

**Conversations for Connection: An Outcome Assessment of the Hold Me Tight
Relationship Education Program for Couples**

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Abstract

Hold Me Tight: Conversations for Connection is a relationship education program based on Emotionally Focused Therapy (EFT; Johnson 2004), an empirically supported model of couple therapy with roots in attachment theory. Currently, relationship education is mostly provided through skills-based programs with a focus on teaching communication, problem-solving and conflict resolution skills from the social-learning perspective. The HMT program is different; it targets attachment and emotional connection – aspects central to relationship functioning as identified in the literature. The present study is the first outcome study of the HMT program. The purpose of the study was to examine the trajectory of change for relationship satisfaction, trust, attachment, intimacy, depressive symptoms and anxiety symptoms. Couples who participated in this study were from several cities across Canada and the United States. The trajectory for the outcome variables were modeled across baseline, pre-program, post-program and follow-up in a sample of 95 couples participating in 16 HMT program groups. Results of a four-level Hierarchical Linear Modeling (HLM: Raudenbush & Bryk, 2002) analysis demonstrated a significant cubic growth pattern for relationship satisfaction, trust, attachment avoidance, depressive and anxiety symptoms demonstrating no change from baseline to pre-program and improvements from pre-program to post-program. Scores returned to pre-program levels at follow-up. Follow-up analyses demonstrated that the changes from pre- to post-program were significant with a large effect size. We also looked at couples' reported ability to engage in the conversations from the program and found that mean scores declined from post-program to follow-up. The results of this initial pilot study suggest that the HMT program is a promising alternative to existing relationship

education programs with results comparable to skills-based relationship education programs. The decrease in scores from post-program to follow-up suggests that booster sessions following the completion of the program could be necessary to help couples maintain gains. Limitations and areas for further study are discussed.

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Statement of Contributions and Co-Authorship

This dissertation was prepared in collaboration with my thesis supervisor. I am the primary author and Dr. Sue Johnson is the second author. As the primary author, I was responsible for the conceptualization of the project, formulation of the research questions, the development of the methods and data collection. I was also responsible for the statistical analyses, interpretation of the results and preparation of the manuscript. Facilitators learned of the study on an EFT online community. Subsequent contact and coordination of the project was my responsibility. This included providing facilitators with details of the study, contacting potential couple participants and preparing and providing assessment packages to facilitators. Dr. Johnson and Dr. Stephanie Wiebe provided guidance throughout the various stages of the project and Dr. George Tasca provided guidance on the statistical analyses. Drs. Johnson, Wiebe and Tasca are co-authors on the manuscript of this dissertation.

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The Hold Me Tight: Conversations for Connection Relationship Education Program Outcome Study

The research demonstrating the benefits of satisfying relationships on physical and mental wellbeing is compelling. This research, coupled with the growing research in the area of prevention, led to the creation of the first relationship education programs in the late 1960s. Since then, many programs have been developed, most based on behavioural exchange and social learning theories. These programs generally focus on teaching communication and problem-solving skills.

In the past three decades, the literature on adult attachment theory as an approach to conceptualizing adult romantic relationships has grown exponentially and an empirically evaluated therapeutic model grounded in this theory ensued. Emotionally Focused Therapy (EFT; Johnson, 2004) has been demonstrated to successfully help couples significantly reduce distress and strengthen emotional bonds. The purpose of the current study was to examine the effectiveness of the Hold Me Tight: Conversations for Connection relationship education program (HMT program). We hypothesized that couples in the HMT program groups would demonstrate gains in relationship satisfaction, trust, attachment insecurity, intimacy, depressive symptoms and anxiety symptoms that would follow a cubic curvilinear trajectory of change from baseline to follow-up. In the literature review to follow, I will present the current status of relationship education programs, the theory upon which the principles of EFT and HMT are built, as well as the research in support of EFT.

The Health Benefits of Relationships

Researchers have demonstrated that happy marriages benefit each partner's physical health and wellbeing (Coie et al., 1993; Dehle & Weisse, 1998; Robles & Kiecolt-Glaser, 2003; Williams, 2003). Studies of happily married couples have found fewer depressive symptoms (Frech & Williams, 2007; Horn, Xu, Beam, Turkheimer, & Emery, 2013; Williams, 2003), less alcohol consumption, reduced risk of suicidal ideation and lower likelihood of antisocial behaviours (Horn et al., 2013) relative to their single peers. Unfortunately, the happy and stable marriages that promote these benefits are less prevalent than acrimonious ones (Amato, Booth, Johnson, & Rogers, 2007). In data obtained from a national survey in the United States, Glenn (1998) found that after 16 years, only 33% of marriages remained intact and happy. Research has indicated that trends of decline in marital happiness followed a U-shaped curve representing declines in the first years of marriage and increases in later years (Van Laningham, Johnson, & Amato, 2001). Research also demonstrated that parental divorce can put children at risk for behavioural, emotional and academic difficulties (Amato & Anthony, 2014; Booth & Amato, 2001), and individuals with divorced parents are themselves at a higher risk for divorce or relationship discord in the future (Amato & Cheadle, 2005; Halford, Sanders, & Behrens, 2001).

Although divorce rates have been declining in recent years, it is estimated that 41% of married couples in Canada will divorce before their 30th anniversary (Kelly, 2012). Rates are similar in the United States where it is estimated that 43% of first marriages will end in divorce (Schoen & Canudas-Romo, 2006). These numbers are striking, and yet they do not include separations without divorce, nor the rate of

separation for cohabitating couples (Bumpass & Raley, 2007). Furthermore, there are no national statistics available on the number of couples who are neither separated or divorced, but are distressed. Halford, Markman, Kline, & Stanley (2003) reported that as many as 80 to 90% of divorcing couples do not consult a therapist for their marital problems, which may be due to the cost and stigma associated with seeking professional help (Bradford, Hawkins, & Acker, 2015). Everything considered, it seems that couples in both Canada and the United States would greatly benefit from highly accessible and effective interventions targeting relationship satisfaction.

The growing understanding of the importance of healthy relationships for individuals, society and the economy, has prompted policy makers and couple therapy researchers to identify accessible alternatives to marital therapy to provide couples with tools to prevent relationship distress (Bradford et al., 2015). Couple relationship education is intended to help couples maintain their satisfying relationship and reduce the risk of relationship distress in the future (Halford et al., 2003). Existing programs are based on variables that have been identified in the research of social exchange models of relationships and distress as important for impacting couple satisfaction (Halford et al., 2003). For example, effective communication, defined as interactions in which partners display appropriate use of active listening, expressive speaking and problem-solving skills to increase positive and reduce negative communication, was identified as a predictor of relationship satisfaction (Markman, Rhoades, Stanley, Ragan, & Whitton, 2010; Markman & Rhoades, 2012), although the mechanism by which communication allows for the maintenance of satisfaction is unclear (Halford et al., 2003; Owen, Manthos, & Quirk, 2013).

A Review of Relationship Education Programs

The relationship education programs most widely researched to date are based on a modified version of social learning theory. This theory posits that couples will be more satisfied when positive interactions and behaviours outnumber negative interactions and behaviours (Rogge, Cobb, Lawrence, Johnson, & Bradbury, 2013). Communication, including problem-solving skills, has become a popular target of these curriculum-based programs and research has found that positive communication allows couples to constructively discuss and solve problems, leading to more satisfied partners (Wadsworth & Markman, 2012). Included in the review below are the curriculum-based programs with the largest research base and that are comparable to the program examined herein (i.e.: manual/ guide based; provided to groups of couples; programs geared towards all couple types; and use didactic training, couple exercises and group discussions). Although some of the research presented is dated, it is nonetheless representative of the field of relationship education at this time.

The Prevention and Relationship Enhancement Program. The Prevention and Relationship Enhancement Program (PREP; Renick, Blumberg, & Markman, 1992) is the relationship education program with the largest body of empirical research. PREP uses principles of cognitive-behavioral therapy to address the quality of a couple's communication and problem-solving skills. Couples learn active listening and expressive speaking skills; how to monitor one's own behaviours and those of the partner, as well as how to make specific requests for changes in behaviour; problem-solving skills such as brainstorming and contracting; how to identify expectations of self, partner or the relationship, and ways to discuss these; and how to prevent future sexual problems

(Renick et al., 1992). Longitudinal studies of the effectiveness of PREP, using a behavioural measure to assess couple interactions during a taped conversation task, found that couples participating in the PREP intervention demonstrated significantly higher levels of positive communication and significantly lower levels of negative communication at post-intervention, relative to a control group (Markman, Floyd, Stanley, & Storaasli, 1988; Markman, Renick, Floyd, Stanley, & Clements, 1993). These positive changes were also found in a German population of couples participating in the German version of PREP (EPL; Hahlweg, Markman, Thurmaier, Engl, & Eckert, 1998; Kaiser, Hahlweg, Fehm-Wolfsdorf, & Groth, 1998). Neither of these studies reported differences in self-reported relationship satisfaction between intervention and control groups or significant increases in the intervention group scores at post-program (Hahlweg et al, 1998; and Kaiser et al., 1998; Markman, et al., 1988). At the 1.5-year follow-up assessment, intervention couples showed significantly more use of communication and problem-solving skills (Markman et al., 1993) as well as higher positive and lower negative communication (Hahlweg, 1998) relative to control couples. At the 1- and 1.5-year follow-up assessments for the couples in Germany, there was no significant difference in relationship satisfaction between the intervention and control groups (Hahlweg et al., 1998; Kaiser et al., 1998). For the American couples, relationship satisfaction scores declined for both the intervention and control groups from post-intervention to the 1.5-year follow-up, but the decline for couples in the intervention group was non-significantly smaller than the control group. At the 3-year follow-up, German and American intervention couples showed significantly more positive communication than control couples, and relationship satisfaction scores for the

intervention groups were significantly higher than those of the control groups (although the latter declined for both the intervention and control groups; Hahlweg et al., 1998; Markman et al., 1988). By the 4-year follow-up in the Markman et al. (1993) study, intervention couples demonstrated significantly more use of communication skills and overall positive communication and husbands in the control group had significantly lower relationship satisfaction scores than the husbands in the intervention group (Markman et al., 1993). By the 5-year follow-up, the only significant difference was that men in the intervention group had significantly higher use of positive communication skills than did men in the control group (Markman et al., 1993). Taken together, these results suggest that both PREP and EPL positively affected communication across the measured time-points; whereas, significant differences for relationship satisfaction were only present three years post-intervention, indicating that although PREP seems to have a positive effect on communication, the effect of PREP on relationship satisfaction is less clear.

To examine whether PREP could be effective when provided by various types of facilitators, researchers compared the effectiveness of PREP provided by religious organizations (RO-PREP), university staff (U-PREP) and a relationship education naturally occurring in a religious organization (NO; Laurenceau, Stanley, Olmos-Gallo, Baucom, & Markman, 2004; Stanley et al., 2001). They found that couples in both the RO-PREP and U-PREP conditions experienced decreases in observed negative communication up to 1-year follow-up, relative to the NO condition, and that couples in the RO-PREP condition experienced an increase in observed positive communication up to 1-year follow-up. There was no change in self-reported relationship satisfaction across time. These results suggest that PREP can likely lead to positive effects on

communication whether it is provided by clergy or more trained university staff, and that it is more effective at affecting communication than naturally occurring relationship education, though neither condition had an effect on relationship satisfaction in this study. A program that can be delivered by less-trained facilitators is an asset to the field of relationship education, in the sense that it can reduce costs and make the program more widely available than one that must be delivered by trained psychotherapists, for example. Furthermore, it may make it more likely that clergy, who may otherwise provide a program with no empirical support to a target population of couples, will instead implement a program that has been empirically supported.

Researchers have also sought to address the lack of positive change in the first years following the PREP intervention. Braukhaus, Hahlweg, Kroeger, Groth, and Fehm-Wolfsdorf (2003) examined the effects of adding booster sessions to the program. To do so, they compared the intervention couples in the Kaiser et al. (1998) study to a group of couples receiving EPL plus a booster session at one and three months post intervention. The post-intervention assessment for couples in the Braukhaus et al. (2003) study was completed after the two booster sessions. The researchers found that couples in the booster session group demonstrated higher self-reported relationship satisfaction at post-intervention relative to the no-booster group. Also at post-intervention, couples in the booster session group demonstrated significantly more positive nonverbal communication and significantly less negative nonverbal communication during an observed interaction task relative to the no-booster group. At 1-year follow-up, couples in the booster session group demonstrated significantly higher relationship satisfaction than couples who did not receive the booster sessions. These results speak to the possibility that providing

couples with additional support post-intervention may increase the effectiveness of PREP and help couples maintain gains. In fact, booster sessions could prove to be valuable with other programs in the relationship education field, as some other programs have also shown a loss of gains in follow-up (Butler & Wampler, 1999, Halford, 2011). Furthermore, programs should attempt to include research that examines the effects of booster sessions.

To lend further support to the dissemination of PREP and the theory upon which it is based, Schilling, Baucom, Burnett, Allen, and Ragland (2003) examined whether changes in communication skills from pre- to post-intervention predicted relationship distress at follow-up in thirty-nine premarital couples who self-selected to participate in a weekend retreat format of PREP. They assessed couples' relationship satisfaction (using the DAS; Spanier, 1976) and communication skills (using a self-report measure as well as an observational interaction measure) pre- and post-intervention, as well as at yearly follow-up periods (up to five years post-intervention). They found significant increases from pre- to post-intervention on positive communication and significant decreases from pre- to post-intervention on negative communication for both men and women. The authors also found that an increase in positive communication and decrease in negative communication led to decreased risk of later marital distress for men but not for women. For women, an increase in positive communication and a decrease in negative communication led to an increase risk of marital distress in both men and women at follow-up. Ad-hoc analyses suggested increases in positive communication in women are related to avoidance of conflict with their partners, thus increasing the risk of later distress. Stanley, Rhoades, Olmos-Gallo, and Markman (2007) did not replicate these

findings in their study using similar statistical methods and sample, but the authors caution facilitators of PREP to ensure couples understand the purpose of the skills being taught (i.e.: what positive communication is supposed to look like).

PREP is innovative in that it has a large research base with long-term follow up, has been studied with different populations, as well as in different formats. Taken together, the research on PREP has demonstrated positive effects on communication for the couples in the program up to five years post-program. Such long-term follow-up studies are relatively rare in the relationship education literature, but particularly important because they allow for the examination of the impact of the program over several years and whether the program can prevent future distress. Although changes in communication the proposed mechanism of change in this program, are pronounced and long-lasting, relationship satisfaction does not increase in tandem with communication. This suggests that perhaps the proposed mechanism of change in PREP does not directly lead to increases in relationship satisfaction. PREP researchers, and others in the general field of relationship education, continue to examine the mechanisms of change in relationship education (Stanley et al., 2007; Fawcett, Hawkins, Blanchard, & Carroll, 2010).

Couple Commitment and Relationship Enhancement. The Couple CARE program (Halford, 2011) is closely related to PREP, with an additional focus on the development of relationship self-regulation skills (Halford, 2011). Relationship self-regulation skills were added to the program based on recommendations that teaching couples the ability to reflect upon their use of skills may lead to more long-term maintenance of skills (Halford, Sanders, & Behrens, 1994). Relationship self-regulation

skills reflect how an individual self-appraises their use of skills, chooses goals for relationship change and evaluates their progress (Halford et al., 2001). Halford, Moore, Wilson, Farrugia, and Dyer (2004) suggested that focusing on self-regulation helps couples recognize problematic communication patterns in their relationship and work towards changing them, instead of focusing on reducing negative communication overall (Halford et al., 2004).

The goal of this program is to help couples plan for self-change with regards to their communication; demonstrations of caring and support; participation in activities; managing conflict; issues around sexuality; and anticipating future change and potential problems. Two randomized control trials have examined the effectiveness of Couple CARE. One randomized control trial was a pre-post trial (Halford et al., 2004) with a subsequent follow-up study conducted up to four years post-intervention (Halford & Wilson (2009). Halford et al. (2004) found a significant increase in self-reported self-regulation ($d = 0.38$) from pre- to post-intervention in women but not in men, a significant increase in relationship satisfaction ($d = 0.41$) and a small sized decrease in relationship instability (the degree to which the partners have considered separation; $d = 0.15$) from pre- to post-intervention. Increases in relationship satisfaction were greater from pre- to post-program for couples with lower initial relationship satisfaction scores, for both men and women. No effects on communication were found using an interaction-based measurement (Halford et al., 2004). In a follow-up study with the same couples, Halford and Wilson (2009) found that male and female relationship satisfaction scores declined across time up to the 4-year follow up, corresponding to an effect size decline of $d = 0.36$ for men and $d = 0.68$ for women. High relationship self-regulation was related to

high relationship satisfaction for both men and women, and the maintenance of high female satisfaction over time (Halford & Wilson, 2009). This suggests that relationship self-regulation may be an important variable in the maintenance of relationship satisfaction over time, which is in line with previous research suggesting that the process of using skills through self-regulation may be a key ingredient of a satisfying relationship (Halford, et al., 1994). These results suggest that it may not be enough to help couples acquire skills, but rather that helping couples engage in the process of regulating their use of those skills may be a necessary focus of relationship education programs. This could represent a paradigm shift in approach to relationship education away from skill acquisition alone to attending to the process of how the couple engages with one another.

