathology; this number was almost 2 times higher than the average number of sessions received by couples in the San Diego, CA VA ($M$ = 12.3 sessions per couple). The dropout rate for criterion (1b) was more than 30% higher than the dropout rate for criterion (1a), which classified dropout using a uniform session cut-off procedure for each clinic (4 sessions for Charleston, SC, and 14 sessions for San Diego, CA). The overall session cut-off in criterion (1a) was much shorter than many of the cutoffs used in criterion (1b). These lower session cut-off scores could explain the lower rate of dropout in criterion (1a) in comparison to criterion (1b). Criterion (2a), which classified dropout using therapist's rating on whether a couple had a full course of therapy, had a dropout rate of 79.0% for Charleston and 46% for San Diego. When therapist's rating was combined with couple's estimated level of relationship satisfaction for criterion (2b), the dropout rate was to 54.2 for Charleston and 26.7% for San Diego. According to criterion (2a), therapists believed that about two-third of couples in the study did not have a full course of therapy. However, given that dropout rate was cut about a third to a half when criterion (2b) was used, this decrease indicates that a sizable number of couples that were rated as not having a full course of therapy under criterion (2a) no longer fell within the distressed range at the end of therapy (as indicated by criterion 2b). Similarly, the dropout rate was cut about a half from criterion (3a), estimated rates of change at the final session, to criterion (3b), estimated rates of change at the final session combined with couple's estimated level of relationship satisfaction. Given that criteria

(2b) and (3b) required the couple to not only meet criteria (2a) and (2b), respectively, but to also meet an additional condition of ending therapy in the distressed range, it followed that less couples would meet two conditions as opposed to one condition.

*Demographic Predictors*

Numerous studies in the marriage and family and individual therapy literature have found socioeconomic status to be inversely related to premature termination (e.g., Lake & Levinger, 1960; Pekarik & Stephenson, 1988; Viale-Val, et al., 1984; Weirzbicki & Pekarik, 1993). Studies with only couple therapy cases, however, have found mixed results on whether socioeconomic status predicts dropout (e.g., Boddington, 1995; Hollis, 1968; Mamodhoussen et al., 2005). Besides socioeconomic status, demographic variables have generally not been predictive of dropout in couple therapy (e.g., Allgood & Crane, 1991; Boddington, 1995; Davis & Dhillon, 1989). The present study is consistent with previous literature in that demographic variables generally did not predict dropout. Indeed, there were no significant demographic predictors (income, years of education, relationship status, length of relationship, number of children) for criteria (1a), (1b), (2a), (2b), and (3a) in the present study. Income, however, was found to be a significant predictor for women when criterion (3b), dropout classified using a combination of estimated rate of change at the final session and a cut-off of whether the client ended therapy in the "recovered" range, was used. This finding partially supported hypothesis (1). Women with higher income were significantly less likely to dropout. One reason higher income may be related to lower likelihood of dropout defined by criterion (3b) is that couples with higher income may

be more likely than those with lower income to present for therapy to work on minor issues in the relationship and be less likely to end up in the distressed range at the end of therapy. The only other significant demographic predictor found in the present study was number of children couples have. Men who have more children were more likely to dropout when dropout was defined using criterion (3a), or estimated rate of change at the final session. Overall, with only two exceptions, demographic variables did not predict dropout in the present study.

*Relationship Predictors*

Relationship variables (level of relationship adjustment and communication style in response to conflict) were also examined as predictors of dropout. Partners' relationship adjustment and communication style in response to conflict generally significantly predicted therapists' ratings of premature termination whether or not estimated level of satisfaction at termination was included (criteria 2a and 2b) as well as dropout defined by clients' rate of change at the final session combined with clients' estimated level of relationship satisfaction at the final session (criterion 3b). Specifically, lower relationship adjustment and negative response to conflict predicted dropout while constructive response to conflict predicted staying in treatment. This general pattern supported hypothesis (2). These results suggest that the presence of conflict itself in couples' relationship is not necessary a sign of danger; rather, *how* couples respond to conflict may either protect couples from dropout or lead to dropout.