High-risk couples, that is, couples who can be identified as at risk of relationship difficulties, may particularly benefit from early intervention provided through relationship education as they may be more likely to experience relationship distress and less likely to have the skills to cope (Markman & Rhoades, 2012). To examine the effect of this program on this population, Halford et al. (2001) examined couples who were defined as either high-risk (where the female partners' parents had reportedly divorced or the male partners' fathers had reportedly been violent towards their mother) or low-risk (absence of the above noted circumstances) and were randomly assigned to the self-PREP (now Couple CARE) intervention, or a "treatment as usual" condition. Both groups completed an observational interaction task to measure communication. Halford et al. (2001) found high-risk couples in both the intervention and control groups experienced improvements in communication from pre- to post-intervention; there was no difference between these groups. Low-risk couples demonstrated improvements in verbal

communication from pre- to post-intervention relative to the control group. At 1-year follow-up, the high-risk couples in the intervention group demonstrated significantly less negative non-verbal behaviour (facial expressions or tone of voice; Halford et al., 2001) relative to the high-risk control couples, whereas the low-risk control couples had improved their communication and reported similar scores to the intervention low-risk couples (Halford et al, 2001). They also found that the high-risk couples in the self-PREP condition demonstrated significantly less decreases in relationship satisfaction up to the 4-year follow-up, relative to the high-risk control couples, although both groups experienced decreases in relationship satisfaction across assessments. Halford and colleagues (2001) also reported that unexpectedly, low-risk couples in the control group demonstrated significantly less decreases in relationship satisfaction compared to the low-risk intervention couples. The results of this study suggest that self-PREP was helpful for high-risk couples, but possibly detrimental to low-risk couples. This suggests that careful assessment may have to be taken when providing this relationship education program to couples who are deemed to be low-risk as defined in this study. It is possible this program is best suited for high-risk couples and other programs may be best suited for low-risk couples, although comparative research would be required to determine this. This also raises an important question of whether risk level may moderate relationship satisfaction generally in the field of relationship education. What seems certain is that it is unclear why this phenomenon occurs, and future research should seek to examine this.

Relationship Enhancement. The Relationship Enhancement program (RE; Accordino & Guerney, 2002) has also received substantial attention in the literature. The RE education program is based on a type of therapy synthesizing theories from the

behavioral, client-centered and social learning perspectives (Accordino & Guerney, 2002; Accordino & Guerney, 2003). The goals of RE are to encourage emotional expression, build hope, trust and motivation for change, develop insight, as well as help partners incorporate learned skills into their daily lives (Accordino & Guerney, 2002). To reach these goals, couples are taught empathic, expressive, problem-solving and conflict resolution skills (Accordino & Guerney, 2002; Accordino & Guerney, 2003).

Several early studies examined the effectiveness of RE. In a study comparing couples receiving RE to couples participating in a lecture/discussion group on relationships, Avery, Ridley, Leslie, & Milholland. (1980) found that couples in the intervention group demonstrated significant increases in self-disclosure and empathy (measured during an interaction task) from pre-program to post-program and pre-program to 6-month follow-up, relative to the control group. There was a significant decrease in self-disclosure and empathic ability from post-program to follow-up in the couples who received RE (Avery et al., 1980). In another study with these participants, Ridley Jorgensen, Morgan, and Avery (1982) found significant increases in relationship adjustment (ie: trust, empathy, warmth, genuineness and communication) pre-program to post-program in the intervention group compared to the control group. The researchers suggest that the skills training taught in RE helps couples learn how to effectively solve problems and reduce conflict, leading to increased couple satisfaction (Ridley et al., 1982).

In their meta-analysis comparing several types of enrichment programs, Giblin and Sprenkle (1985) found an average effect size of .96 for RE, consisting of a large effect size. As this is an average effect size, it includes the effect size for measures of

communication, relationship satisfaction and personality variables (Giblin et al, 1985). This was the largest effect size reported in the meta-analysis.

The results of the studies reported above suggest that RE – a program that encourages emotional expression and improved empathy – can have positive effects on relationship functioning. The RE program encourages emotional expression and empathy, two important components of secure attachment relationship (Mikulincer & Shaver, 2007); this link, coupled with the large effect sizes demonstrated in the RE research literature outlined above, suggests that emotional expression and empathy may be key contributors to couple satisfaction.

Couple Coping Enhancement Training. The Couple Coping Enhancement Training (CCET; Bodenmann, Charvoz, Cina, & Widmer, 2001) teaches individual and dyadic stress coping skills in addition to communication and problem-solving skills. The inclusion of stress coping skills is based on research indicating that daily stressors, and how couples cope with these, can affect marital quality and satisfaction, leading to communication problems (Bodenmann, 2005). Dyadic coping is described as interactions where both partners can impact each other based on how one individual reacts to the other individual's stress signals (Bodenmann et al., 2001). Under this view, stress coping strategies help the couple participate in the coping process more effectively (Bodenmann et al., 2001). Based on the theory behind CCET, stress can cause partners to withdraw from or avoid one another, which can lead to a decrease in positive interactions and an increase in negative behaviours such as criticism, contempt and anger between partners. These variables may also lead to an increased risk of marital decline (Bodenmann, 2005; Bodenmann & Shantinath, 2004). The goals of the CCET program are to enhance

individual and couple stress management, improve partners' understanding of the importance of fairness and equality and increase communication and problem-solving skills (Bodenmann & Shantinath, 2004). The program is delivered in 6 units: knowledge of stress and coping; improvement of individual coping; enhancement of dyadic coping; exchange and fairness in the relationship; improvement of marital communication; and improvement of problem-solving skills (Bodenmann & Shantinath, 2004).

The program was examined in a longitudinal study with 59 matched couples in the intervention group and control group (Bodenmann et al., 2001; Bodenmann, Pihet, Shantinath, Cina, & Widmer, 2006). Couples were assessed on their quality of communication, dyadic and individual stress coping, marital quality and marital satisfaction through self-report measures. The results indicated that couples receiving CCET had significantly higher scores than the control group for marital quality (women: $d = .56$; men: $d = .26$), subjective marital satisfaction (women: $d = .69$; men: $d = .74$), subjective individual (women: $d = .71$; men: $d = .43$) and dyadic coping (women: $d = .90$ men: $d = .76$) and subjective increased quality of communication (women: $d = .59$; men: $d = 1.00$) up to one year after the program (Bodenmann et al., 2001; Bodenmann et al., 2006). The effect sizes for the subjective improvements remained moderate at 2 year follow up (range $d = .44$ to $d = .80$; Bodenmann et al., 2006). Marital quality remained higher in the CCET group at 2 year follow up, with women being slightly more satisfied than men (this was also true in the control group; Bodenmann et al., 2006). At the 2-year follow up, participants were asked whether they utilized the skills taught in CCET and 33% reported regularly using the skills, 60% reported using them from time to time and 7% reported not applying the skills at all. Of the non or irregular users, 18% reported not

being sufficiently motivated to use the skills, 56% reported lacking the time, 63% reported old patterns of behaviour were too strong and 32% reported needing additional supervision and assistance (participants could provide more than one response). Frequent users showed significantly higher marital satisfaction and dyadic coping when compared to non- or irregular users (Bodenmann et al., 2006). However, a large portion of the couples in this study reported not using the skills regularly. It would be interesting to further examine this phenomenon, for example, what differs between the couples who do use skills and those who do not. It may be that skills-based programs are best suited for couples with particular attributes, and that other types of couples may benefit more from a focus other than skills.

In another study of CCET, 100 parents with pre-adolescent children were randomly assigned to the intervention program or control group (Ledermann, Bodenmann, & Cina, 2007). The results demonstrated that couples improved on several measured variables from pre- to post-intervention, such as relationship quality (women: $d = .69$; men: $d = .52$), dyadic coping (women: $d = .99$; men: $d = .72$) and communication (women: $d = .69$; men: $d = .68$). The effects of the program decreased for most variables by the 1-year follow-up (relationship quality, women: $d = .36$; dyadic coping, women: $d = .21$; men: $d = .38$ and communication, women: $d = .17$). The effects for men at this time point on relationship quality ($d = .52$) and communication ($d = .62$) were high, although the reported effect size on both variables was $d = .33$ at the 6-month follow-up period. When Ledermann et al. (2007) compared the intervention group to the control group they found that for women, the largest effect was at post intervention for relationship quality ($d = .41$; 1-year follow-up: $d = .25$), communication ($d = .50$; 1-year follow-up $d = .16$)

and dyadic coping ($d = 1.04$; 1-year follow-up $d = .43$). For men, the largest difference on relationship quality was at 1-year follow up ($d = .26$; post: $d = .16$), whereas the differences for communication and dyadic coping were largest at post intervention (communication, post: $d = .30$; 1-year follow-up $d = .26$; dyadic coping, post: $d = .67$; 1-year follow-up: $d = .27$). The authors concluded that female partners in this study benefited more from the intervention than did the male partners.

The research on CCET suggests that it helps couples maintain their level of relationship satisfaction up to two-years post-program. The inclusion of dyadic coping to this relationship education program appears to lead to positive change, however differences for relationship satisfaction were smaller than those for dyadic coping and communication, suggesting further research should examine the proposed mechanism of change of dyadic coping.

Couple Communication Program. The Couple Communication Program (CC; Miller, Nunnally, & Wackman, 1976 as cited in Butler & Wampler, 1999) is based on family development, systems and communications theories. The theory behind CC posits that couples and families progress through critical transition events together over time and that communication is a basic skill required to successfully proceed through the periods of transition. As such, it is believed that improving communication skills will increase the stability within the couple system (Miller, Wackman, Nunnally, 1983).

The goals of CC are to help couples understand themselves individually, learn to disclose self-information and take responsibility for one's own emotions and thoughts; become aware of their partner's perspective through the development of listening skills; to teach the different types of communication and how these can impact others, as well as

teaching communication skills; help couples become better at resolving issues; help couples understand relationship development; teach conflict resolution skills; and help couples explore issues related to intimacy.

Although the bulk of the research on CC was completed decades ago, the program remains relevant and continues to be provided to couples in the United States. In the most recent meta-analysis of CC research, Butler and Wampler (1999) looked at 16 studies that had been conducted since the previous meta-analysis by Wampler (1982). They also presented a summary of the effect sizes found in the Wampler (1982) study. With regards to relationship satisfaction, they reported an effect size of $d = .63$ for change from pre- to post-program and $d = .47$ from pre-program to follow-up. When CC was compared to a control group, the effect size for relationship satisfaction was $d = .34$ at post-intervention and $d = .21$ at follow-up.

Although the research on the CC program is dated, it was one of the first programs created and has a strong research base from the 1980s that demonstrates its effectiveness. As with the RE program, described above, the field of relationship education would benefit from additional research to replicate these findings and to determine whether targeting communication, the proposed mechanisms of change in this program, truly predicts outcome.

Summary of Relationship Education Programs. Based on the above review of relationship education programs, it can be concluded that these programs produce positive changes for couples. Most studies look at communication as the main outcome, and generally report moderate to high long-term effect sizes. In an attempt to increase the effect of relationship education programs on relationship satisfaction, some researchers

have included additional variables hypothesized to affect relationship satisfaction, such as partner empathy (Accordino & Guerney, 2002), relationship self-regulation (Halford et al., 2001) and stress coping skills (Bodenmann et al., 2001). Each of these concepts appears to lead to positive effects, and Halford and Wilson (2009) found that high self-regulation was related to high relationship satisfaction, and the maintenance of high female satisfaction over 4 years.

Communication skills are taught in all the above programs because positive communication has been found to play an important role in dyadic satisfaction (Markman et al., 1988; Markman & Hahlweg, 1993). However, more recent findings linking improvements in relationship satisfaction and improvements in communication show mixed results (Hawkins, Stanley, Blanchard, & Albright, 2012; Heyman, 2001). In their meta-analysis of 148 studies of relationship education programs, Hawkins et al. (2012) found no significant link between communication and relationship satisfaction. They reported that even though programs targeting communication skills demonstrated significantly larger effects on communication compared to other types of programs that focused on expectation alignment, encouraging forgiveness or empathy, these differences were not present for relationship satisfaction. In another meta-analysis, Fawcett, et al. (2010) found that when unpublished studies of relationship education programs were included in analyses, there were no significant improvements for relationship satisfaction, whereas communication, measured through behavioural tasks, did demonstrate significant improvements. In their study of low-income couples participating in relationship education provided through a community project to support healthy marriages, Williamson, Altman, Hsueh, and Bradbury (2016) found that communication

did not mediate changes in relationship satisfaction, nor were improvements in communication associated with improvements in relationship satisfaction.

Fawcett et al. (2010) suggested that there is room for improvement in relationship education programs both in their content and how they are provided. For example, existing programs are based on teaching skills, and it is possible that not all couples are able to use skills (Bodenman et al., 2006). Furthermore, the skills taught in the programs may not produce expected changes as demonstrated in the Schilling et al. (2003) study where increases in female positive communication and decrease in negative communication predicted decreased satisfaction for both partners. Rogge et al. (2013) observed a similar phenomenon in their study. They compared three groups: one receiving PREP (described above), one receiving Compassionate and Accepting Relationships through Empathy, (CARE; Rogge et al., 2013) a program developed for the purposes of the study, and the other group receiving one session of relationship awareness (RA) training. The CARE intervention is based on integrative behavioural couple therapy and its goal was to teach couples supportive and empathic skills. In the RA intervention, couples attended one session where the intention was for couples to gain awareness about important elements of relationships, such as relationship maintenance. During this session, couples watched a film and then had a semi-structured discussion of topics in the film that related to couple issues, such as conflict, support, stress and forgiveness. The couples repeated this process weekly over the period of one month. The results of the study suggested that the effects produced by the interventions were incongruent with their actual focus of the intervention. For example, women in the PREP intervention had better scores on emotional support than women in the CARE

intervention, and women in the CARE intervention had significantly less negative behaviour than women in the PREP intervention. With PREP's focus on reducing negative behaviours and CARE's focus on increasing emotional support, these results were unexpected. Furthermore, Rogge et al. (2013) found no differences in rates of dissolution or relationship satisfaction between the three groups after three years. They also measured several other outcome variables, such as hostile conflict behaviour, emotional support, validation and affection, forgiveness, trait anger and aggression, but found no significant differences between the three groups at 3-year follow-up on any of these variables, suggesting all groups had the same effect on each of the variables. The authors concluded that skills training per se might not be necessary for preventing negative relationship outcomes.

Although the programs developed to date have demonstrated improvements for couples, especially with respect to improved communication, with medium to large effect sizes, a significant percentage of couples do not demonstrate gains, especially in the primary outcome relationship satisfaction. Furthermore, there seems to be room for improvement with respect to developing greater theoretical coherency and specificity in terms of the mechanism of change, which seems likely not to be solely skills acquisition (Fawcett et al., 2010). The Hold Me Tight: Conversations for Connection program (Johnson, 2010; HMT program) aims to address these gaps in the field of relationship education by providing a coherent theoretical conceptualization of relationship distress and offering a focus that goes beyond skill acquisition in that it focuses on the way the couple engages with each other rather than use of skills. The HMT program conceptualizes relationship distress and targets for improvement from an attachment

frame. Attachment security has been demonstrated throughout the literature to be closely tied to relationship satisfaction; therefore, aiming to improve attachment security in the relationship through relationship education may more closely target relationship satisfaction change as opposed to acquiring communication skills. In the next section, I will present the attachment theory literature, related aspects of relationship functioning, and outline how the HMT program targets these.

Bonding in Romantic Relationships

The relationship education programs that have been most researched to date base their understanding of relationships in social learning theory. Some researchers, however, believe that the understanding of romantic relationships espoused by this theory does not paint an accurate picture of the complexity of romantic relationships. In the past few decades, researchers have developed a theory of adult bonding that is based on attachment theory. The view of romantic relationships grounded in attachment theory posits that emotional responsiveness and engagement, trust and intimacy have been linked with relationship satisfaction (Brassard, Lussier, & Shaver, 2009; Dandeneau & Johnson, 1994; Huston, Caughlin, Houts, Smith, & George, 2001; Simpson, 1990). This theory of relationships is also the basis for Emotionally Focused Therapy (EFT; Johnson, 2004) and will be reviewed below.

The Theory Behind Emotionally Focused Therapy

Emotionally Focused Therapy (EFT; Johnson, 2004) is rooted in theories of intrapsychic experience and interpersonal change. It is an experiential-humanistic approach where distressed partners are regarded as putting forth their best efforts to gain the closeness and relationship satisfaction they desire. EFT practitioners accept their clients

unconditionally, and are open and empathic in order to meet the clients in their suffering. Emotion is also believed to be important for creating change in relationships. EFT practitioners help partners touch, name and talk about emotions they have never acknowledged or shared. The clinician helps the client feel the emotion in session, and works to heighten the partners' experience of the emotion. EFT clinicians also understand that a specific emotion will lead to a particular behaviour, for example shame will lead to hiding, and sadness to seeking comfort (Greenman & Johnson, 2012).

EFT also has roots in systems theory: the couple is conceptualized as a system where one partner impacts the other in an infinite loop. In EFT, it is understood that each partner's behaviours can initiate a reaction from the other partner, creating an interaction pattern that can become problematic for the couple. This interaction pattern is an important target in EFT and Hold Me Tight, and is labeled the "cycle" (further described below).

Attachment theory (Bowlby, 1969) also helps inform the theory of adult bonding behind EFT and HMT. Using a social-cognitive view of attachment theory to conceptualize relationship distress, EFT therapists understand the negative interaction cycles, intense negative affect and lack of emotional connection as an insecure attachment bond (Johnson, 2004; Johnson & Greenman, 2006; Johnson & Whiffen, 1999). Attachment theory began as a theory of the bond between parent and infant (Bowlby, 1969), but was later adapted to explain the bond between romantic partners (Hazan & Shaver, 1987). Attachment theory will be elaborated upon below.

Attachment Theory. The main tenet of attachment theory is that all human beings have an innate need for connection with others (Bowlby, 1969/1988). First

experiences with a primary caregiver in infancy lead to the development of mental models about the worthiness of self and the availability of others for comfort in times of distress. The details of these mental models are reflected in one's level of attachment security or insecurity and can help to explain the expression of attachment behaviours over one's lifetime (Bowlby, 1988; Ainsworth, 1989).

According to attachment theory (Bowlby, 1988) caregivers who provide infants with attuned, sensitive and responsive emotional support promote the development of a secure attachment bond. These infants become individuals who trust that others are a dependable resource for comfort, reassurance and guidance in times of need (Shaver & Mikulincer, 2002). They develop an acceptance of, and ability to cope with, negative affect that allows them to better manage stress (Shaver & Mikulincer, 2002).

Attachment insecurity can be understood as two-dimensional: attachment anxiety or avoidance (Fraley, Hudson, Heffernan, & Segal, 2015). Individuals with attachment anxiety were provided with inconsistent and unreliable support by their primary caregivers (Fonagy, 2001). To ensure they obtained the care they needed, these individuals learned to hyperactivate their attachment signals, often resorting to clinging behaviour or overdependence on important others. These individuals have not had the opportunity to learn affect regulation strategies that would allow them to manage negative affect on their own (Shaver & Mikulincer, 2002). Individuals using attachment avoidance strategies had caregivers who were hostile and rejecting of their attachment needs. They learned deactivation strategies, such as numbing of affect and denying the need for intimacy, to cope with their negative affect. These individuals have learned that they cannot trust or depend on others for caregiving (Mikulincer & Shaver, 2002). Our

early experiences are important in shaping our internal working models and can affect how we interact with others throughout our lives. Attachment theory has also provided a basis for understanding how we relate to important others during adulthood.

Adult Attachment Theory. Attachment theory has allowed researchers to better understand adult romantic relationships. Adult attachment theory postulates that one's romantic partner is the primary attachment figure in adulthood (Fraley & Shaver, 2000). Attachment behaviours in the parent-child relationship and between partners in a romantic relationship are similarly understood. Secure attachment in a romantic relationship allows for the development of a secure base that allows partners to respond more adaptively to their environment and a "safe haven" that protects partners from the effects of stress and uncertainty (Johnson, 2004; Mikulincer, Florian, & Weller, 1993). Partners with a secure attachment bond are better able to reach out and provide support to one another, as well as manage conflict and stress more positively (Greenman & Johnson, 2012; Mikulincer & Shaver, 2007). Research has demonstrated that individuals identified as secure through self-report measures appraised stressful events as less threatening than did insecurely attached individuals, and they were also more optimistic regarding their abilities to cope with the stressors (Berant, Mikulincer, & Florian, 2001; Johnson et al., 2013). Moments of unresponsiveness between securely attached partners will not lead to a panic response; these partners are confident they will easily be able to reconnect with their spouse.

Conversely, individuals with an insecure attachment bond are unable to ask to have their needs met in a way that is likely to lead to a positive response from their loved one. Instead, as attachment theory suggests, their behaviours and emotions become

restricted and partners become entangled in negative patterns of interaction (Greenman & Johnson, 2012; Johnson, 2004). There are two basic types of insecure attachment: anxious and avoidant. When a couple's bond has been damaged by repeated inaccessibility of a spouse, or by inaccessibility at key moments, a partner may become hypervigilant to threats or perceived threats to the attachment bond (Johnson, 2004; Mikulincer & Shaver, 2007). Individuals with an anxious attachment type are sensitive to perceived rejection or abandonment and will intensify their attempts to connect. Individuals with avoidant attachment types are perceived by their partners as cold and unfeeling. They show little emotion and tend to withdraw when attempts at connection are made by their partner (Johnson, 2004; Mikulincer & Shaver, 2007). Relationship distress can result from these negative interaction patterns that develop from unmet attachment needs (Johnson, 2004). Couples may benefit from a specific focus on this variable to address these negative interaction patterns.

Emotionally Focused Therapy

Drawing from the attachment theory literature, the theory behind EFT suggests that these rigid emotional interaction cycles are due to partners' inability to recognize and express their attachment needs for security and care in a way their partner can hear (Johnson, 2003; Johnson & Wiffen, 1999). When individuals feel as though their partner has failed to respond to them in times of need, the attachment bond is weakened and couples begin to engage in negative interaction cycles that are maintained by feelings of rejection (Johnson, 2004). EFT also posits that these rigid interaction cycles are circular reciprocal feedback loops, such that each partner's responses are reinforced in daily interactions with their partner (Johnson & Best, 2003). EFT therapists foster the

development of a stronger attachment bond between partners by helping them express their primary emotions and unmet attachment needs, while encouraging partners to respond with support. When couples can do this, they reach the first major change event of EFT: cycle de-escalation. At this point in the therapy, each partner understands their role in the cycle, can take responsibility for the impact they have on their partner and can share their underlying attachment needs and primary affect instead of becoming stuck in secondary affect (Johnson, 2004). This stage prepares couples to restructure their interactions into a more positive cycle.

The second important change event in EFT is withdrawer re-engagement. At this stage, the withdrawn or avoidant partner begins to share his attachment needs with his partner. This partner can start to share his longing to feel accepted, cared for and comforted. At this point in therapy, the withdrawing partner becomes more emotionally available to his partner when she makes bids for attention (Johnson, 2004). The change that happens at this stage further paves the way for the vulnerability and responsiveness demonstrated by both partners during the third change event, known as blamer-softening. In this stage, as the critical spouse begins to trust the previously withdrawn partner's responsiveness, she begins to express her needs in the relationship. When the previously withdrawn partner responds with attuned emotional support, the bond between the partners is strengthened. The partners continue to practice these new interactional patterns in the final stages of therapy, and can work on solving past hurts and sources of conflict. These new interactions become consolidated and positive attachment behaviours become part of the couple's daily interactions, leading to the creation of a stronger bond (Greenman & Johnson, 2012; Johnson, 2004).

Research on EFT. A meta-analysis of studies testing the efficacy of EFT found it to successfully reduce dyadic distress for 70-73% of couples, with an effect size of 1.31 (Johnson, Hunsley, Greenberg, & Schindler, 1999). Included in this meta-analysis, and of particular relevance to the current study, was a study by Johnson and Greenberg (1985) who found that couples in the EFT intervention group reported larger increases in relationship satisfaction, intimacy, and target complaint reduction than couples in the cognitive-behavioural intervention group (where the focus was on teaching problem-solving skills). In another study reported in the meta-analysis, James (1991) compared a control group of couples to couples receiving EFT and couples receiving EFT plus communications training. The communications training was based on the Relationship Enhancement program (Accordino & Guerney, 2002), which the author believed to be most closely compatible with EFT. The results demonstrated significantly better relationship satisfaction and improvement in the target problem at post-therapy for both EFT groups compared to the control group. There was no significant difference between the EFT and EFT plus communications training groups, indicating that the addition of communications training to EFT did not improve outcomes. EFT has also been found to be effective in a high-risk sample of couples with a chronically ill child up to two-year follow-up (Cloutier, Manion, Walker, & Johnson, 2002; Gordon-Walker, Johnson, Manion, & Cloutier, 1996).

The application of EFT has also been investigated in other high-risk couple samples. For example, studies have demonstrated the effectiveness of EFT for women with comorbid depression and relationship distress (Denton et al, 2012; Dessaulles et al., 2003) and women with a history of childhood abuse (sexual or physical abuse: Dalton,

Johnson, Classen, & Greenman, 2013; sexual abuse only: MacIntosh & Johnson, 2008). For the studies of women with a history of childhood abuse, both studies reported significantly reduced relationship distress and trauma symptoms after EFT.

Several studies have looked at *how* change happens in EFT and have identified key processes related to the successful outcome of therapy. Research has demonstrated that couples who improved after therapy showed significantly higher emotional experiencing and number of affiliative statements (i.e. self-disclosure) than couples who did not show improvement (Couture-Lalande, Greenman, Naaman, & Johnson, 2007; Greenberg, Ford, Alden, & Johnson, 1993; Johnson & Greenberg, 1988). Examining the nine studies of the change process in EFT, change was associated with deepening emotional experiences, vulnerability and asking for one's needs to be met in an affiliative way. This pattern of interaction is typical of securely bonded couples. Events labeled as softenings in EFT appear to be bonding events where both partners are more accessible, responsive and engaged (Greenman & Johnson, 2012).

Researchers have also identified softening events in improved couples but not in those who do not improve; softening events are understood as key in EFT (Couture-Lalande et al., 2007; Johnson & Greenberg, 1988). These results were replicated in a small sample of couples where the female partner was a breast cancer survivor (Couture-Lalande et al., 2007) and most recently in a study with a larger sample (Burgess Moser, Johnson, Dalgleish, Lafontaine, Wiebe, & Tasca, 2016). In their study, Burgess Moser and colleagues (2016) found that couples demonstrated increases in relationship satisfaction and decreases in attachment avoidance after the softening event, as well as decreases in attachment anxiety over time after the softening event (Burgess Moser et al.,

2016). These changes leveled off over a two-year follow-up (Wiebe et al., 2016).

Research also looks at therapist behaviours that facilitate change in clients. Bradley and Furrow (2004) found that therapists used several types of EFT interventions to facilitate the softening events including evocative responding, heightening present and changing positions, and validation. In another study, therapist emotional presence was found to predict increased client experiencing. For example, therapist vocal quality (slow, soft) was linked to more successful softening events (Furrow, Edwards, Choi, & Bradley, 2012).

More recently, a process described as the Attachment Injury Resolution Model (AIRM; Naaman, Pappas, Makinen, Zuccarini, and Johnson, 2005) has been outlined in the research. An attachment injury occurs when an individual feels betrayed by their partner in a key moment of need (Naaman et al., 2005). These critical moments of felt betrayal are a particular type of impasse that can add to the complexity of EFT. The AIRM is intended to help therapists guide couples through processing these difficult events. Makinen and Johnson (2006) found that couples who were able to resolve a past attachment injury reported increases in relationship satisfaction, trust and forgiveness after therapy compared to couples who did not resolve the injury. These results were maintained at 3-year follow up (Halchuk, Makinen, & Johnson, 2010). Makinen and Johnson (2006) found that couples who were unable to resolve the attachment injury reported lower trust at the beginning of therapy and had multiple attachment injuries over the course of the relationship (Makinen & Johnson, 2006).

These process studies provide important information regarding how change happens in EFT and allow for the identification of areas to target for relationship

education programs. The HMT program was created based on this research.

Targets for Change

Attachment. Research on attachment in romantic relationships has found associations between an insecure attachment bond and lower relationship satisfaction, difficulty providing responsive caregiving and difficulty articulating needs for support (Collins & Ford, 2010; Davila & Bradbury, 2001; Simpson, Rholes, Orina, & Grich, 2002). Lussier, Sabourin, and Turgeon (1997) found that partners who are both securely attached report better satisfaction than couples where one or both partners are insecurely attached. Researchers have also found that securely attached partners had more constructive communication patterns than insecure partners (Domingue & Mollen, 2009). Domingue and Mollen (2009) reported that secure couples reported less of a demand-withdraw pattern, less mutual avoidance and fewer instances of withdrawing than did couples where one or both partners identified as being insecurely attached. The insecurely attached couples also reported more negative communication patterns than did the securely attached group (Domingue & Mollen, 2009). Adult attachment theory appears to capture the complex nature of couple interactions and connection. For this reason, it is the basis for the HMT program.

Trust and Intimacy. Trust is another factor related to relationship satisfaction (Simpson, 1990) and is understood to be necessary for secure attachment and intimacy (Mikulincer, 1998). Trust develops on the basis of an individual's faith that the partner will be available and responsive in times of need (Mikulincer, 1998). Mistrust develops in relationships when partners with insecure attachment strategies lose the ability to have open communication (Jang, Smith, & Levine, 2002). Distressed romantic couples often

report breaches of trust that seem to play an important role in their distress. EFT refers to these breaches of trust as “attachment injuries” (further discussion below; Johnson, 2004). In their study, Johnson & Talitman, (1997) found that female partners’ higher levels of faith in their partner (a dimension of trust) at pre-therapy predicted greater improvements in relationship satisfaction at the three-month follow-up. These results suggest that trust is an important variable related to greater stability in relationship satisfaction.

Intimacy is also linked to attachment and related to relationship satisfaction. Dandeneau and Johnson (1994) found that both intimacy and relationship satisfaction increased at 10-week follow-up for couples participating in six sessions of EFT. Intimacy is believed to develop when individuals can trust that their partners will meet their self-disclosures with shared empathy (Dandeneau & Johnson, 1994) and is thus an important variable related to relationship satisfaction. The HMT program is expected to lead to increased intimacy as partners become more able to access and share their attachment related needs and emotions.

Depression and anxiety. Distressed relationships have been shown to affect psychological wellbeing and research with depressed women has demonstrated a strong relationship between depressive symptoms and relationship distress (Denton, Wittenborn, & Golden, 2012; Dessaulles, Johnson, & Denton, 2003; Frech & Williams, 2007; Whisman, 2001). Two studies of EFT have examined women with comorbid depression and relationship distress (Dessaulles et al., 2003; Denton et al, 2012). In both studies, the researchers found that women participating in EFT and taking medication experienced significant improvements in relationship quality compared with those in the medication

only group. Although both the medication only and medication plus EFT groups experienced similar reductions in depressive symptoms, these findings are important given the links between depression and relationship distress (Frech & Williams, 2007). Helping depressed partners reduce relationship distress may in turn help to maintain the reduction in depressive symptoms.

Associations have also been made between relationship distress and generalized anxiety disorder. In a study based on survey data from over 2000 individuals in the United States, Whisman (2007) found a strong correlation between relationship distress and symptoms of anxiety.

The couples who participated in the current study did not, on average, meet criteria for anxiety or depression. However, couples with moderate to severe depressive or anxiety symptoms tended to have lower relationship satisfaction scores (more detail in the Participants section below). We therefore chose to examine whether the HMT program affects symptoms of anxiety and depression for the couples participating in HMT program groups in this study.

Hold Me Tight: Seven Conversations for a Lifetime of Love (HMT; Johnson, 2008)

The book *Hold Me Tight: Seven Conversations for a Lifetime of Love* (Johnson, 2008) is based on the key principles of EFT, and driven by decades of research on variables related to relationship satisfaction. Intended for the general public, it reformulates the key change events of EFT into seven conversations couples can initiate while reading the book. In each chapter of the book, exercises are presented to help couples practice the conversations. The HMT book has been given to couples in EFT

therapy, and may assist with the therapeutic process, though this has yet to be empirically tested (Botzet & Yeats, 2010; Palmer, 2010).

The first chapters include a review of attachment theory, including how it was developed, how it relates to adult relationships and the way in which attachment helps understand distress. The role of emotional responsiveness in relationships is also presented, and the connections between attachment and primary emotions are described. The seven conversations of Hold Me Tight are presented after these basic tenets of EFT.

Conversation 1: Recognizing the Demon Dialogues. The first conversation provides a description of the types of patterns couples can get stuck in, and does so using terms couples can easily identify with and remember. This conversation allows couples to understand their negative interaction cycle, the secondary reactive emotions as well as the underlying primary emotions and attachment needs. As with EFT, once the couple can understand their negative cycle, primary emotions and unmet attachment needs, as well as take responsibility for their role in the cycle and the impact their behaviour has on their partner, they can begin to explore and share in a different way. This new way of understanding relationship difficulties sets the stage for the remaining conversations.

Conversation 2: Finding the raw spots. The second conversation helps partners talk about their raw spots, that is, particular sensitivities and triggers each partner may have. These raw spots can be the result of the partner's individual history (i.e. past trauma, childhood experiences), biology, and negative experiences in the relationship. Raw spots reflect moments when one's partner was perceived as being unresponsive to their need for caring and reassurance, and triggers attachment fears. When the couple is stuck in their Demon Dialogues, they are unable to open about these vulnerabilities with

each other. Instead, when their raw spots get touched they may become angry or shut down, making both partners' raw spots more painful and reinforcing the Demon Dialogues. When partners feel safe with one another, they can share these vulnerabilities more readily. This conversation normalizes the intense reactions that can occur when a raw spot is touched, helps partners identify their raw spots and talk about these with their partner.

Once couples understand their Demon Dialogues and see their part in the dance they have become stuck in, they can help each other with their triggers. This leads to de-escalation, a key event in EFT. When couples reach de-escalation, the negative interactions that cause distance and disconnection become limited and the couple begins to work on strengthening their bond. Their bond becomes stronger and they process past hurts and moments of disconnection in a different way, as outlined in the next conversations.

Conversation 3: Revisiting a rocky moment. This conversation allows for an integration of the first two conversations to help repair past hurts that occurred when the couple was stuck in their Demon Dialogue. Once the couple has become de-escalated, they can build upon their understanding of their Demon Dialogue and of their raw spots to revisit a difficult moment in the relationship. To repair past moments of disconnection, the couple uses the perspective of Conversation 1 to see the complete picture of the interaction, and Conversation 2 to stay aware of the underlying feelings driving it. Doing so allows the couple to better understand the ways in which they became stuck and share their softer emotions with their partners instead of more reactive emotions. This allows one's partner to feel safer in the relationship and more able to share deep emotion and

vulnerabilities, allowing the couple to repair injuries in a way that helps the partners stay connected.

Conversation 4: Hold Me Tight— Engaging and connecting. The Hold Me Tight conversation is synonymous with the change events of withdrawer re-engagement and blamer-softening in EFT; it represents a key moment in the relationship. It occurs when partners are able to trust one another enough to begin to create a secure base and safe haven to help the couple grow. Once couples can have this conversation, they are able to separate their cycle from the problem and recognize the underlying needs each partner is expressing in an interaction. Partners become more assertive, confiding and trusting, are more empathic and are better able to respond. Partners share their deepest needs and fears more openly than they were able to before. They also become more Accessible, Responsive and Engaged (A.R.E) with one another in this A.R.E. conversation (Johnson, 2010).

At this point, the couple's bond is strengthened and they can deal with important injuries that have destroyed the safety and trust in the relationship. In this conversation, the inevitable fact that partners hurt one another is normalized. Partners who are more securely attached can cope with these hurts in a way that is positive. For many couples, however, past injuries have not yet healed. In this conversation, partners learn how to talk about these hurts in a way that will allow them to move through the process of healing by accessing and responding to one another's attachment needs.

Conversation 5: Forgiving injuries. It is inevitable that partners will hurt one another, but the way in which couples deal with these hurts is key to how the relationship is affected. Seemingly small events can greatly impact partners if they threaten the

security of the attachment bond, and unresponsiveness of a partner in key moments can have a significant impact on trust and safety in the relationship. Moments perceived by a partner as abandonment and betrayal become wounds that are difficult to heal.

Conversation 5 helps partners explore the emotional wounds to reconcile the rift in the attachment bond. This conversation is synonymous with AIRM in EFT, where the couple can begin to process relationship wounds. The wounded partner shares his or her pain clearly and the other partner is able to hear and understand the pain their actions caused. The couple processes the pain and emotion together, and the other partner can provide comfort to the wounded partner. This conversation allows the partners to create a narrative for how they healed the injury, and allows them to deal with injuries together. Their relationship becomes more resilient and their bond strengthens.