There seemed to be two possible explanations for this pattern. First, couples who began couple therapy more distressed and had poorer responses to conflict may have

been more difficult to treat and have shown fewer gains in therapy. Alternatively, it could be that these variables predicted definitions (2a), (2b), and (3b) of dropout simply because couples who entered therapy more distressed also tended to end therapy more distressed. To contrast these two explanations, gains in therapy were controlled for and predictions from initial relationship satisfaction and communication style in response to conflict were reexamined. After controlling for estimated amount of change in therapy, level of relationship adjustment and poor conflict management generally remained significant predictors for dropout across definitions (2a, 2b, and 3b); thus, it appears to predicts dropout in these definitions because couples who began therapy more distressed also tended to end therapy at a more distressed level. Therefore, therapists' ratings of premature termination (and criterion 3b which specifically included termination distress level) appear to be heavily influenced by the couple's level of functioning at termination. Indeed, the fact that initial relationship functioning did not predict rates of change at the final session when post-treatment levels of distress were not included (criterion 3a) further supports this conclusion. The only exception to this general pattern was that men's likelihood of premature termination according to criterion (3b) was no longer predicted by active and passive response to conflict when total amount of change in therapy was controlled.

*Session Content Predictors*

*Average session content.* There has been a lack of literature examining therapy process variables as predictors of dropout in couple therapy. The present study examined whether the typical session content discussed in therapy predicted dropout. Consistent

with hypothesis (3), therapy sessions that generally focused on discussing men's individual problems significantly predicted dropout based on minimum number of sessions needed for couple's pre-treatment characteristics (criterion1b). This finding is consistent with the previous finding in literature that having a presenting problem relating to only one partner predicted higher rates of early termination (Allgood & Crane, 1991; Bischoff & Sprenkle, 1993). In contrast, sessions that typically focused on women's individual problem or on other non-relationship topics did not significantly predict dropout. Furthermore, a focus on discussing men's individual problems is limited to predicting number of sessions needed given client's pre-treatment characteristics rather than predicting other definitions of dropout. It is possible that the men's individual problem may have interfered with couple therapy more so than women's individual problem. Given that the majority of veterans in the study are men, men are more likely than women to have directly experienced stressors from combat or deployment that would require longer course of treatment (criteria 1b). In addition, men in the present study have higher levels of psychopathology than women (Doss et al., under review). It is also possible that session content that typically focused on men's individual problem only predicted dropout defined by criterion (1b) because this definition adjusted the minimum number of sessions based on client's pre-treatment characteristics including individual psychopathology.

Also consistent with hypothesis (3), sessions that typically focused on discussing transportation and scheduling difficulties significantly predicted therapist's rating on whether the couple had a full course of therapy (criterion 2a). Couples with sessions that

typically focused on discussing transportation and scheduling difficulties were most likely not engaged in therapy, which then led to premature termination. However, given that a focus on discussing transportation and scheduling difficulties did not predict dropout that is defined by session number or client's estimated rate of change at the final session, this finding may be due to therapist bias. Therapists may feel frustrated with spending the sessions discussing transportation and scheduling difficulties, and thus more likely to classify these couples as not having a full course of therapy.

Given that criterion (3a) and criterion (3b) are the most sensitive to what happens in therapy, as expected, there were the most session content predictors for these two definitions. Discussing other non-relationship topics predicted a higher likelihood of dropout defined by rate of change at the final session (criterion 3a) for men, but not for women. This finding points to the importance of engaging men in therapy as suggested by previous literature in family therapy (Berg & Rosenblum, 1977; Le Fave, 1980). Sessions that typically focused on non-target relationship areas predicted lower likelihood of dropout defined by rate of change at the final session and distress cutoff (criterion 3b). This finding was surprising and seemed counter-intuitive. Even though the sessions were not focused on the target relationship areas that the couple initially presented with, perhaps the sessions focused on relationship areas that still benefitted the couple. It is also possible that the therapist directed the session towards focusing on relationship areas that were not part of the couple's original presenting concern because the couple had resolved their target relationship concerns early on in therapy and instead needed to move on to other, non-target relationship areas. Finally, sessions that typically

focused on individual or couple strengths predicted a higher likelihood of dropout defined by rate of change at the final session and distress cutoff (criterion 3b) for men. It may be that these men were classified as being prematurely terminated because their rate of change at the final session were above the average rate of change for all men across the entire course of therapy and their relationship satisfaction were in the distressed range at the final session. It is possible that therapists felt a pull to encourage distressed couples by reminding each individual partner and couple of their strengths. Although further research is needed to clarify the mechanisms of change, it is possibly that these distressed men were not receptive to this particular intervention from the therapists. Therapists would be encouraged to regularly assess whether clients are making gains from the specific interventions, including topics discussed, in session.