Conversation 6: Bonding through sex and touch. Conversation 6 helps partners talk about their sexual intimacy. Three types of sex are described: sealed-off sex where the focus is on sensation and performance; solace-sex, where the partners seek reassurance that they are desired and safely connected; and synchrony sex, where partners are open, responsive and feel safe enough to explore their sexual experience together. Couples who enjoy synchrony sex are best able to discuss concerns or disappointments and address these. A secure bond is tantamount to satisfying sex. During this conversation, couples learn to talk about their beliefs, expectations and needs around sex in an open and responsive way. A deep emotional connection and the safety provided by a secure bond promote better sex and in turn better sex promotes deeper connections.

Conversation 7: Keeping your love alive. In the final conversation, couples learn to attend to their bond and create moments of connection. The couple learns to talk

about the problem areas that could occur, how to manage trigger moments, how to create bonding moments, as well as noticing and sharing moments of connection. The couple creates a new story of the relationship and how they will come together in moments of difficulty to create safety in the relationship.

Hold Me Tight: Conversations for Connection

The Hold Me Tight (HMT) program (Johnson, 2010) was created based on decades of research on a theory of adult bonding and an empirically validated therapeutic modality. This program targets key variables defining adult romantic relationships. The HMT relationship enrichment program (Johnson, 2010) follows the structure of the HMT book (Johnson, 2008) and the seven conversations as described above. Couples in the HMT program learn to have the conversations that will strengthen their attachment bond by facilitating closeness and emotional bonding.

The HMT relationship enrichment program is a flexibly-delivered eight-session (consisting of two to three hours each; 16 to 24 hours total) educational program for couples. The program is designed such that it can be led by licensed therapists trained in the use of EFT and there is no required level of experience with EFT. All facilitators must follow the Hold Me Tight Program: Conversations for Connection, Facilitators' Guide for Small Groups (Guide; Johnson, 2010). The Guide contains an overview of the program, details regarding the format of each session and includes a CD Rom with the program materials. The Guide is to be used in conjunction with the HMT book (Johnson, 2008), the Hold Me Tight: Conversations for Connections DVD and Creating Relationships that Last: A conversation with Dr. Sue Johnson DVD. The Conversations for Connections DVD shows examples of conversations outlined in the program as demonstrated by three

different couples. This DVD is shown during the sessions as outlined below. The Creating Relationships that Last DVD contains an outline of Hold Me Tight and can be viewed by facilitators to prepare for the program or shown to participants in the first session. Facilitators are not required to participate in training specific to the delivery of the program.

In the first session, brief introductions of participants and facilitators are made to create a safe environment. After a brief description of the process for the program, the core concepts of attachment are presented and the facilitator encourages discussion. In the remaining sessions, the facilitators present the information as presented in the HMT guide (Johnson, 2010). In each session, the facilitator presents the conversation, invites group discussion and introduces an example of the conversation from the DVD. The sessions also include an in-class activity explained by the facilitator and each couple is given homework assignments to be completed prior to the next session (reading a chapter of the HMT book and/ or completing an exercise).

Objectives of the Current Study

The Hold Me Tight program is based on a well-researched view of romantic relationships, namely adult attachment theory and is based on an empirically validated couple therapy. Research on EFT has demonstrated its effectiveness at reducing dyadic distress and increasing satisfaction in romantic couples and includes process studies that tell us how positive change happens in relationships. The HMT program, based as it is on principles of EFT is expected to demonstrate positive effects for couples participating in the HMT program and who, on average, report no distress in their relationship. This study will contribute significantly to the field of marital education programs. The HMT

program is based on a view of relationships that differs from that espoused by most of the existing programs and thus has a different focus, something that has been identified as necessary in the field (Fawcett et al, 2010). The HMT program approaches romantic relationships from an attachment frame, with attention to emotional experience and expression. Through the bonding conversations, the HMT program structures emotional accessibility and responsiveness that are the basic elements in bonding (Mikulincer & Shaver, 2007). Fawcett et al. (2010) suggested that programs should be developed with a different content and approach (i.e. other than skills-based) to relationship education than what is currently available in the field. The HMT program appears to contribute to providing such different options in that it is not skills-based, but instead promotes a focus on emotional connection through bonding conversations.

This is one of the first outcome studies of the HMT program therefore one of the objectives of this study is to understand the trajectory of change from baseline to follow-up. Using HLM to determine the trajectory of change for the couples in the HMT program allows us to get a clearer understanding of the pattern of change for the couples in HMT program groups. This is also the first relationship education program study, to the authors' knowledge, to analyze data at the group level. Another objective of the present study is to examine the effectiveness of the HMT program by using validated self-report measures to longitudinally assess changes in scores for relationship satisfaction, trust, attachment, intimacy, depressive and anxiety symptoms in couples participating in the HMT program.

We evaluated the effectiveness of the program as it will naturally be delivered to the public in several communities in North America. The results of such studies may be

more generalizable to the clinical population than laboratory studies that have exclusion criteria that limit the generalizability of results to a small sample of individuals (Westen, Stirman, & DeRubeis, 2006). This study has no exclusion criteria, therefore it is representative of the population of couples interested in participating in a relationship education program in several communities across North America. That being said, field studies of this nature can be subject to limitations of internal validity, such that there may be confounding variables that we were unable to control, but could have influenced our results.

If the results of the current study demonstrate that the HMT program is comparable to existing relationship education programs, this program could be used as an alternative to the currently available skills-based interventions and would be a valuable addition to the currently available programs.

Hypotheses

We hypothesized that couples in this study will demonstrate a particular pattern of growth in outcomes scores for all couples in the HMT program groups from baseline to follow-up. This pattern will be characterized by a cubic growth model indicating little to no change from baseline (2 to 4 weeks prior to the first session) to pre-program. We believed that slight change was possible, based on the idea that the simple act of completing questionnaires can affect a participants' future ratings; however, as the participants had not yet began the program, we did not believe any change would be significant. The pattern would be followed by accelerated growth (i.e., improvement) from pre-program to post-program, when the couples would benefit from the HMT program, subsequently followed by decelerated growth (i.e., little or no changes from

post-program to follow-up). We believed that change scores would even out at follow-up, as demonstrated by Wiebe et al. (2016) in her follow-up study of couples participating in EFT. We hypothesized this cubic pattern of growth for the following outcomes: dyadic satisfaction (hypothesis 1), relationship trust (hypothesis 2), attachment anxiety (hypothesis 3a), and attachment avoidance (hypothesis 3b), intimacy (hypothesis 4), depressive symptoms (hypothesis 5), and anxiety symptoms (hypothesis 6). More specifically, we expected scores to increase from pre to post-program for relationship satisfaction, trust and intimacy; we expected scores to decrease from pre to post-program for attachment anxiety and avoidance, depressive symptoms, and anxiety symptoms. We also hypothesized that partners will demonstrate high levels of self-reported ability to engage in bonding conversations after completing the program and at 3 or 6 months follow-up (hypothesis 7).

Method

Participants

The participants in this study were couples from cities in Canada and the United States who independently registered to participate in a Hold Me Tight program offered in their community. Participants were from Ottawa, Ontario; Toronto, Ontario; Nashville, Tennessee; Ashland, Oregon; Davis, California; Chicago, Illinois; Denver Colorado; and Boyertown, Pennsylvania. Most couples in the sample were married (88%), or reported living common-law (6%). The remaining participants reported being single (i. e. dating but not living together, 3%) or divorced (partners who were previously married, 3%). The average duration of the couples' relationships was 15.2 years. More than half of the couples had children together (52%), and 25% indicated having children from a previous relationship. The mean age of participants was 46.7 ($SD = 13.7$) and 44 ($SD = 12$) for

men and women respectively. Most of the sample identified as White (89.7%), 10 individuals identified as Latino/ Latina or Hispanic, three identified as Asian, one identified as African American, one identified as middle eastern and four as other (further described as: Hungarian, Belgian, Mediterranean and one quarter Spanish, respectively). The majority of the sample reported English as their first language (90.4%). An additional four participants reported French as their first language, and 12 individuals reported another language as their mother tongue (i.e., Hebrew, Somali, Dutch, German, Cantonese, Chinese, Greek, Hungarian and Portuguese). In terms of education, 87% of the sample had attained at least a post-secondary education. The average individual income of participants was \$82,181.82 CAD ($SD = \$32,690.26$) and \$76,787.50 USD ($SD = \$125,455.25$) for Canadian and American participants respectively. With regards to religiosity, 36.8% of the participants identified as not at all or slightly religious, 45% identified as somewhat or moderately religious; and, 18% identified as very religious.

On average, couples started the program with relatively high relationship satisfaction scores. Of the couples in the study, 73% had scores higher than the clinical cut-off score for distress of 97 and of these, 36% had a score of 114 or higher (a score of 114 represents happily married couples; Spanier, 1976). Twenty-seven percent of the couples in the study met criteria for relationship distress (<97 on the DAS; Jacobson, Follette, & Revenstorf, 1984; Jacobson, Follette, Revenstorf, Baucom, Hahlweg, & Margolin, 1984). Thirteen percent of the individual participants reported scores representing moderate to severe depressive symptoms. Of these individuals, 64% reported relationship distress. Ten percent of the individual participants reported scores representing moderate to severe anxiety symptoms. Of these individuals, 72% reported

relationship distressed. Of the individuals who reported moderate to severe depressive symptoms, 40% also reported moderate to severe anxiety symptoms. When both depressive and anxiety symptoms were present, 78% of individuals reported relationship distress.

To be eligible for the study, both partners had to agree to participate and be able to read English, as the available facilitators and program materials were available only in English. No couple fitting these criteria was excluded from the study.

Measures

Included in each questionnaire package were the: Dyadic Adjustment Scale (DAS; Spanier, 1976), the Relationship Trust Scale (RTS; Holmes, Boon, & Adams, 1990) the Experiences in Close Relationships- Short Form, specified for the current romantic relationship (ECR-S; Wei, Russell, Mallinckrodt, & Vogel, 2007), the Miller Social Intimacy Scale (MSIS; Miller & Lefcourt, 1982), the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996), and Beck Anxiety Inventory (BAI; Beck & Steer, 1993). In addition to these measures, the Control Assessment includes a Socio-demographic questionnaire; the Post-Program Assessment included an evaluation of the HMT Program and a Conversations Rating Scale (described below); the Follow-up Assessment included the Conversations Rating Scale.

Dyadic Adjustment Scale. The DAS (Spanier, 1976) is a 32-item self-report questionnaire that measures the quality of relationships for married and cohabitating couples by assessing the frequency of positive relationship behaviours and disagreements using varying Likert-type scales. Total scores on the DAS can range from 0 to 150, with higher scores indicative of higher relationship satisfaction. The DAS can also be

described using four subscales: dyadic satisfaction, dyadic cohesion, dyadic consensus and affectional expression. For the purposes of this study, however, we have used the total score only. Spanier (1976) reported a high level of internal consistency for the total score, $\alpha = .96$. The DAS has also demonstrated validity in that it differentiates distressed and non-distressed couples (Prouty, Markowski, & Barnes, 2000; Spanier, 1976; Spanier & Thompson, 1982). More specifically, Spanier (1976) found a significant difference between means for married and divorcing couples and norms were developed based on the means from the standardization sample. The norm for married couples is 114.8 and the norm for divorced couples is 70, with a cut-off score of 97 for distress (Jacobson et al., 1984; Jacobson, Follette, Revenstorf, Baucom, et al., 1984; Spanier, 1976). The cut-off scores of 97 was recommended by Jacobson et al. (1984) and is commonly used in EFT research. The DAS demonstrated high convergent validity with the Locke Wallace Marital Adjustment Scale, with high correlations between the measures ($r = .86$ for married participants; $r = .88$ for divorcing participants; Spanier, 1976). Test-retest reliability over a 2-week period was found to be $r = .87$ for the total scale score (Carey, Spector, Lantinga, & Krause, 1993). The total score in this study yielded high reliabilities across all four time-points (baseline: $\alpha = .92$; pre: $\alpha = .94$; post: $\alpha = .94$; follow-up: $\alpha = .95$). The DAS is one of most commonly used measure of relationship satisfaction in the relationship education literature and use of it in this study facilitates comparison between programs.

Relationship Trust Scale. The RTS (Holmes et al., 1990) is a 30-item measure of state-dependent interpersonal trust in adult romantic relationships. In the RTS, trust is measured based on evaluative statements regarding the partner's responsiveness,

dependability and caring. Items are assessed on a 7-point Likert-type scale. The RTS is scored on five subscales and a total score. The subscales are: responsiveness, dependability, faith, conflict efficacy and dependency concerns. High levels of internal consistency have been found for each of the subscales ranging from $\alpha = .83$ to $\alpha = .89$ and $\alpha = .89$ for the total score. Only the total score was used in this study. Discriminate validity for this measure has been demonstrated in its negative association with measures of self-disclosure, anger, and ambivalence (Holmes et al., 1990). Test-retest reliability over three years was $r = .71$ (Holmes et al., 1990). The total score yielded high reliabilities across all four time-points (baseline: $\alpha = .96$; pre: $\alpha = .96$; post: $\alpha = .96$; follow-up: $\alpha = .97$). This measure is commonly used in the EFT literature to measure relationship trust. Using this measure in the present study allows for the consistent measure of the relationship trust construct.

Experiences in Close Relationships scale- Short Form. The ECR-S (Wei et al., 2007) is a 12-item self-report questionnaire measuring adult attachment on two dimensions of insecure attachment: anxiety and avoidance. It is based upon the original 36-item ECR developed by Brennan, Clark, and Shaver (1998). The 12-item format was created as a more research-friendly format (Wei et al., 2007). As with the original format, items are reported on a 7-point Likert-type scale. For the purposes of this study, the instructions were adapted to refer specifically to the participants' current relationship (adapted with permission, M. Wei, personal communication 2008). The ECR-S includes two 6-item subscales to measure Avoidance (characterized as a fear of intimacy and discomfort with dependence and closeness with others) and Anxiety (characterized by a fear of rejection and preoccupation with abandonment; Brennan et al., 1998). The

coefficient alphas found by Wei et al. (2007) for the avoidance scale and anxiety scale were $\alpha = .84$ and $\alpha = .78$, respectively. Higher scores on either of the anxious or avoidant scales demonstrate higher levels of attachment anxiety or avoidance in individuals. The measure was found to have high test-retest reliability after one month (anxiety: $r = .80$; and avoidance: $r = .83$) and mean scores were stable across time (Wei et al, 2007). Attachment anxiety and excessive reassurance seeking were highly correlated, as were attachment avoidance and emotional cutoff, demonstrating convergent validity (Wei, Russell, Mallinckrodt, & Vogel, 2007). In this study, the reliabilities of each sub-scale were good (Anxiety: baseline: $\alpha = .77$, pre: $\alpha = .79$, post: $\alpha = .75$ follow-up: $\alpha = .79$; Avoidant: baseline: $\alpha = .83$, pre: $\alpha = .83$, post: $\alpha = .85$, follow-up: $\alpha = .89$). The ECR is the most common measure of dimensional attachment in the literature. We chose to utilize the short version of the ECR, which has similar psychometric properties, to reduce the demand on participants in the study.

Miller Social Intimacy Scale. The MSIS is a 17-item self-report questionnaire assessing the level of intimacy experienced by individuals in their current romantic relationships. Items are assessed on a 10-point Likert-type scale and measure the frequency (six questions) and intensity (eleven questions) of relationship behaviours. Total scores can range from 17 to 170. The measure demonstrated high test-retest reliability after a one-month ($\alpha = .84$) and two-month ($\alpha = .96$) interval (Miller & Lefcourt, 1982). Discriminate validity for this measure has been demonstrated in its negative association with measures of self-concept, and need for approval. Mean scores were found to distinguish between married ($M = 154.3$), unmarried couples ($M = 137.5$), as well as distressed couples ($M = 126.3$; Miller & Lefcourt, 1982). The internal

consistency reliability of the MSIS in this study was good to excellent (baseline: $\alpha = .92$; pre: $\alpha = .90$; post: $\alpha = .91$; follow-up: $\alpha = .95$). The MSIS was used in this study because it concisely measures the construct of intimacy as it is defined in this study and it has been used in prior EFT research.

Beck Depression Inventory. The BDI-II is a 21-item self-report questionnaire measuring the presence and severity of depressive symptoms occurring two weeks preceding completion of the questionnaire. The scores on the scale can range from 0 to 63, with higher scores indicating more severe depressive symptoms. The BDI-II demonstrates high levels of internal consistency ranging from $\alpha = .93$ in a sample of 120 college students to $\alpha = .92$ in a sample of psychiatric outpatients (Beck et al., 1996). Assessing the test-retest reliability of the BDI-II can be difficult because respondents are often receiving treatment for depressive symptoms; however, Beck et al. (1996) reported a one-week test-retest reliability of $r = .93$. The BDI-II was developed based on the diagnostic criteria for depression as described in the Diagnostic and Statistic Manual IV, therefore the measure has content validity. The BDI-II also correlates highly with other measures of depression and minimally with measures of anxiety (Beck et al., 1996). The internal consistency reliability of the BDI in this study was good to excellent (baseline: $\alpha = .88$; pre: $\alpha = .92$; post: $\alpha = .93$; follow-up: $\alpha = .92$).

Beck Anxiety Inventory. The BAI is a 21-item self-report questionnaire measuring the presence and severity of symptoms relating to anxiety occurring one week prior to the completion of the questionnaire. The scores on the scale can range from 0 to 63, with higher scores indicating more severe symptoms of anxiety. The BAI has demonstrated high internal consistency of $\alpha = .92$ in a sample of 160 outpatients (Beck,

Epstein, Brown, & Steer, 1988) and a similarly high coefficient alpha of $\alpha = .94$ in a sample of 40 outpatients diagnosed with an anxiety disorder (Fydrich, Dowdall, & Chambless, 1992). Test–retest reliability after one week was $r = .75$ (Beck & Steer, 1993). The BAI was developed based on the diagnostic criteria for anxiety as described in the Diagnostic and Statistic Manual III, therefore the measure has content validity. The BAI also correlates highly with other measures of anxiety and minimally with measures of depression (Beck et al., 1996). The internal consistency reliability of the BAI in this study was good to excellent (baseline: $\alpha = .86$; pre: $\alpha = .91$; post: $\alpha = .88$; follow-up: $\alpha = .91$).