*Last session deviation from average session*. It was hypothesized that couples would be more likely to drop out if the session content in their last session differed from what happened in a typical session for that particular couple (hypothesis 4). Given that the rate of session contents discussed remained consistent throughout the course of therapy (Hsueh & Doss, in preparation), the deviation of the focus in a last session from a typical session can be thought of as shifts from what would be expected to happen in a last session. The findings on session content variables partially supported this hypothesis. The way the final session deviates from a typical session only predicted dropout that was defined by criterion (3a), client's having gains greater than average rate of change at the final session, and criterion (3b), client's having gains greater than average rate of change at the final session and being in the distressed range at the final

session. It is likely that looking at how session content in the last session differed from a typical session for a couple only predicted criteria (3a) and (3b) because these criteria were the only criteria that directly measured the rate of change in the final session. Criteria (3a) and (3b) are likely to be more sensitive to therapy progress than the other four definitions of dropout.

Although the specific mechanisms leading from an increase in discussing a certain topic in the last session compared to a typical session is unclear, the overall findings of the present study indicate that therapists may benefit from giving clients a rationale for a shift in therapy session content. Giving clients "informed consent" about such shifts in session content may help the clients stay engaged in therapy even when they have already made above average gains in therapy.

Consistent with hypothesis (4), the more the last session focused on a couple's target relationship area in comparison to a typical session for that particular couple, the more likely men and women dropped out of treatment according to criterion (3a) and women dropped out of treatment according to criterion (3b). This finding suggests that if therapy was focusing more on the couple's target relationship area at the final session compared to a typical session, the couples were more likely to be still making gains and therefore more likely to have been classified as prematurely terminated. However, it is unclear why these couples prematurely terminated despite making above average gains in therapy.

An increase in focus on men's individual problems in the last session in comparison to a typical session predicted a lower likelihood of women's dropout for

both criteria (3a) and (3b). Similarly, an increased focus on women's individual problem in the last session compared to a typical session predicted a lower likelihood of men's dropout according to criterion (3b). Given that the focus of couple treatment has shifted into an increase in discussing the other partner's individual problems, the client would be less likely to still be making gains above the average rate even when s/he was not in the "recovered" range, and thus less likely to dropout prematurely.

An increase in focus on transportation and scheduling difficulties in the last session compared to a typical session predicted a higher likelihood of dropout for men using criterion (3a) and for both men and women using criterion (3b). This finding suggests that couples were still making gains above the average rate of change in the final session and more likely to be considered dropouts. It is likely that these couples were not able to follow-through with therapy even after a discussion on transportation and scheduling difficulties in the last session. In other words, transportation and scheduling difficulties prevented the couple from continuing therapy. Given this finding, therapists may help the clients pay attention to the natural draw some clients may experience to stop attending session when clients experience transportation and scheduling difficulties. Helping the clients anticipate this possibility as well as point to the importance of commitment to therapy may immunize the clients from dropping out prematurely. Furthermore, therapists may benefit from keeping the sessions focused on the couple's relationship concerns rather than on peripheral issues such as transportation and scheduling difficulties.

The finding that focusing more on other non-relationship topics in the last session compared to a typical session predicted a decrease likelihood of men dropping out when criterion (3a) was used and predicted an increase likelihood in women dropping out when criterion (3b) was used was perhaps the most puzzling finding in the present study. This finding again points to the importance of further investigation to clarify the relation between session content used in session and client dropout. Overall, because several variables measuring deviations from the typical session content predicted client dropout, clients may benefit from treatment when therapists emphasize their rationale for shifting focus in treatment.

*Therapist Characteristic Predictors*

Previous literature on the association of therapist gender, race, and experience to dropout has been mixed (e.g., Allgood & Crane, 1991; Beck & Jones, 1973; Berg & Rosenblum, 1977; Slipp & Kressel, 1978; Viale-Val et al., 1984). The present study examined whether therapist gender and level of experience predicted dropout. It was hypothesized that couples who had a team of male therapists (hypothesis 5) or who had a team of less experienced therapists (hypothesis 6) will be more likely to drop out of therapy (hypothesis 5). None of the variables examined predicted dropout across all six definitions. Additionally, hypothesis (7) of the present study, stating that therapist predictors will be most related to therapist-defined dropout, was not supported. The present study's finding on therapist gender not being a predictor of dropout, combined with previous mixed findings, suggests that gender is likely not a robust predictor of couple therapy dropout. The present study's finding on therapist's experience not being

predictive of dropout is consistent with previous finding in the couple therapy literature that therapist experience does not influence the effectiveness of therapy (Christensen & Jacobson, 1994). However, this null finding may also be due to the difference in measures used in the present study in comparison to previous studies. For example, Berg and Rosenblum (1977) found that the percentage of families successfully engaged in therapy was not significantly related to the number of years the therapist worked as family therapist, but it was significantly related to the number of family training experiences, such as workshops and courses, that the therapist attended.

*Number of Predictors Across Definitions of Dropout*

Consistent with hypothesis (8), the session cut-off criterion (1a) had the least number of predictors. This general lack of prediction may be due to the arbitrary nature of selecting a minimum number of sessions for all couples. Even when the cut-off procedure was modified based on the couple's pre-treatment characteristics in the present study, there was only one significant predictor of this dropout definition (1b). Criteria that were based at least in part by therapists' judgment (2a and 2b), had the most number of relationship variable predictors, which, given that these predictions still held after controlling for gains in therapy, suggest that therapists tend to base their ratings on the couples' relationship functioning at termination. Finally, as discussed above, and consistent with hypothesis (9), session content predictors were most related to dropout classified at least in part by client's rate of change at the final session.

*Limitations and Future Directions*

The results of the present study should be interpreted with caution due to a number of limitations. First, the measures of the present study were based on self-report from the clients and therapists. Although the present study employs measures of session content, it is possible that different therapists who completed these measures interpreted these items differently. Observational coding may be a more precise measure of session content than therapist's self-report. Second, although the present study examined session content variables as predictors of dropout, the relation between the session contents used and client dropout is unclear. Future studies should employ sensitive measures of dropout such as criteria (3a) and (3b) in the present study and employ methodologies that would enable investigators to determine the causal links between therapy process and dropout (e.g., Doss, 2004). Third, the present study had limited measures of therapist characteristics that were limited to observable traits and states. Future studies should examine other therapist characteristics such as personality, therapeutic orientation, and therapeutic style. Fourth, given the increasing focus within the VA Healthcare System on couple therapy to assist Operation Enduring Freedom (OEF)/Operation Iraqi Freedom (OIF) veterans and their partners, it is unclear how the present findings from two VA medical centers would generalize to other VA medical centers. Finally, given that the present study focused on examining predictors of dropout in the VA healthcare system, future studies could compare whether the same variables predict dropout in a different clinical setting. Despite these limitations, the present study offers a first look at dropout

of couple therapy in the VA medical centers. In addition, the present study explored new ways of defining dropout that may be considered by researchers in the future.

# CONCLUSION

The present study investigated the effect of using three main types of dropout: dropout definitions that involved using session cut-off procedure, dropout definitions that involved therapist judgment procedure, and dropout definition that involved statistically modeling estimated rate of change at the final session. Using client's rate of change in the final session to help define dropout is the most accurate way for defining dropout for several reasons. This type of procedure removes therapist bias and is most consistent with APA Standard 10.10a for terminating therapy. The present study also aimed to identify predictors of dropout. With a few exceptions, demographic variables generally did not predict dropout. Therapist characteristics, including gender and level of education, also did not predict dropout. Relationship variables predicted dropout most consistently when dropout was defined using a combination of therapist judgment and a distress cut-off, suggesting that therapists were likely to base their ratings on how the couple was doing in their relationship at the end of therapy. Session content variables predicted dropout when dropout was defined at least in part by client's rate of change at the final session, suggesting that this type of procedure was the most sensitive to therapy process. Results suggest that therapists may benefit from an increase awareness of engaging each partner, particularly men, in therapy. In addition, therapists may benefit from assessing whether clients are making gains from the interventions in therapy and providing the clients a rationale for a shift in intervention when the therapist sense that a shift in session content is needed.