Hold Me Tight Conversations Rating Scale. The Hold Me Tight Conversations Rating Scale (see Appendix A) is a 6-item measure of each partner’s self-reported ability to put into practice the conversations learned in the program. Items are reported on a 7-point Likert scale (range: 1= disagree strongly to 7=agree strongly) and measure the degree to which individuals are able to put into practice the concepts learned during the HMT Program. Scores on the scale can range from 6 to 42, with higher scores indicating a higher ability to practice the conversations. Items include statements such as: “I understand my negative cycle and how I pull my partner into it” and “I can identify key injuries and begin to heal them”. The internal consistency reliability of the HMTCRS in this study was good (post: $\alpha = .82$; follow-up: $\alpha = .88$). This measure was created for the purposes of this study and has not yet been validated.

Research Design

To investigate the above hypotheses, a within- subjects repeated-measures design was used to examine the trajectory of change across time (baseline to follow-up) for

couples participating in the HMT program. The study included HMT programs delivered in several different cities in Canada and the United States, therefore it was not economically feasible to have a formal control group, nor was it possible due to time constraints.

Procedure

Sampling Procedure. The HMT program groups that were part of the current study were selected based on convenience and availability of facilitators willing to be a part of the study. Facilitators learned of the study through conversations with one of the researchers or through postings made on an online EFT community. Facilitators who planned to lead an HMT program group in their community, and who wished to be a part of the study contacted the author, who provided additional details of the study and its requirements. Next, the facilitators informed couples signing up to the HMT program about the study, described the study procedures and requirements, and offered the couple the opportunity to participate. The names and emails of couples willing to participate in the study were forwarded to the author. Couples were contacted with further details for the study and were offered a free copy of the HMT Conversations for Connections DVD for their participation in the research study.

For this study, facilitators reported an average of 6.7 years of experience with EFT for couples (range 10 months to 14 years). Facilitators were psychologists (35%), Licensed Marriage and Family Therapists (23.5%), Registered Social Workers (17.6%), Masters in Marriage and Family Therapy, Licensed Clinical Social Worker and Licensed Professional Counselor (6%, respectively). The facilitators reported varying degrees of training ranging from certified EFT therapists (73%) to having completed only the basic

EFT externship (9%). The remaining 18 % of facilitators had completed advanced EFT training and were being supervised by certified EFT therapists (this supervision is part of the EFT certification and not required for facilitating the HMT program). All of the groups in the study consisted of couples who responded to the facilitator's advertisements (typically in newspapers or posters at the facilitators' office) for the program and who were seeking to participate in a relationship education program. The facilitators collected fees from each couple who participated in the program; these fees were unrelated to the study. Two groups consisted of a more specific population. One group in Nashville, TN consisted of couples who regularly meet in a community group supported by a local church and learned about the HMT program at a community event. The group in Denver, CO consisted of a group of police officers and their partners. The program was offered to the officers through their employer.

Assessment procedures. Partners provided informed consent in accordance with the research ethics board of the University of Ottawa. Please see appendix B for the ethics approval certificate and appendix C for letter of information for informed consent. After the facilitators obtained initial consent from couples to participate in the study, and provided the researcher with their email contacts, a link to the baseline assessment questionnaires was sent by email to the participants. This occurred on average 2.5 weeks prior to the commencement of the HMT program (although it was offered, no participants chose to be sent hard copies). The email also included a summary of the research requirements, information pertaining to the handling of information and confidentiality, a link to the questionnaires, as well a letter of information (for informed consent purposes and in accordance with the research and ethics board of the university, see appendix C for

the letter of information). Participants were asked to complete the questionnaires within a one-week period. Couples who did not complete the baseline questionnaire, as well as those who did not complete it on time, were nonetheless included in the study. Couples completed the pre-program assessment in person immediately before the first HMT program session, and the post-program assessment in person immediately after the last HMT program session. For these assessments, participants were asked to insert completed questionnaires into an envelope, seal it and return it to the Facilitator to ensure the Facilitator did not have access to the participants' data. Three or six months after the final session of the Program, the follow-up questionnaires were sent to the participants by electronic link provided via email. Participants were asked to complete the questionnaires within a two-week period for consistency of data. An email reminder was sent if the participants did not respond by the suggested deadline. Data that was received after this date was nonetheless included in the study. It is important to note that some adjustments were made to the study after it began. More specifically, one questionnaire, the MSIS, was added to our assessment packages. Furthermore, the follow-up period was extended from three months to six months. Therefore, five HMT program groups did not complete the MSIS and completed a three-month follow-up, whereas eleven HMT program groups completed the MSIS and six month follow-up.

After the final session of the HMT program, facilitators completed a short questionnaire assessing their level of training and experience providing EFT couples' therapy, as well as their experiences facilitating the program.

Format

As described above, the sample of HMT program groups included in this study is a convenience sample of programs being held in the facilitators' respective communities in the manner most convenient to them. Therefore, in this study, the HMT program was provided in two formats: a weekly session format as outlined in the HMT guide (Johnson, 2010) and a modified format conducted as a weekend retreat. For the weekly session format, generally, the first 2 sessions and the last 2 sessions took place on a Saturday, and 3 weekly sessions took place in the evenings in between. The weekend retreat usually began Friday evening with an introduction to the program, Conversations 1 through 3 were presented on Saturday and Conversations 4 through 7 on Sunday.

Statistical Analyses

Hierarchical Linear Modeling (HLM). Hierarchical Linear Modeling (HLM; Raudenbush & Bryk, 2002; Singer & Willett, 2003) is a method of statistical analysis that allows for the evaluation of nested data across time. We used HLM in the present study to determine the trajectory of change for couples in HMT program groups across time (from baseline through to six-month follow-up) in a four-level model with repeated measurements (level 1) within individuals (level 2) within couples (level 3) within groups (level 4).

There are many advantages to using HLM over other methods of statistical analyses, such as regression or repeated measures ANOVA, for the present study. First, HLM provides a more accurate estimation of regression coefficients and error variances for nested data because it accounts for shared variance within groups of data (i.e., within a couple or groups of couples; Atkins, 2005). Second, HLM manages missing data well;

participants who did not respond at every time-point (baseline through to follow-up) can be included in the estimation of fixed effects using maximum likelihood estimation, as long as the data is missing at random (MAR; Atkins, 2005). We used pattern-mixture models (Hedeker & Gibbons, 1997; Atkins, 2005) to evaluate the pattern of missing data at the third level of the models, because patterns of missing data will occur at the couple level and not the group level (data missing at the couple level may not appear to be missing at the aggregated group level). Non-significance of these models is indicative that data are MAR. When the data is MAR the pattern of missing data is assumed not to be associated with the dependent variable (Atkins, 2005).

Effect sizes were calculated and reported as pseudo R^2 and based upon the formula described by Singer and Willet (2003) that considers the structure of multilevel analyses. This allowed us to determine the percent of within-person variance in the dependent variable that is accounted for by the time or growth parameter. To determine the amount of variance explained by the model, we calculated the difference between the highest order models and the second highest order models.

We included no residual for the slope at the individuals level, based on the procedure described by Atkins (2005), because partners are expected to change at a similar rate and because of the limited degrees of freedom within couples. We centered the time variable, then built higher-level models from lower level models and determined the best fitting model by comparing the deviance statistics in chi square analyses (Singer & Willett, 2003). We began by comparing the intercept only or base models to the unconditional linear growth models with no other predictors. We then built upon this model by adding a quadratic growth parameter, followed by a cubic growth parameter to

determine whether adding these parameters provided a significantly better fit to the data. The level 2 variables in the models were group-mean centered and the level 3 and 4 variables in the models were grand-mean centered.

We report intercepts and slopes at the group level (level four) because a three-level model would not account for group level effects, potentially biasing the results. The intra-class correlation coefficient (ICC) is calculated using the relative variance of each level of the model. Kenny and colleagues recommended that a level be retained in the model when it accounts for at least 5% of the variance (Kenny, Kashy, & Bolger, 1998). Our findings demonstrated that the group in which the couple belonged explained over 5% of the variance in relationship satisfaction (8%), trust (13%), attachment anxiety (13%) attachment avoidance (9%). This suggested that the group in which couples were nested accounted for a moderate amount of the variance in the outcome variables. See Appendix C for HLM models.

Results

Intervention Fidelity

Studies of relationship education programs do not consistently assess intervention fidelity in the manner as treatment studies, nor have any norms been developed regarding how best to rate fidelity (Markman & Rhoades, 2012). In this study, we chose to observe a small number of sessions for available groups to assess intervention fidelity. Therapist or graduate student observers experienced in EFT rated facilitators using an implementation checklist created for the purposes of this study (see Appendix D for the checklist). Due to the nature of the field study and the convenience sample of facilitators selected, it was not possible to arrange for an observer for each program in each city, nor

was it possible to record the sessions. Therefore, one or two sessions were attended by one observer for approximately one third of the groups in this study; because some groups had more than one facilitator and some facilitators led more than one group, 53% of the facilitators were rated during at least one session. The coding procedure involved rating facilitator statements on the scale, which included eight statements regarding the facilitators' ability to create safety within the group and lead the group in accordance with the principles of EFT and the HMT program. The coders rated the mean facilitator fidelity to the guide for the observed sessions at 96%. Such high levels of adherence are routinely found in EFT studies (Burgess Moser et al., 2016; Makinen & Johnson, 2006). Given the focused nature of the HMT program, we expected a high level of fidelity by facilitators.

Data Screening and Cleaning

The data were examined for errors, outliers and deviations from normality. Outliers in the data (one data point on the DAS, ECR and HMTCRS respectively, seven data points on the RTS, three data points on the MSIS) were corrected to within 3.3 standard deviations from the mean. The data on five of the variables were moderately non-normal. Scores were negatively skewed at baseline and post-program on the RTS and positively skewed on the ECR anxiety scale. Scores were negatively skewed at each time-point for the MSIS. Data on these scales were transformed, and analyses using the transformed scores were compared to analyses without the transformed scores. Results using both transformed and non-transformed scores were similar; because these types of skewed scores are expected in this type of study and for ease of interpretation, we reported the results of the analyses with the non-transformed data. Missing items could

significantly affect the scores on four of the measures calculated using a sum score (DAS, MSIS, BDI-II and BAI). For this reason, imputation of scores for missing items was essential to ensure total scores were as accurate as possible. Missing items on these measures fell below 15%. We imputed missing values on these items when calculating scale sums. Imputations were conducted by using the expectation maximization (EM) method. Several couples did not complete measures at all four time-points (baseline 29%; pre-program 6%; post-program 12%; follow-up 44%) in the study (see Figure 1 for a detailed summary). The pattern-mixture model analyses (Atkins, 2005; Hedeker & Gibbons, 1997) indicated that missing data at any time-point (baseline through to follow-up) did not significantly predict the trajectory of the dependent variables ($p > .05$; relationship satisfaction, trust, attachment anxiety, attachment avoidance, intimacy, depression and anxiety). These results suggest the data were likely missing at random; therefore we proceeded with HLM without additional imputations or modifications to the models.

We also conducted an independent samples t-test to examine whether the individuals who did not complete follow-up differed from those who did in terms of their initial distress level. We found no significant differences in pre-program distress level between those who completed follow-up ($M = 105.95$ $SD = 16.68$) and those who did not ($M = 107.27$, $SD = 17.75$), $t(87) = 0.36$, $p = .721$.

Preliminary Analyses

Gender, age, income and religiosity were each entered separately as possible covariates of the growth parameters at level 2 (individual) of the models for each dependent variable. The length of relationship and distressed versus non-distressed

couples (distress was defined as < 97 on the DAS; Spanier, 1976) were entered separately as possible covariates of the growth parameters at level 3 (couple) of the models for each dependent variable. None of these variables was significantly associated with the outcome variables ($p > .05$); therefore we did not control for them in the formal analyses to test the study hypotheses. We also tested whether, weekend versus weekly group format, length of follow-up (three versus six months) or facilitator experience were covariates of the growth parameters at level 4 (HMT group) of the models for each dependent variable. Only program format was a significant predictor the linear slope of attachment avoidance, $\delta_{1001} = -0.37$, $t(135) = -2.77$, $p = .035$, therefore we included program format in the model for this variable. We did not control for program format at level 4 in the analyses for the remaining variables.

Means and standard deviations for the HMT program groups on all dependent variables are provided in Table 1. Means and standard deviations for the couples identified as distressed in this study (with DAS scores of 97 or less) are provided in Table 2.

Hierarchical linear modeling (HLM)

In order to determine the best fitting trajectory of change across time for the dependent variables, higher order models were built from lower-level models. Models were tested for linear, quadratic and cubic time variables as level one predictors; the deviance statistics indicated that the cubic time parameter was a better fit to the data than either linear or quadratic slopes across dependent variables, except for intimacy. The cubic slope indicated a wave-like pattern with one peak and one valley. The deviance statistics also indicated that models controlling for pre-program scores versus those that

did not control for pre-program scores were a significantly better fit to the data.

Therefore, pre-program scores were controlled for in the analyses reported here.

Relationship satisfaction. The linear slope demonstrated a significant positive effect, $\delta_{1000} = 3.21$, $t(90) = 3.23$, $p = .002$, suggesting that couples in the HMT program groups had increases in relationship satisfaction from baseline to follow-up. The addition of the quadratic parameter to the model showed a deceleration in the rate of change in relationship satisfaction from baseline to follow-up, $\delta_{2000} = -1.22$, $t(90) = 2.3$, $p = .021$. The addition of the cubic parameter to the model indicated that the deceleration in the growth of relationship satisfaction scores varied significantly over time as a cubic function, $\delta_{3000} = -1.20$, $t(90) = 2.43$, $p = .015$, 95% CI = -2.17, -0.23. That is, relationship satisfaction scores appeared to change little from baseline to pre-program, to increase from pre- to post-program, and returned to pre-program level at follow-up, following a cubic trajectory (see HLM modeled data in Figure 2). The pseudo R^2 statistic indicated that the cubic model explained 27% of the variance in relationship satisfaction scores within the couples in the HMT program groups representing a large effect size (Cohen, 1992). The addition of the cubic time parameter as a predictor in the model resulted in a significantly better fit to the data than the quadratic model, $(\chi^2(12) = 60.46, p < .001)$.

To investigate these results more fully, a follow-up linear analysis of the scores from pre- to post-program was conducted. We found a significant positive effect for the linear slope of relationship satisfaction, $\delta_{1000} = 2.87$, $t(30) = 3.24$, $p = .003$, 95% CI = 1.13, 4.61, suggesting that relationship satisfaction scores increased significantly from pre- to post-program. The pseudo R^2 statistic for the post-hoc linear model that only included pre- and post-program measures indicated that the linear time parameter

explained 64% of the variance in relationship satisfaction for the couples in the HMT program groups, representing a large effect size (Cohen, 1992).

Trust. The linear slope demonstrated a significant positive effect, $\delta_{1000} = 0.26$, $t(90) = 3.30$, $p < .001$. The addition of the quadratic parameter showed a significant deceleration in the rate of change across time points, $\delta_{2000} = -0.10$, $t(90) = -3.03$, $p = .003$. Further, the addition of a cubic parameter to the model indicated that the deceleration in the growth of trust scores varied significantly over time as a cubic function, $\delta_{3000} = -0.11$, $t(90) = -2.94$, $p = .004$, 95% CI = -0.19, -0.03. That is, trust scores also appeared to change little from baseline to pre-program, to increase from pre- to post-program, and decreased to below baseline level at follow-up, following a cubic trajectory (see HLM modeled data in Figure 3). The pseudo R^2 statistic indicated that the cubic model explained 34% of the variance in trust for the couples in the HMT program groups, representing a large effect size (Cohen, 1992). The addition of the cubic time parameter as a predictor in the model resulted in a significantly better fit to the data than the quadratic model ($\chi^2(12) = 89.23$, $p < .001$).

A follow-up analysis of the trust scores from pre- to post-program was also conducted. We found a significant positive effect for the linear slope of trust from pre- to post-program, $\delta_{1000} = 0.25$, $t(30) = 3.54$, $p = .001$, 95% CI = 0.11, 0.39, suggesting that trust scores increased significantly from pre- to post-program. The pseudo R^2 statistic for the post-hoc linear model that only included pre- and post-measures indicated that the linear time parameter explained 69% of the variance in trust for the couples in the HMT program groups, representing a large effect size (Cohen, 1992).

Attachment Anxiety. The linear and quadratic parameters were not significant predictors of attachment anxiety across time ($p = > .05$), however, inclusion of the cubic parameter was marginally significant, $\delta_{3000} = -0.1$, $t(90) = -1.91$, $p = .056$). These results suggest that although attachment anxiety scores fluctuated over time, there was no overall improvement.

Attachment Avoidance. Program format (weekend vs. 8 week) was a significant predictor of the slope for attachment avoidance, therefore, we controlled for program format in the analyses. The linear slope, controlling for program format, demonstrated a significant negative effect ($\delta_{1000} = -1.81$, $t(135) = -2.77$, $p = .006$), suggesting that couples in the HMT program groups demonstrated changes in attachment avoidance scores from baseline to follow-up. The quadratic parameter was not a significant predictor of the trajectory of change across time ($\delta_{2000} = 0.06$, $t(135) = 0.219$, $p = .827$). The inclusion of the cubic parameter demonstrated significant cubic modeling of the rate of change from baseline to follow-up, $\delta_{3000} = 0.88$, $t(135) = 2.93$, $p = .004$, 95% CI = 0.29, 1.47. That is, scores on attachment avoidance, when controlling for program format, increased from baseline to pre-program, decreased from pre to post-program and increased at follow-up, following a cubic trajectory (see HLM modeled data in Figure 4). Results suggest that couples who participated in the weekly HMT program group format had higher scores on attachment avoidance, by an average 0.18 points, than couples in the weekend HMT program group format. The pseudo R^2 statistic indicated that the cubic model explained 27% of the variance in attachment avoidance for the couples in the HMT program groups, representing a large effect size (Cohen, 1992). The addition of the

cubic time parameter as a predictor in the model resulted in a significantly better fit to the data than the quadratic model ($\chi^2(13) = 64.94, p < .001$).