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# APPENDIX A

Table 1

*Percentage of Premature Termination Classified by Definition (1a), (1b), (2a), (2b), (3a) and (3b) for each site*

| | % Considered Prematurely Terminated | | | | | |
|---|---|---|---|---|---|---|
| | Charleston, SC | | | San Diego, CA | | |
| Premature Termination Definition | Couple | Man | Woman | Couple | Man | Woman |
| 1a – Minimum number of sessions | 48.2 | - | - | 59.8 | - | - |
| 1b – Minimum number of sessions based on couple's pre-treatment characteristics | 84.7 | - | - | 90.5 | - | - |
| 2a – Therapist's rating on whether couple had a full course of therapy | 79.0 | - | - | 46.0 | - | - |
| 2b – Therapist's rating combined with couple's estimated level of relationship satisfaction | 54.2 | - | - | 26.7 | - | - |
| 3a – Estimated rates of change at the final session | - | 54.2 | 56.6 | - | 40.4 | 47.9 |
| 3b – Estimated rates of change at the final session combined with couple's estimated level of relationship satisfaction | - | 22.7 | 30.7 | - | 11.9 | 13.1 |

*Note*. Hyphens indicate that a particular definition of dropout was not explored at the individual or couple level.

Table 2

*Prediction of Premature Termination Classified by Definition (1a), (1b), (2a), and (2b)*

| | 1a | | | 1b | | | 2a | | | 2b | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Predictor | *b* | *SE* | *OR* | *b* | *SE* | *OR* | *b* | *SE* | *OR* | *b* | *SE* | *OR* |
| Income | -.00 | .00 | 1.00 | -.00 | .00 | 1.00 | -.00 | .00 | 1.00 | -.00 | .00 | 1.00 |
| Woman's years of education | .01 | .06 | 1.01 | -.02 | .05 | .98 | -.06 | .07 | .94 | -.12 | .06 | .89 |
| Man's years of education | .08 | .07 | 1.09 | .03 | .11 | 1.03 | -.04 | .05 | .96 | -.06 | .06 | .94 |
| Relationship status | -.16 | .16 | .86 | -.03 | .20 | .97 | -.17 | .22 | .84 | -.26 | .20 | .77 |
| Length of relationship | .00 | .01 | 1.00 | .01 | .02 | 1.01 | .00 | .01 | 1.00 | .00 | .02 | 1.00 |
| Children | -.56 | .31 | .57 | .07 | .47 | 1.08 | .24 | .36 | 1.27 | .50 | .36 | 1.65 |
| Woman's relationship adjustment | .00 | .01 | 1.00 | -.01 | .01 | .99 | -.02 | .01 | .98 | -.04** | .01 | .96 |
| Man's relationship adjustment | .00 | .01 | 1.00 | -.00 | .01 | 1.00 | -.03** | .01 | .97 | -.05** | .01 | .95 |
| Woman's active response to conflict | -.02 | .08 | .98 | .14 | .08 | 1.15 | .04 | .08 | 1.04 | .19* | .08 | 1.21 |
| Man's active response to conflict | .04 | .08 | 1.04 | .13 | .13 | 1.14 | .23* | .10 | 1.26 | .30** | .11 | 1.35 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Woman's passive response to conflict | -.06 | .09 | .95 | .05 | .08 | 1.05 | .19** | .07 | 1.21 | .16* | .08 | 1.18 |
| Man's passive response to conflict | .01 | .09 | 1.01 | .04 | .10 | 1.04 | .29** | .10 | 1.34 | .35** | .09 | 1.42 |
| Woman's constructive response to conflict | .07 | .07 | 1.08 | -.04 | .08 | .96 | -.10 | .08 | .91 | -.16* | .08 | .85 |
| Man's constructive response to conflict | -.04 | .08 | .96 | .06 | .09 | 1.06 | -.06 | .08 | .95 | -.18* | .08 | .84 |
| Couple's target relationship area | .01 | .01 | 1.01 | .01 | .01 | 1.01 | -.01 | .01 | .99 | -.01 | .02 | .99 |
| Clinician's target relationship area | -.00 | .02 | 1.00 | -.03 | .02 | .97 | .01 | .01 | 1.01 | .00 | .02 | 1.00 |
| Non-target relationship area | .02 | .01 | 1.02 | .01 | .01 | 1.01 | .01 | .02 | 1.01 | -.00 | .02 | 1.00 |
| Man's individual problem | -.01 | .02 | .99 | .12* | .06 | 1.13 | .01 | .02 | 1.01 | .03 | .03 | 1.03 |
| Woman's individual problem | -.00 | .03 | 1.00 | .06 | .04 | 1.06 | .00 | .03 | 1.00 | .02 | .03 | 1.02 |
| Transportation and scheduling difficulties | .09 | .13 | 1.10 | -.03 | .14 | .97 | .52* | .24 | 1.68 | .09 | .17 | 1.09 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Completion of task assignment | -.03 | .04 | .97 | -.00 | .03 | 1.00 | -.02 | .02 | .98 | -.01 | .03 | .99 |
| Couple's lack of commitment to treatment | -.14 | .09 | .87 | -.06 | .08 | .94 | -.04 | .11 | .96 | .15 | .10 | 1.16 |
| Other non-relationship topics | -.00 | .03 | 1.00 | -.05 | .04 | .95 | .03 | .03 | 1.03 | -.01 | .03 | .99 |
| Individual or couple strengths | .00 | .20 | 1.00 | -.11 | .13 | .90 | -.01 | .16 | .99 | .10 | .14 | 1.11 |
| Couple's target relationship area-last session deviation | .01 | .01 | 1.01 | -.00 | .01 | 1.00 | -.00 | .01 | 1.00 | -.00 | .01 | 1.00 |
| Clinician's target relationship area-last session deviation | -.02 | .01 | .98 | .00 | .03 | 1.00 | -.01 | .01 | .99 | .00 | .01 | 1.00 |
| Non-target relationship area-last session deviation | -.00 | .01 | 1.00 | .01 | .01 | 1.01 | -.00 | .01 | 1.00 | .01 | .01 | 1.01 |
| Man's individual problem-last session deviation | .01 | .02 | 1.01 | .01 | .02 | 1.01 | .02 | .02 | 1.02 | .01 | .02 | 1.01 |
| Woman's individual | .01 | .02 | 1.01 | -.02 | .02 | .98 | .02 | .02 | 1.02 | -.02 | .02 | .98 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| problem-last session deviation | | | | | | | | | | | | |
| Transportation and scheduling difficulties-last session deviation | .01 | .04 | 1.01 | .01 | .04 | 1.01 | .27 | .14 | 1.31 | .25 | .16 | 1.29 |
| Completion of task assignment-last session deviation | .02 | .04 | 1.02 | .02 | .02 | 1.02 | .03 | .03 | 1.03 | -.00 | .01 | 1.00 |
| Couple's lack of commitment to treatment-last session deviation | -.02 | .02 | .98 | -.02 | .01 | .98 | -.01 | .02 | .99 | .02 | .02 | 1.02 |
| Other non-relationship topics- last session deviation | -.02 | .03 | .98 | .10 | .05 | 1.10 | -.00 | .02 | 1.00 | .02 | .02 | 1.02 |
| Individual or couple strengths- last session deviation | -.03 | .08 | .97 | -.08 | .05 | .92 | -.09 | .08 | .92 | -.08 | .09 | .92 |
| Therapist gender | | | | | | | | | | | | |
| Women | -.24 | .47 | .79 | .46 | .70 | 1.59 | .25 | .35 | 1.28 | .33 | .48 | 1.40 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Men | -.61 | .41 | .55 | -.60 | .72 | .55 | -.09 | .57 | .92 | .52 | .65 | 1.68 |
| Therapist average experience level | .19 | .22 | 1.20 | .19 | .30 | 1.21 | -.23 | .16 | .79 | -.32 | .21 | .73 |
| Therapist highest experience level | .12 | .16 | 1.12 | .13 | .24 | 1.14 | -.07 | .12 | .94 | -.19 | .15 | .83 |

*Note.* * $p < .05$, ** $p < .01$.

Criterion (1a) was a session cut-off procedure across all couples, criterion (1b) was a session cut-off procedure based on the couple's pre-treatment level of relationship adjustment and psychopathology, criterion (2a) was the therapist's rating on whether the couple had a full course of therapy, and criterion (2b) was the therapist's rating used in combination with the couple's estimated level of relationship satisfaction, so that a couple was only classified as prematurely terminated if the couple was both rated as not having a full course of therapy and if either partner's estimated level of relationship satisfaction at the final session was below the cut-off for relationship satisfaction (i.e., not in the "recovered" range).