To investigate these results more fully, a follow-up analysis of the scores from pre- to post-program was conducted. We found a significant positive effect for the linear slope of attachment avoidance, $\delta_{1000} = -1.60, t(45) = -2.71, p = .009, 95\% \text{ CI} = -2.75, -0.45$, suggesting that attachment avoidance scores decreased significantly from pre- to post-program. The pseudo R^2 statistic calculated for the post-hoc linear model that only included pre- and post-measures indicated that the linear time parameter explained 58% of the variance in attachment avoidance for the couples in the HMT program groups, representing a large effect size (Cohen, 1992).

Intimacy. The linear, quadratic and cubic models were not significant for the MSIS data ($\delta_{1000} = -0.32, t(60) = -0.18, p = .860; \delta_{2000} = -1.01, t(60) = -1.00, p = .316; \delta_{3000} = .01, t(60) = 0.01, p = .996$).

Depressive Symptoms. The linear slope demonstrated a significant negative effect, $\delta_{1000} = -2.7, t(90) = -4.51, p < .001$, suggesting that couples in the HMT program groups demonstrated decreases in depressive symptoms from baseline to follow-up. The quadratic parameter was not a significant predictor of the trajectory of change across time ($\delta_{2000} = 0.13, t(90) = 0.6, p = .549$). The inclusion of the cubic parameter to the model demonstrated that the growth of depressive symptom scores varied significantly over time as a cubic function, $\delta_{3000} = 0.96, t(90) = 3.47, p < .001, 95\% \text{ CI} = 0.42, 1.49$. That is, depressive symptom scores changed little from baseline to pre-program, decreased from pre- to post-program, and increased slightly from post-program to follow-up, following a cubic trajectory (see HLM modeled data in Figure 5). The

pseudo R^2 statistic indicated that the cubic model explained 31% of the variance in depressive symptom scores for the couples in the HMT program groups, representing a large effect size (Cohen, 1992). The addition of the cubic time parameter as a predictor in the model resulted in a significantly better fit to the data than the quadratic model ($\chi^2(12) = 90.39, p < .001$).

To investigate these results more fully, a follow-up linear analysis of the scores from pre- to post-program was conducted. We found a significant negative effect for the linear slope of depressive symptoms, $\delta_{1000} = -2.51, t(30) = -5.07, p < .001, 95\% \text{ CI} = -3.48, -1.54$, suggesting that depressive symptom scores decreased significantly from pre- to post-program. The pseudo R^2 statistic calculated for the post-hoc linear model that only included pre- and post-program measures indicated that the linear time parameter explained 74% of the variance in depressive symptoms for the couples in the HMT program groups, representing a large effect size (Cohen, 1992).

Anxiety Symptoms.

The linear and cubic parameters were not significant predictors of anxiety symptoms across time ($\delta_{1000} = -0.51, t(90) = -0.96, p < .337; \delta_{3000} = 0.23, t(90) = 0.91, p = .362$). The addition of the quadratic parameter to the linear parameter demonstrated a significant increase in the rate of change (decreased anxiety) from baseline to follow-up, $\delta_{2000} = -0.53, t(90) = -2.32, p = .021, 95\% \text{ CI} = 0.08, 0.99$. That is, anxiety symptom scores increased from baseline to pre-program, decreased from pre- to post-program, and decreased again from post-program to follow-up (see HLM modeled data in Figure 6). The pseudo R^2 statistic indicated that the quadratic model explained 29% of the variance in anxiety symptom scores for the couples in the HMT program

groups, representing a large effect size (Cohen, 1992). The addition of the cubic time parameter as a predictor in the model resulted in a significantly better fit to the data than the quadratic model ($\chi^2(12) = 57.94, p < .001$).

To investigate these results more fully, a follow-up linear analysis of the scores from pre- program to follow-up was conducted. We found a significant negative effect for the linear slope of anxiety symptoms, $\delta_{1000} = -0.66, t(30) = -2.22, p = .035, 95\% CI = -1.2, -0.078$, suggesting that anxiety symptom scores decreased significantly from pre-program to follow-up. The pseudo R^2 statistic for the post-hoc linear model that only included pre-program and follow-up measures indicated that the linear time parameter explained 79% of the variance in anxiety symptoms for the couples in the HMT program groups, representing a large effect size (Cohen, 1992).

Descriptive Results

The Hold Me Tight Conversations Rating Scale (HMTCRS) is a measure of each partner's ability to engage in the conversations taught and practiced during the HMT program. The measure was created for the purposes of this study and has not been validated, therefore results must be interpreted with caution. The information obtained from this measure is presented in a descriptive manner based on the means for couples (possible range for each item is 1 to 7). Generally, partners reported a high degree of ability to engage in the conversations post-program and a high degree of intention to continue making specific efforts to take care of their relationship, however, these scores decreased at follow-up. Partners reported that they understood their negative cycle and how they pull their partner into it (post: $M = 6.13, SD = 0.9$; follow-up: $M = 5.6, SD = 1.24$), they can identify their sensitivities and raw spots in their romantic relationship

(post: $M = 6.05$, $SD = 0.83$; follow-up: $M = 5.7$, $SD = 1.26$), can tell their partner their fears, reach for their partner and tell their partner their needs (post: $M = 5.84$, $SD = 1.24$; follow-up: $M = 5.01$, $SD = 1.74$), can identify key injuries and begin to heal them (post: $M = 5.65$, $SD = 1.15$; follow-up: $M = 5.07$, $SD = 1.68$), can talk more openly about sex and their sexual needs (post: $M = 5.56$, $SD = 1.44$; follow-up: $M = 4.86$, $SD = 1.79$), plan to make specific efforts to take care of the relationship (post: $M = 6.57$, $SD = 0.74$; follow-up: $M = 5.88$, $SD = 1.23$). Couples consistently demonstrated less ability to engage in the HMT conversations at follow-up, which appears to be consistent with the pattern described in the results above, where scores decrease from post-program to follow-up.

Discussion

This was the first study to investigate the effectiveness of the HMT program at increasing couple satisfaction, trust, secure attachment, and intimacy, as well as decreasing depression and anxiety symptoms. This was done by examining the trajectory of change in these variables from an average 2.5 weeks before beginning the HMT program (baseline) through to follow-up at three or six months, while controlling for pre-scores on each variable. Controlling for pre-scores means that these scores are taken into account when determining the best-fit model, so that the trajectory of change is true for the HMT program groups notwithstanding their pre-program levels relationship satisfaction, trust, attachment, intimacy, depressive or anxiety symptoms.

Our hypotheses regarding relationship satisfaction, trust, attachment avoidance, depression and anxiety were partially supported. The results demonstrated that couples reported relatively little change before the program, increases in relationship satisfaction

and trust and decreases in depression and attachment avoidance after the program, and a return to pre-program levels at follow-up, except for trust where scores were lower than baseline. These results followed a wave-like trajectory with one valley (pre scores) and one peak (post scores). The results for attachment avoidance suggested that the wave-like trajectory was significant when program format was controlled for in the model. This suggests that the weekend and weekly format of the program may follow different trajectories of change, however we could not further examine this due to the low number of groups in both categories. The curvilinear trajectory was significant with a large effect size.

Unlike the above-noted variables, the results of the analyses for anxiety symptoms followed a different pattern, a quadratic trajectory with one peak only (scores were lowest at follow-up). An examination of the means demonstrated that anxiety scores were highest, though nonetheless in the mild range, at pre-program compared to the other three time-points. The mean scores decreased to lower than the baseline assessment at follow-up. The curvilinear quadratic trajectory was significant with a large effect size. The higher pre-program scores may be reflective of naturally higher levels of anxiety when participating in a new activity. There was no significant change in attachment anxiety or intimacy across the study time points, therefore our hypotheses regarding these variables were not supported.

Ad hoc analyses were performed based on significant HLM model trajectories. We examined the graphs and means for variables where the wave-like trajectory was found to be significant, and determined the largest change appeared to be from pre- to post-program for relationship satisfaction, trust, attachment avoidance and depression; for

anxiety symptoms the largest difference was from pre to follow-up. We conducted an examination of the scores from pre- to post-program and confirmed that scores increased significantly for relationship satisfaction and trust, as well as decreased significantly for attachment avoidance and depressive symptoms. The ad hoc analysis for anxiety symptoms also demonstrated a significant decrease from pre-program to follow-up. All of these changes had a large effect size.

In this study, we also examined the couples' ability to engage in the conversations taught in the HMT program after the program and at follow-up. Although it was not possible to examine the significance of change with the non-empirically validated measure, it was observed that mean ability scores for couples consistently decreased from post-program to follow-up for each conversation. This is consistent with the decrease in scores found on most variables from post-program to follow-up in the study.

Overall, this study provides initial support for the effectiveness of the HMT program to help couples improve relationship satisfaction and trust in the short term for couples choosing to participate in a relationship education program, suggesting that the HMT program may be a valuable alternative to the currently available relationship education programs. However, improvements were not maintained over a 3- or 6-month follow-up period indicating that the positive results may not last.

Relationship Satisfaction in the Context of Relationship Education Research

This was the first study of the HMT program and provides preliminary support for the program. Couples who participated in the HMT program demonstrated positive gains in relationship satisfaction immediately after the program, though gains decreased by three or six month follow-up. The significant change in relationship satisfaction that

occurred from pre- to post-program in a population of couples with, on average, high initial satisfaction is comparable to change that occurred in other studies of relationship education programs (Brock & Joanning, 1983; Halford et al., 2004; Halford et al., 2001; Ledermann et al., 2007; Ridley et al., 1982; Wampler, 1982) and compares favorably to other studies where no change was found from pre- to post-intervention on relationship satisfaction (Hahlweg et al., 1998; Kaiser et al., 1998; Laurenceau et al., 2004; Markman et al., 1988; Markman et al., 1993; Stanley et al., 2001). The decline that occurred from post-intervention to follow-up has also been demonstrated in some longitudinal studies of relationship education programs, particularly with follow-up periods of less than three years post intervention (Brock & Joanning, 1983; Hahlweg et al., 1998; Markman, et al., 1988; Markman, et al., 1993). Although this study is not a randomized control trial, and therefore we cannot make causal inferences about the HMT program, the increases in relationship satisfaction suggest that the HMT program may possibly contribute to positive changes in relationship satisfaction. Additional research is required to further examine this.

Most relationship education programs currently focus on training couples to use communication and problem-solving skills. Although these programs have demonstrated significant positive effects for couples, some research suggests that targeting communication through skills training may not directly linked to relationship satisfaction and that relationship satisfaction may be a better measure of the effectiveness of programs (Hawkins et al., 2012). Hawkins et al. (2008) reported significant medium effect sizes for both communication skills (post: $d = .44$; follow-up $d = .45$) and relationship quality (post: $d = .36$; follow-up: $d = .31$) in their meta-analysis of

relationship education programs, however, relationship quality effect sizes were lower than communication skills effect sizes at both post-intervention and follow-up. In another meta-analysis, the authors found that the relationship education programs teaching communication skills demonstrated significantly larger effects on communication than did other types of programs, but there were no significant differences between programs with regards to relationship satisfaction (Hawkins et al., 2012). In their study of low-income couples participating in a community program to promote healthy marriages, Williamson et al. (2016) found that increases in relationship satisfaction were not mediated by increases in communication, nor did improvements in communication lead to greater relationship satisfaction. Based on this research, some researchers believe that communication, as conceptualized in these studies, may not directly lead to changes in relationship satisfaction (Halford et al., 2004; Owen et al., 2013), however, researchers continue to examine the relationship between these two variables.

Furthermore, the theory behind EFT suggests that many couples will be unable to use the skills taught in most relationship education programs in moments of distress and disconnection (Johnson, 2004). Research has also demonstrated that the skills taught do not necessarily target the intended variables (Rogge et al., 2013; Schilling et al., 2003). In their study, Rogge et al. (2013) found that couples participating in a one-session information session where they learned about relationship awareness but were not provided with skills training, had similar outcomes to couples participating in programs that focus on skills training. Furthermore, couples participating in either PREP, CARE or the relationship awareness session had relationship satisfaction scores that did not differ

across time from those of a no intervention group, suggesting that these programs did not affect relationship satisfaction in that study.

Trust, attachment and intimacy in the HMT program

The results of our study demonstrated that couples in the HMT program had higher levels of trust immediately after the program, which decreased to pre-program levels at follow-up. Although trust has been examined in the research on EFT, it has rarely been measured in studies of relationship education programs as a separate construct. Trust is a key component of attachment theory and believed to be important for creating a secure bond (Mikulincer, 1998) thus making it a key variable of interest for the HMT program. When trust is present, affect is more easily expressed and partners are able to ask for their attachment needs to be met (Mikulincer, 1998). Although we did not examine whether trust predicted relationship satisfaction in this study, other researchers have found an association between trust and relationship satisfaction (Johnson & Talitman, 1997). In their study, Johnson and Talitman (1997) found that female partners with higher pre-therapy levels of faith in their partner, a dimension of trust, had higher relationship satisfaction at follow-up. Although trust increased significantly from pre- to post-program, the decrease to below baseline at follow-up (based on the reported means in Table 1) is contrary to what has been found in the literature on EFT. It is possible that trust, in the manner measured in this study, is not sufficiently affected by the HMT program to lead to maintained high levels of trust. There may also be factors influencing scores from post-program to follow-up that we did not assess.

Contrary to our hypotheses, we did not find any significant change across time in attachment anxiety. Previous studies of EFT demonstrated decreases in attachment

anxiety across EFT sessions among distressed couples and a significant decrease for a subset of couples who had successfully completed a softening event (Burgess-Moser et al., 2016). In contrast with EFT, the HMT program is carried out in a much shorter timeframe and in a group format. The intensity of the program may not have been enough to have an impact on attachment anxiety in this study. Furthermore, the lack of change could have been due to the low levels of baseline attachment anxiety, which could have made it more difficult to demonstrate change on this variable due to a floor effect.

With respect to attachment avoidance, we found that couples demonstrated little change from baseline to pre-program, significant decreases in attachment avoidance from pre-program to post-program with a large effect size, and a decrease from post-program to follow-up when program format was controlled for in the analyses. This is consistent with our hypothesis, and in line with EFT research that demonstrated decreases in attachment avoidance across EFT sessions (Burgess Moser et al., 2016). The results also allowed us to determine that the couples in the HMT program groups who participated in the weekly format reported higher attachment avoidance than the couples in the groups who received the weekend format. Although the difference was small, it is possible that the weekend format allowed couples to focus on one another in a different environment, and alleviated the pressure from daily life stressors. Conversely, couples who participated in the weekly format would have felt the continued effects of every day life stressors throughout the course of the program. This could have led to weekend format couples becoming slightly less avoidant than weekly format couples. Given that program format was a significant predictor of the slope, it is likely that each format resulted in a different trajectory of change, such that change could have occurred in a more linear or curvilinear

manner for one format versus the other. Unfortunately, due to the low number of HMT program groups in each format, we could not examine this explicitly in our study. Further research may attempt to compare the weekend format against the weekly format with a higher number of HMT program groups in each format. This would lend further support to the flexible delivery of the program and address any variability in how the formats might affect attachment avoidance.

Our hypothesis regarding intimacy was not supported, as there were no significant changes across time on the MSIS for the couples in the HMT program groups. Intimacy has been linked to relationship satisfaction and is felt by partners who trust and feel connected to each other (Dandeneau & Johnson, 1994). It is possible that significant changes in intimacy were not found in this study because the rate of change of these two variables may differ. For example, relationship satisfaction may increase as couples understand their cycle and de-escalate, whereas increased intimacy may occur after more in depth emotional connection through bonding conversations is experienced. The lack of significant findings for intimacy could also be due to the fact the intimacy questionnaire (MSIS) was added after the study began, therefore not all participants in the study completed it. It is possible a larger sample size would have been necessary to detect change on this variable.

Depression and Anxiety Symptoms in HMT

Although the HMT program does not focus on reducing symptoms of depression or anxiety directly, previous research on EFT has demonstrated a reduction in symptoms after therapy (Denton et al., 2012; Dessaulles et al., 2003; Priest, 2013). We therefore sought to examine whether any changes in depression or anxiety symptoms might occur

after the HMT program. The results indicated that couples in the HMT program experienced significantly fewer depressive symptoms after the program and significantly fewer anxiety symptoms at follow-up with a large effect size. On average, couples in the HMT program groups started the program with minimal levels of depressive or anxiety symptoms, therefore the significant decreases in depressive and anxiety symptom scores are not clinically significant. That being said, distressed couples reported higher levels of depression and anxiety than non-distressed couples lending support to the relationship between relationship satisfaction and psychological health. These results suggest that the HMT program may affect depression and anxiety symptoms in partners, although further research with individuals experiencing higher levels of depressive and anxiety symptoms would be required to confirm this.

The Hold Me Tight Program: A New Focus of Change

The results of this study demonstrate that the HMT program created positive change, with large effect sizes, in relationship functioning from pre- to post-program for couples in the HMT program groups. The program is unique among relationship education programs, in that it does not teach communication skills, problem solving or conflict resolution. Instead, it helps partners become more emotionally accessible, responsive and engaged by focusing on affect regulation and setting up a specific kind of bonding conversation. These are the elements that have been shown in hundreds of studies on the topic of attachment theory (Mikulincer & Shaver, 2007) to shape secure bonding.

Although we did not examine the mechanisms of change in this study and cannot make causal interpretations of our results, we can hypothesize, based on the extensive

research on EFT and attachment theory, that connecting emotionally through the identification of primary emotions and attachment needs driving negative interaction patterns helped partners trust one another more and feel more satisfied with their relationship.