Table 3

*Prediction of Premature Termination Classified by Definition (3a), and (3b)*

| | 3a-Man | | | 3a-Woman | | | 3b-Man | | | 3b-Woman | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Predictor | *b* | *SE* | *OR* | *b* | *SE* | *OR* | *b* | *SE* | *OR* | *b* | *SE* | *OR* |
| Income | .00 | .00 | 1.00 | .00 | .00 | 1.00 | -.00 | .00 | 1.00 | -.00* | .00 | 1.00 |
| Woman's years of education | -.03 | .05 | .97 | -.01 | .05 | .99 | .00 | .06 | 1.00 | .03 | .06 | 1.03 |
| Man's years of education | -.00 | .07 | 1.00 | .02 | .06 | 1.02 | -.12 | .08 | .89 | -.06 | .09 | .94 |
| Relationship status | -.08 | .13 | .93 | -.06 | .14 | .95 | -.33 | .24 | .72 | -.09 | .15 | .91 |
| Length of relationship | .00 | .01 | 1.00 | .01 | .01 | 1.01 | .02 | .02 | 1.02 | .02 | .02 | 1.02 |
| Children | -.62* | .31 | .54 | -.47 | .29 | .62 | -.21 | .42 | .81 | .22 | .46 | 1.25 |
| | | | | | | | | | | | | |
| Relationship adjustment | -.00 | .01 | 1.00 | .00 | .01 | 1.00 | -.05** | .01 | .95 | -.03** | .01 | .97 |
| Active response to conflict | .01 | .07 | 1.01 | .12 | .10 | 1.13 | .18* | .09 | 1.20 | .22* | .09 | 1.25 |
| Passive response to conflict | .06 | .11 | 1.06 | .01 | .07 | 1.01 | .25* | .12 | 1.28 | .09 | .07 | 1.10 |
| Constructive response to conflict | .05 | .12 | 1.05 | .05 | .08 | 1.05 | -.17 | .16 | .85 | -.02 | .09 | .98 |
| Couple's target relationship area | -.00 | .01 | 1.00 | -.01 | .01 | .99 | -.00 | .02 | 1.00 | .00 | .02 | 1.00 |
| Clinician's target relationship area | -.02 | .02 | .98 | .01 | .01 | 1.01 | -.02 | .02 | .98 | -.03 | .02 | .97 |
| Non-target relationship area | .02 | .02 | 1.02 | .00 | .02 | 1.00 | -.07* | .03 | .94 | -.12* | .05 | .89 |
| Man's individual problem | -.01 | .03 | .99 | -.02 | .03 | .98 | .02 | .03 | 1.02 | .02 | .03 | 1.02 |
| Woman's individual problem | -.03 | .03 | .97 | -.02 | .03 | .98 | .04 | .04 | 1.04 | .05 | .04 | 1.05 |
| Transportation and scheduling difficulties | .13 | .11 | 1.14 | .15 | .13 | 1.16 | .33 | .19 | 1.39 | .35 | .21 | 1.41 |
| Completion of task assignment | .02 | .03 | 1.02 | .01 | .03 | 1.01 | .03 | .03 | 1.03 | .01 | .03 | 1.01 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Couple's lack of commitment to treatment | -.05 | .05 | .95 | -.11 | .06 | .90 | .12 | .11 | 1.12 | .05 | .11 | 1.05 |
| Other non-relationship topics | .05* | .02 | 1.05 | .03 | .03 | 1.03 | -.05 | .06 | .95 | -.08 | .07 | .93 |
| Individual or couple strengths | .12 | .14 | 1.13 | .09 | .14 | 1.10 | .27** | .10 | 1.31 | .11 | .15 | 1.12 |
| Couple's target relationship area-last session deviation | .02** | .01 | 1.02 | .02** | .01 | 1.02 | .02 | .01 | 1.02 | .03* | .01 | 1.03 |
| Clinician's target relationship area-last session deviation | -.01 | .01 | .99 | -.01 | .01 | .99 | -.00 | .01 | 1.00 | .01 | .01 | 1.01 |
| Non-target relationship area-last session deviation | -.02 | .01 | .98 | -.00 | .01 | 1.00 | -.02 | .01 | .98 | -.01 | .01 | .99 |
| Man's individual problem-last session deviation | -.03 | .02 | .97 | -.05** | .02 | .95 | -.05 | .06 | .95 | -.12** | .04 | .89 |
| Woman's individual problem-last session deviation | -.01 | .02 | .99 | .00 | .02 | 1.00 | -.09* | .05 | .91 | -.09 | .05 | .92 |
| Transportation and scheduling difficulties-last session deviation | .04* | .02 | 1.04 | .09 | .06 | 1.09 | .14** | .04 | 1.15 | .14** | .04 | 1.15 |
| Completion of task assignment-last session deviation | -.00 | .03 | 1.00 | .00 | .03 | 1.00 | -.04 | .02 | .96 | -.02 | .02 | .98 |
| Couple's lack of commitment to treatment-last session deviation | -.01 | .01 | .99 | -.01 | .02 | .99 | -.00 | .02 | 1.00 | -.01 | .02 | .99 |
| Other non-relationship topics- last session deviation | -.10** | .03 | .90 | -.01 | .03 | .99 | -.04 | .02 | .96 | .05* | .02 | 1.05 |
| Individual or couple strengths- last | .01 | .08 | 1.01 | -.01 | .09 | .99 | .02 | .08 | 1.02 | .01 | .08 | 1.01 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| session deviation | | | | | | | | | | | | |
| Therapist gender | | | | | | | | | | | | |
| Women | .02 | .56 | 1.02 | .18 | .54 | 1.19 | -.13 | .61 | .88 | -.35 | .67 | .70 |
| Men | .23 | .60 | 1.26 | -.14 | .42 | .87 | .28 | .79 | 1.32 | .09 | .39 | 1.10 |
| Therapist average experience level | -.00 | .26 | 1.00 | -.03 | .26 | .97 | -.31 | .28 | .74 | -.12 | .25 | .89 |
| Therapist highest experience level | -.03 | .23 | .97 | .01 | .23 | 1.01 | -.25 | .22 | .78 | -.07 | .24 | .94 |

*Note.* * $p < .05$, ** $p < .01$.

Criterion (3a) was the estimated rates of change at the final session, and criterion (3b) was the estimated rates of change at the final session used in combination with the couple's estimated level of relationship satisfaction, so that a couple was only classified as prematurely terminated if the couple was both still making greater gains than then the average rate of change across therapy and was not in the "recovered" range.

Table 4

*Prediction of Premature Termination after Controlling for Estimated Total Amount of Change*

| | 2a | | | 2b | | | 3b-Man | | | 3b-Woman | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Predictor | *b* | *SE* | *OR* | *b* | *SE* | *OR* | *b* | *SE* | *OR* | *b* | *SE* | *OR* |
| Woman's relationship adjustment | - | - | - | -.05** | .01 | .96 | - | - | - | -.02* | .01 | .98 |
| Man's relationship adjustment | -.03** | .01 | .97 | -.06** | .01 | .94 | -.04** | .01 | .96 | - | - | - |
| Woman's active response to conflict | - | - | - | .22** | .08 | 1.24 | - | - | - | .18* | .08 | 1.20 |
| Man's active response to conflict | .26* | .10 | 1.30 | .33** | .11 | 1.40 | .14 | .09 | 1.16 | - | - | - |
| Woman's passive response to conflict | .19** | .07 | 1.21 | .16* | .08 | 1.18 | - | - | - | - | - | - |
| Man's passive response to conflict | .31** | .10 | 1.37 | .38** | .09 | 1.46 | .26 | .14 | 1.30 | - | - | - |
| Woman's constructive response to conflict | - | - | - | -.18* | .08 | .84 | - | - | - | - | - | - |
| Man's constructive response to conflict | - | - | - | -.21** | .08 | .81 | - | - | - | - | - | - |

*Note.* * $p < .05$, ** $p < .01$.

Hyphens indicate that the analysis was not conducted.

Criterion (2a) was the therapist's rating on whether the couple had a full course of therapy, criterion (2b) was the therapist's rating used in combination with the couple's estimated level of relationship satisfaction, so that a couple was only classified as prematurely terminated if the couple was both rated as not having a full course of therapy and if either partner's estimated level of relationship satisfaction at the final session was below the cut-off for relationship satisfaction (i.e., not in the "recovered" range), and criterion (3b) was the estimated rates of change at the final session used in combination with the couple's estimated level of relationship satisfaction, so that a couple was only classified as prematurely terminated if the couple was both still making greater gains than then the average rate of change across therapy and was not in the "recovered" range.

# VITA


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