Distressed and Non-Distressed Couples in the HMT Program

Research of relationship education programs, especially when couples self-select to participate in the intervention, often included distressed couples (Accordino & Guerney, 2003; Bodenmann et al., 2009; Braukhaus et al., 2003) and these studies tend to result in stronger effects for distressed couples than non-distressed couples. Although it is rare that couples complete the program in more distress than when they began, Halford et al. (2001) found that low-risk couples who participated in the program demonstrated significant decreases in relationship satisfaction relative to the control group at 4-year follow-up. We did not assess low versus high risk in this study, but we did examine initial distress level. Distressed couples appear no less likely to benefit from the program, as their growth curve was not significantly different from non-distressed couples. Distressed couples in this study remained, on average, in the distressed range on the DAS at post-program (see means and standard deviations in Table 2). It is possible the distressed couples in this study would benefit from additional intervention.

Clinical implications

The results of this study suggest that the HMT program may be effective in helping couples increase relationship satisfaction and trust, as well as decrease attachment avoidance in their relationships at post-program. Couples in the HMT program groups also reported fewer symptoms of depression from pre- to post-program

and of anxiety from pre-program to follow-up, however, because of the low initial scores on both of these variables the results are not clinically significant. Couples also tended to lose their gains from post-program to follow-up. Couples may benefit from additional intervention to help them maintain their gains. It may be beneficial to provide couples with a booster session or two in the months following completion of the program in order to help them maintain their gains in the long-term. As demonstrated by Braukhaus et al. (2003), couples who participated in a relationship education program that included two booster sessions had higher scores at follow-up than couples who participated in the program only. Offering booster sessions to couples participating in the HMT program may help them address roadblocks to practicing the bonding conversations of HMT in the months following the completion of the HMT program. The lack of research in this area for relationship education make it difficult to determine with certainty the structure and number of booster sessions that clinicians should offer. In keeping with the structure of HMT, interested couples could attend a group session where they would discuss the roadblocks they have encountered and facilitators could help them through these. Future research should attempt to examine the impact of adding booster sessions on relationship functioning, the ideal number of sessions and the appropriate structure of these sessions.

The Hold Me Tight Program incorporates the process of Emotionally Focused Therapy (EFT), an evidence based couple therapy, into a relationship education program for couples that is administered in groups, and may be more accessible to couples than 21 sessions of couple therapy. It has an easy-to-follow manual allowing the program to be given by facilitators with little experience and does not require extensive training. In this study, we found minimal differences between the HMT program provided in a weekend

format compared to a weekly format and we found that therapist experience did not predict the outcome on any of the variables. This lends support to the flexibility of the HMT program, which allows facilitators the freedom to deliver the program in the manner that is most practical and cost efficient for the couples in their communities.

Strengths, Limitations and future directions

The present study is an important first step in determining the effectiveness of the HMT Program, and has several strengths. This was a naturalistic field study, which allowed us to examine the program as it will normally occur in facilitators' communities. This design enabled us to evaluate the HMT program in the flexible manner it was designed to be delivered: with therapists of differing expertise, providing the program in different formats, in different locations and with couples of varying degrees of distress who sought to participate in the HMT program. Implementing a study of this type is challenging and complex in many ways. For example, the author of this paper was required to coordinate remotely with both facilitators and participants to ensure understanding of the requirements and methodology. The naturalistic field study also gives the study high external validity.

Another strength of this study is that we used HLM for the statistical analyses. HLM takes into account the nested nature of couple and group data. It allows us to determine the trajectory of change across time for the couples in the HMT program groups. In this case the non-linear nature of the change across time-points was highlighted, which led us to recommend a booster session after completion of the group.

This study is not without its limitations. For this type of naturalistic field study, certain compromises must be made. For example, using a convenience sample of HMT

programs meant that there was variability between the groups (as demonstrated by the results of the intra-class correlations previously reported). Although post-hoc tests to examine the variance were not possible due to the low number of groups, it is possible the variance was due to location (i. e. differing socio-cultural implications depending on location), type of couples participating in the group (i.e. we had one group of police officers and their spouses and one group that regularly meets as part of a church community), as well as the format in which the HMT program group was provided (8 week vs. weekend). However, we did control for format with attachment avoidance, and format did not predict the outcome for the other variables. It is possible that there may be unmeasured factors that could bias the results. For example, a group of co-workers or friends may have a different rapport with other members of the HMT program group, either enabling or restricting group sharing. This type of factor could alter the couples' experience of the group and possibly affect outcomes.

Another limitation is the small number of time-points (four) and the relatively small number of groups at level 4 (16) that may have reduced the power of the study when using HLM. Generally, a larger number of time-points and groups at the highest level are recommended (Raudenbush & Bryk, 2002). That being said, increasing the level of participant burden by adding assessments was not ideal for this study. Furthermore, time constraints made it impossible to include more groups in our study. With regards to the pre- to post-intervention analyses, where the time-points examined was reduced to just two, HLM was chosen over a repeated-samples *t*-test to preserve the manner in which HLM takes into account the nested data, thus making a more rich, and more accurate, examination of the data.

Another limitation is that we did not have a control group in this study, which prevents us from drawing conclusions regarding causality. Although couples may naturally fluctuate in their level of relationship functioning over time, it is unlikely the trajectory of change determined using multilevel modeling demonstrated for the variables in this study occurred by chance. Furthermore, assessing couples at baseline allows for the examination of change that does naturally occur before the program, in effect using subjects as their own controls. That being said, the fact that we did not randomize participants to the intervention or a control group limits the causal conclusions we can make regarding the HMT program and reduces the internal validity of our study. For example, it is possible the HMT program did not directly lead to changes in relationship satisfaction, but that relationship satisfaction was affected by the reduction in depressive symptom scores, or by another unmeasured variable. It is also possible that the changes found in this study were due to the natural passage of time. It is also possible that change was caused simply by the interaction with the facilitators and like-minded couples. A randomized control trial should be undertaken to allow for more causal inferences to be made about the HMT program. The nature of a field study reduces the internal validity in that there are many variables that researchers cannot control for. A more controlled trial would eliminate this variability and will be important to further support the dissemination of the HMT program. However, the merits of a field trial in terms of generalizability, as a form of effectiveness research, are undeniable given that this program is not designed to be implemented in tightly controlled study conditions where internal validity is the main concern. Such concerns with internal validity are also arguably lessened by the fact that

the program is based on and closely follows the practice of EFT, which has a high level of empirical validation.

The follow-up period is of fairly short duration, and varied among the HMT program groups, as described above. Although controlling for the varying follow-up times showed no difference in results between the three and six month follow-ups, future research of the HMT program should aim to include a more consistent follow-up assessment period, as well as a longer follow-up period. A longer follow-up period will provide additional insight into the long-term effects of the HMT program and whether it can be associated with change over several years. Of particular interest may be the three-year mark that was highlighted in several studies as the period when relationship satisfaction was most affected by the interventions, and subsequent years when satisfaction declined.

There was also variability in the period during which couples completed the baseline control assessment. The nature of the field study made it difficult for all couples to be assessed in the same time period for the baseline control assessment. There was variability in the period when couples signed up for the program, as well as when the facilitators and the researchers were able to connect regarding the study. Furthermore, some couples did not complete the baseline assessments because there was not enough time between sign up and the start of the program. Although the pattern of missing data at baseline was not predictive of any of the outcomes, it is possible the variability led to reduced internal validity for the study, in the sense that it is possible change occurred based on external factors not measured in the study or as a natural fluctuation of time.

Future studies should attempt to include a less variable baseline assessment to account for this.

The quantity of missing data in our study also poses a limit to the interpretation of the results. For example, 44% of couples in the study did not complete the follow-up assessment. Although the data were found to be missing at random, suggesting there were no significant differences on any of the variables between couples who completed the questionnaires at each time-point and those who did not, and HLM takes into account missing data, the attrition rate may potentially bias the results. It is possible that couples who completed the questionnaires were different in important ways from those who did not, for example, it is possible that couples who did not complete the follow-up separated. We found no differences in pre program levels of distress between those who completed the follow-up and those who did not.

Another limitation is that the participants in this study are predominantly Caucasian and of a relatively advantaged socio-economic status. Although this is representative of the couples seeking to participate in a relationship education program in the locations where groups were held as a part of this study, further studies should attempt to include a more culturally and socio-economically diverse sample to facilitate further generalizability of results. Future research should also include couples identified as at-risk, military couples, same-sex couples and couples from varying cultural backgrounds. Furthermore, the couples in this study self-selected to participate in the HMT program. Couples who self-select to participate in a relationship education programs or couples research are likely different from couples who do not, which could potentially bias the results (Ledermann et al., 2007; Halford, Markman, & Stanley, 2008).

Also, couples who pay to participate in such a program (as did those in this study) may be more motivated to report changes than couples who receive free training. A randomized-control trial, where couples do not choose the intervention to which they participate, would be ideal (Halford & Snyder, 2012). Facilitators also self-selected into the study and it is possible that, similarly to self-selected couples, this may lead to some bias in the results. It is possible, for example, that facilitators who chose to be in the study were more confident in their abilities or felt more experienced than facilitators who chose not to be in the study. In future research, a random selection of facilitators may reduce this bias.

The implementation check is another limitation to this study. Only a small sample of sessions for a few of the groups were observed by one rater. The implementation check in this study was based on availability of observers. Many studies of relationship education programs do not include an implementation check, though it is recommended that researchers attempt to do so (Markman & Rhoades, 2012). Although the manual provides clear instructions on how to lead the program, and the results of the implementation check suggested a high rate of adherence, it is possible unobserved facilitators deviated from the manual, thus affecting the results either positively or negatively. Future research could endeavor to have at two independent observers rate a random selection of all available sessions. To facilitate this, sessions could be audio or video-recorded; this was not possible for our study due to limited time and resources.

Another limit to this study is that only self-report measures were used. This is a common limitation of research in psychology. Behavioural assessments were not feasible in this field study, but future research could include behavioural measures, such as the

Structural Analysis of Social Behavior (SASB; Benjamin, Foster, Roberto, & Estroff, 1986) or the Secure Base Scoring System (Crowell, Treboux, Gao, Fyffe, Pan, & Waters, 2002) to assess couple interactions and attachment. Behavioural assessments may provide researchers with the ability to identify changes in couples that may not be detectable through self-report.

Notwithstanding these caveats, we believe the study herein is generalizable to the population of couples seeking to participate in relationship education programs in the communities in which they were provided. Such clinically relevant research is necessary in the field to demonstrate the true effects of programs (Westen et al, 2006).

Future research should endeavor to examine the mechanisms of change in the HMT program. For example, research could look at whether couples who are able to understand their negative interaction pattern, the underlying emotions and the impact they have on their partner, and thus reach de-escalation, are more likely to experience increase in relationship satisfaction. Future research should also look at variables such as group cohesion and therapeutic alliance that could affect outcomes. These are variables that could explain some of the variability between groups, as well as the process of change. The importance of therapeutic alliance has been demonstrated in the research on EFT (Johnson & Talitman, 1997) and is the foundation upon which change in EFT is theorized to be possible. It is possible that certain facilitators had stronger alliances with certain couples, and this could have affected the results. Furthermore, group processes, such as group cohesion, may also help to explain some of the variability between groups. Groups where the participants are engaged and accepting of one another and the group processes are correlated with better outcomes (Yalom & Leszcz, 2005). Although this has been

frequently studied for psychotherapy groups, there is little research on group cohesion and therapeutic alliance for relationship enrichment and education programs (Owen, Antle, & Barbee, 2013). Including these variables in future research could provide researchers with valuable insight into the mechanisms of change for the HMT group and relationship education groups generally.

Future research could also look into the feasibility of the HMT program as a prevention program for at-risk couples. For example, couples have been identified as at-risk if their parents divorced, if the male partner witnessed parental violence (Halford et al., 2001) and if they are from a lower SES. Couples with higher initial levels of distress also tend to benefit from prevention programs (Halford et al., 2001). Examining the effectiveness of the HMT program at preventing future distress in these couples would further the generalizability of the program.

Conclusions

The results of this study provide preliminary support for the effectiveness of the Hold Me Tight: Conversations for Connection relationship education program and demonstrate that it is comparable to other relationship education programs, thus making it a valuable addition to the programs currently available. Couples in the HMT program, with groups held in several locations in Canada and the United States, demonstrated improvements in relationship satisfaction, trust, attachment avoidance and depressive symptoms with large effect sizes. These improvements were not maintained at follow-up. They also demonstrated improvements in anxiety symptoms with a large effect size with further improvements in follow-up. Changes in depressive and anxiety symptoms were not clinically significant. HMT is based on an empirically validated therapeutic approach

to couple's therapy, and is the first relationship education program grounded in the attachment model of adult romantic relationships. The results of this study provide support for the HMT program as a promising new relationship education modality that incorporates an empirically supported attachment-based frame. The HMT program stands out among existing programs in that it is grounded in the science of attachment.

Attachment research has demonstrated the centrality of a secure attachment bond to prevent relationship distress and to promote resilience and flourishing. The HMT program focuses on fostering attachment security in order to help couples not only recover from distress, but also actively prevent distress and help couples enhance their bond to make it last.

Table 1

Means and Standard Deviations of Dependent Variables for HMT program groups.

	Baseline Assessment	Pre- Program	Post- Program	Follow-up
Relationship Satisfaction (DAS)	107.45 (6.25)	106.63 (10.08)	110.81 (9.38)	106.81 (12.2)
Trust (RTS)	5.4 (0.54)	5.36 (0.73)	5.6 (0.66)	5.17 (.92)
Attachment anxiety (ECR-SF)	3.48 (0.56)	3.52 (0.72)	3.7 (0.87)	3.38 (0.8)
Attachment avoidance (ECR-SF)	2.49 (0.53)	2.59 (0.63)	2.5 (0.72)	2.6 (0.82)
Intimacy (MSIS)	135.49 (7.55)	135.45 (9.03)	136.87 (8.93)	132.58 (16.18)
Depressive Symptoms (BDI-II)	9.55 (3.4)	10.06 (4.86)	7.65 (4.13)	7.75 (5.4)
Anxiety Symptoms (BAI)	5.15 (1.21)	6.48 (2.24)	6.18 (2.48)	5.07 (2.27)

Note. (N= groups) MSIS = Miller Social Intimacy Scale; Baseline assessment N = 12 (MSIS N = 7), Pre-Program N = 16 (MSIS N = 11), Post- Program N = 16 (MSIS N= 11), Follow-up N = 16 (MSIS = 10)

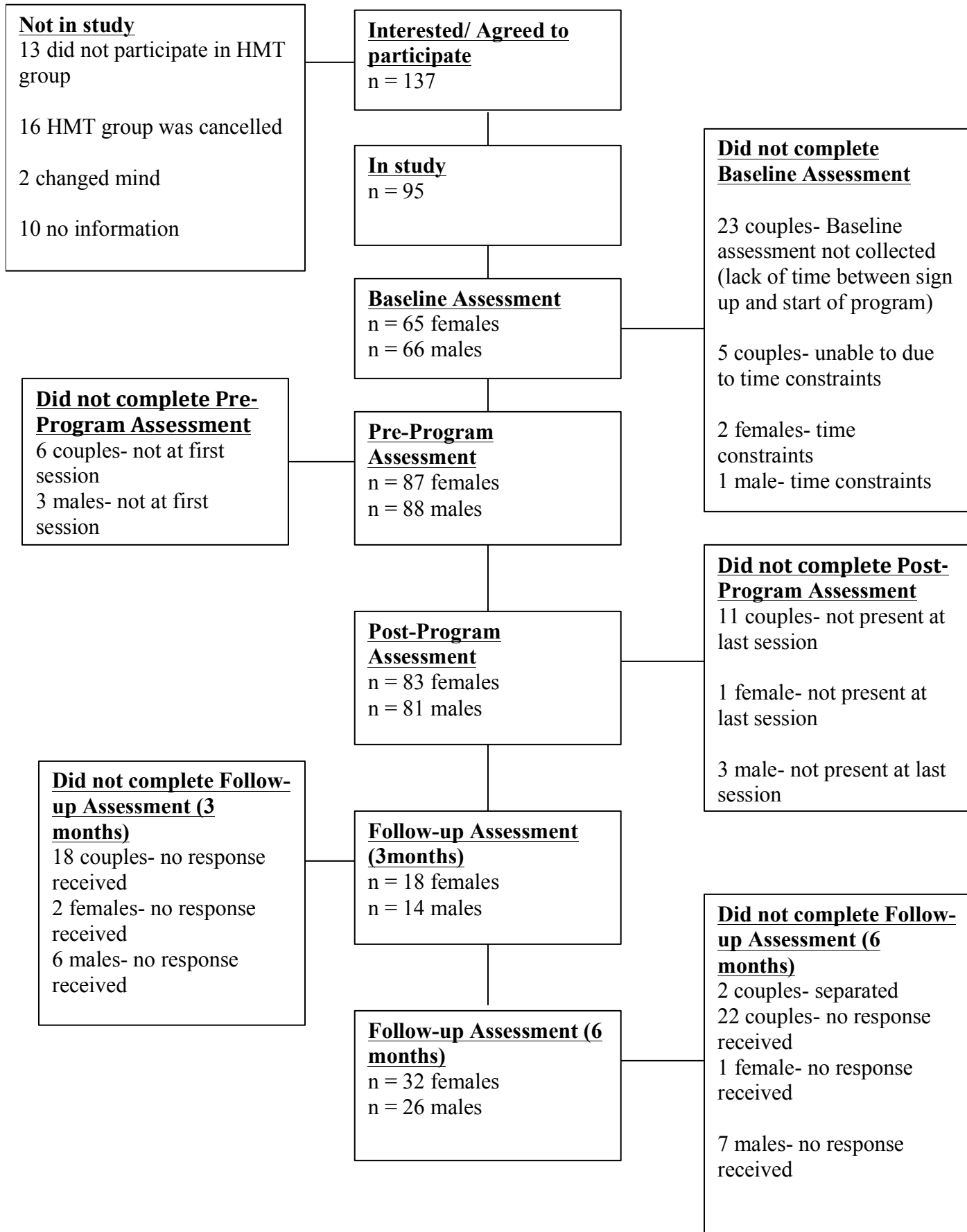
Table 2.

Means and standard deviations for distressed couples.

	Baseline Assessment	Pre- Program	Post- Program	Follow-up
Relationship Satisfaction (DAS)	87.86 (12.67)	84.83(9.72)	90.71 (11.86)	87.5 (18.08)
Trust (RTS)	3.99 (0.53)	4.15 (0.65)	4.53 (0.84)	4.12(1.2)
Attachment anxiety (ECR-SF)	4.38 (0.87)	4.52 (1.04)	4.48 (0.81)	4.09 (1.03)
Attachment avoidance (ECR-SF)	3.83 (0.58)	3.45 (0.83)	3.39 (1)	3.6 (1.16)
Intimacy (MSIS)	112.81 (22.87)	123.26 (14.79)	123.28 (15.06)	123.28 (15.06)
Depressive Symptoms (BDI-II)	13.27 (7.89)	16.22 (6.58)	11.59 (7.37)	11.28 (7.9)
Anxiety Symptoms (BAI)	8.7 (5.66)	9.9 (6.16)	10.58 (6.49)	6.13 (5.54)

Note. Distressed couples = DAS scores of 97 or less; (n = couples) Baseline assessment n = 11 (MSIS N = 7), Pre-Program n = 25 (MSIS n = 21), Post- Program n = 21 (MSIS n= 18), Follow-up n = 16 (MSIS = 13)

Figure 1: Flowchart of Couples in the Study



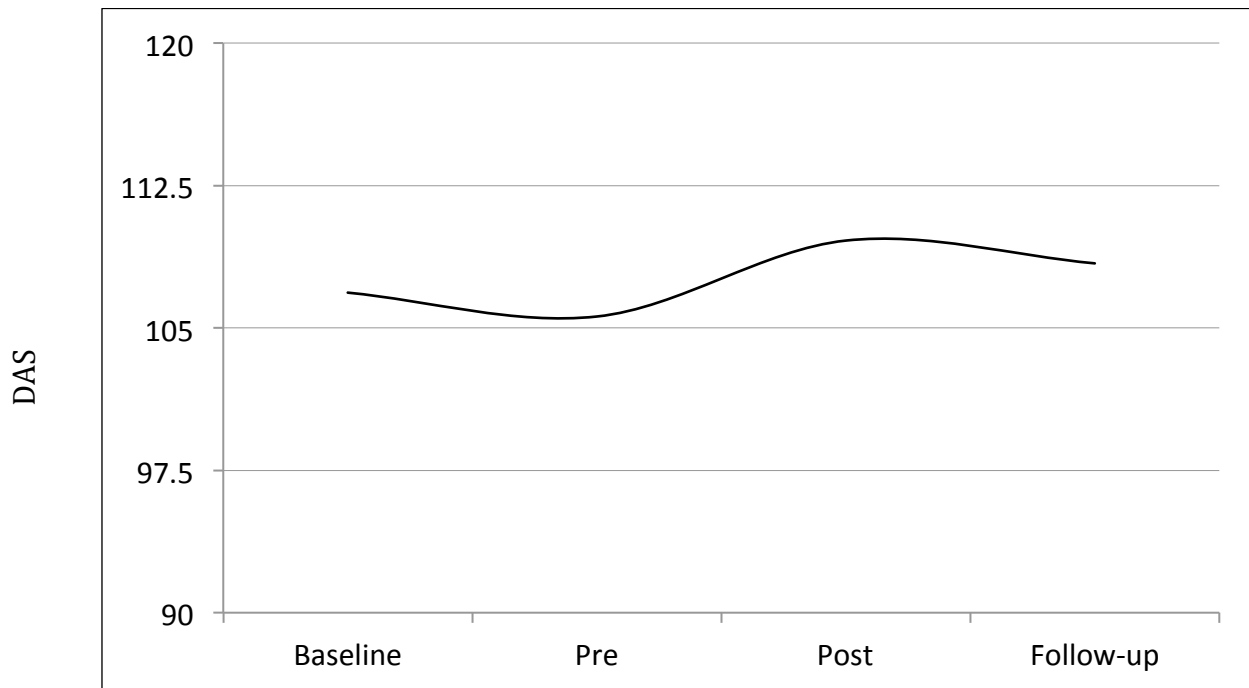


Figure 2. Best fitting model growth curve (cubic) for couples in HMT groups for relationship satisfaction across the four time-points. $\delta_{3000} = -1.20$, $t(90) = 2.43$, $p = .015$, 95% confidence interval for the cubic parameter coefficient = -2.17, -0.23.

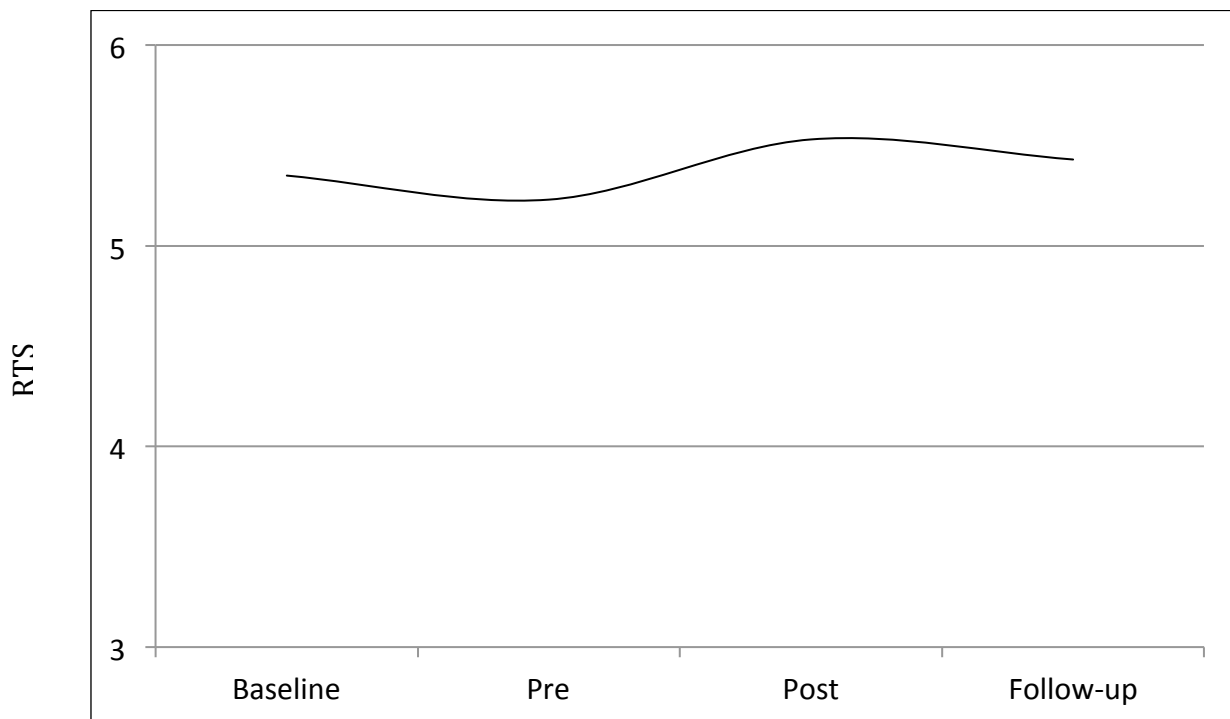


Figure 3. Best fitting model growth curve (cubic) for couples in HMT groups for relationship trust across the four time-points. $\delta_{3000} = -0.11$, $t(90) = -2.94$, $p = .004$, 95% confidence interval for the cubic parameter coefficient = -0.19, -0.03.

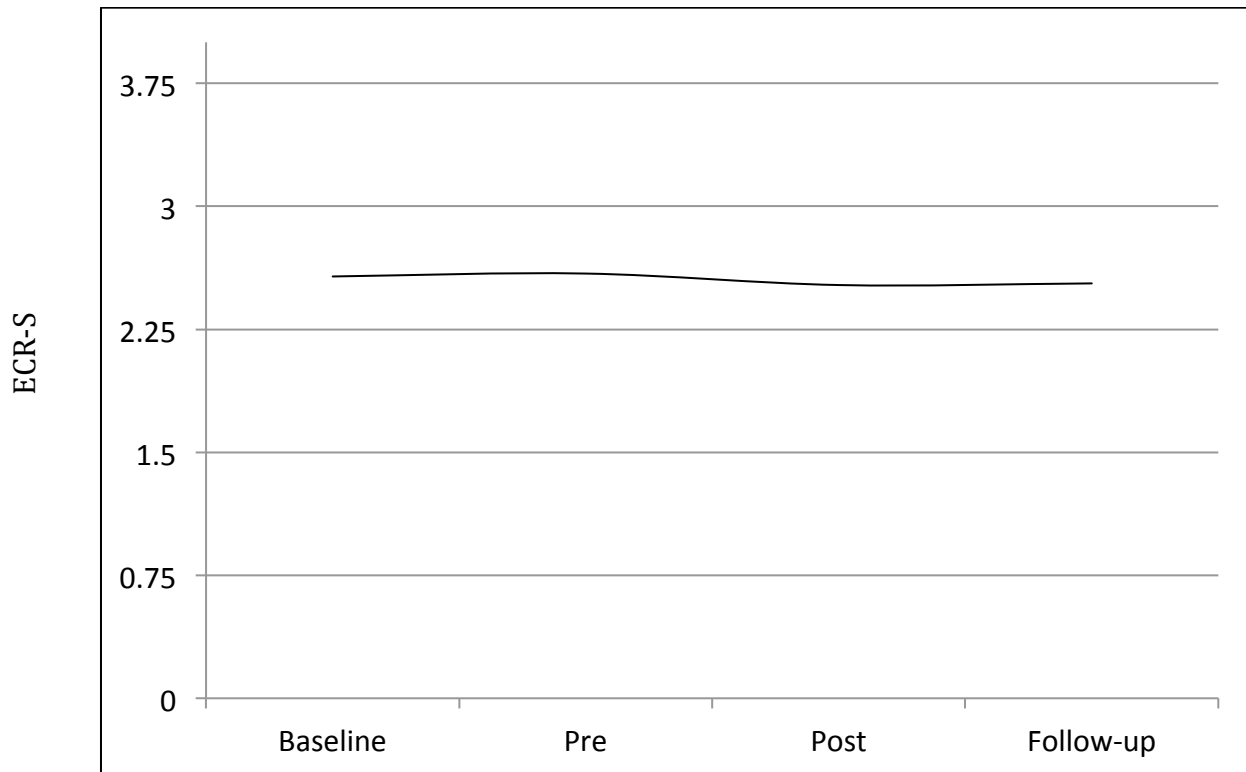


Figure 4. Best fitting model growth curve (cubic) for couples in HMT groups for attachment avoidance across the four time-points. $\delta_{3000} = 0.88$, $t(135) = 2.93$, $p = .004$, 95% confidence interval for the cubic parameter coefficient = -0.29, 1.47.

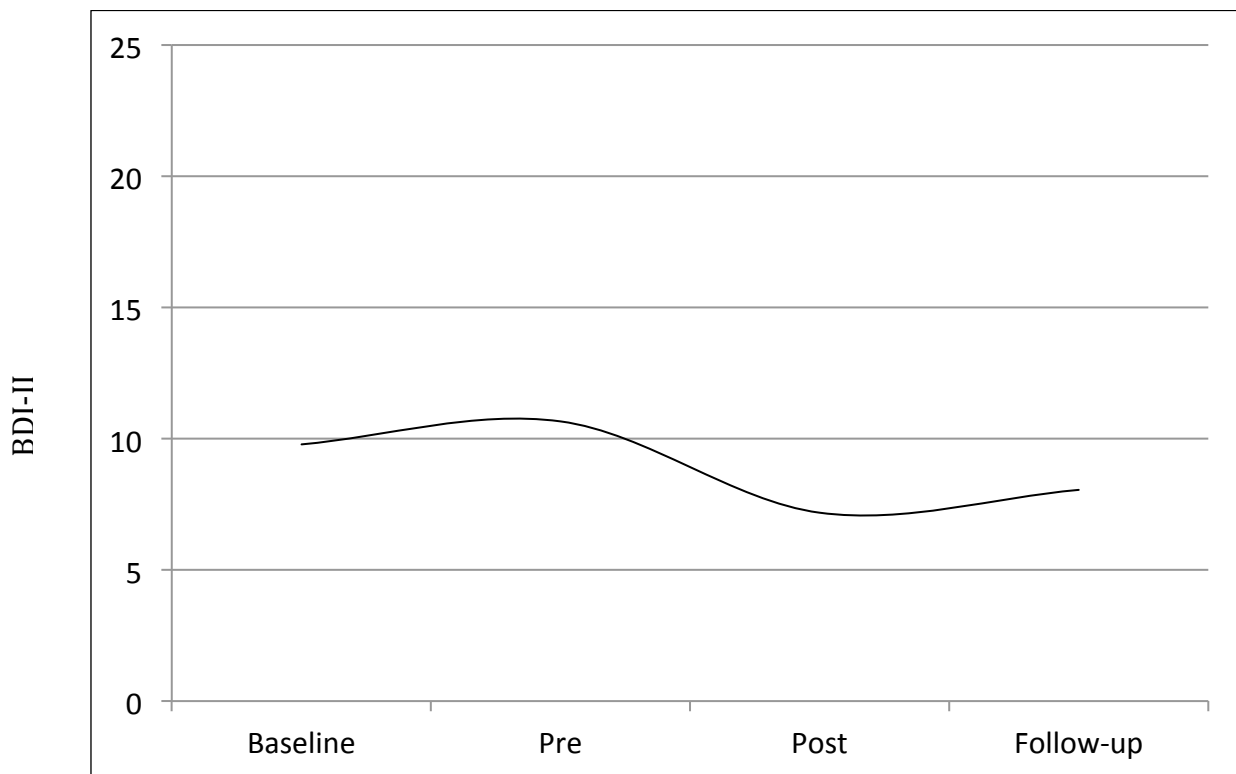


Figure 5. Best fitting model growth curve (cubic) for couples in HMT groups for depressive symptoms across the four time-points. $\delta_{3000} = 0.96$, $t(90) = 3.47$, $p < .001$, 95% confidence interval for the cubic parameter coefficient = 0.42, 1.49.

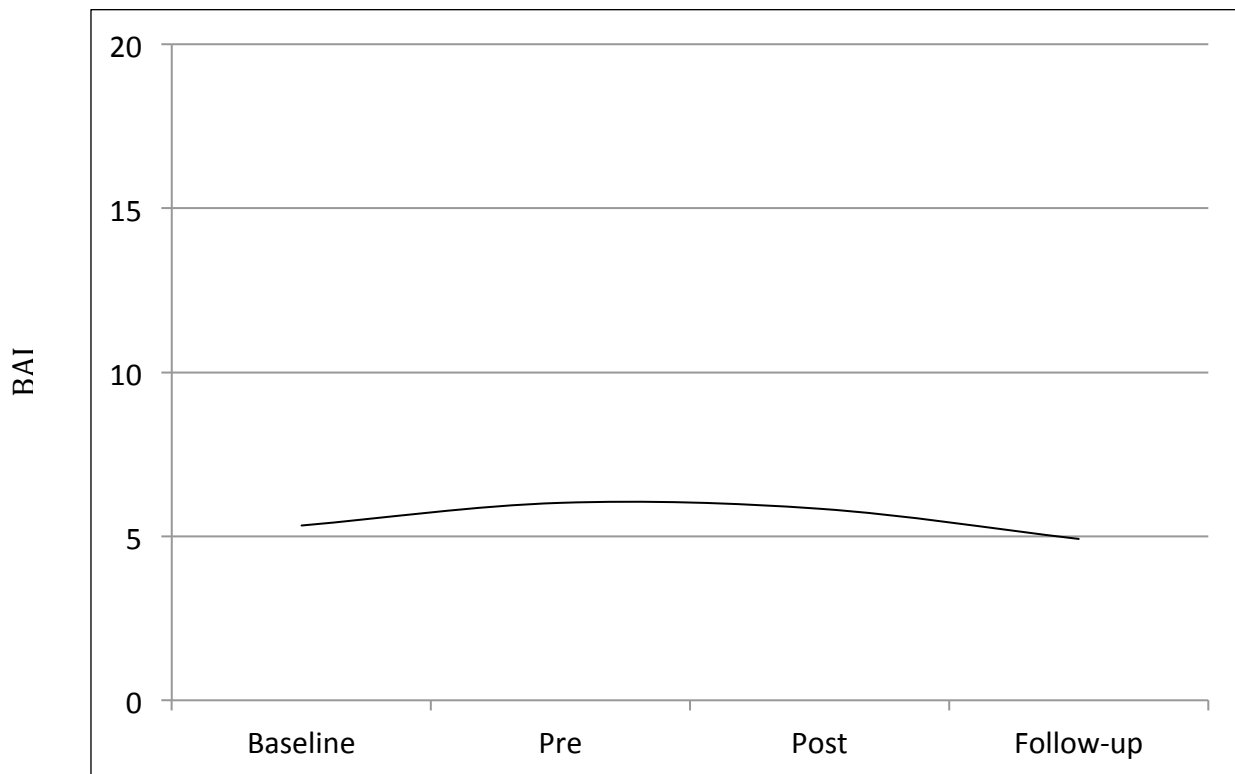


Figure 6. Best fitting model growth curve (quadratic) for couples in HMT groups for anxiety symptoms across the four time-points. $\delta_{2000} = -0.53$, $t(90) = -2.32$, $p = .021$, 95% confidence interval for the cubic parameter coefficient = 0.08, 0.99.

Appendix A

Hold Me Tight Conversations Rating Scale

Please read each of the following statements carefully and decide whether or not the Hold Me Tight program had an effect on your relationship in that area. Indicate how strongly you agree or disagree by circling the appropriate number on the scale beside each statement. Please answer as accurately and honestly as you can.

1 = STRONGLY DISAGREE

5 = MILDLY AGREE

2 = MODERATELY DISAGREE

6 = MODERATELY AGREE

3 = MILDLY DISAGREE

7 = STRONGLY AGREE

4 = NEUTRAL (NEITHER AGREE NOR DISAGREE)

- | | | | | | | | |
|--|---|---|---|---|---|---|---|
| 1. I understand my negative cycle and how I pull my partner into it | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. I can identify my sensitivities and raw spots in my romantic relationship | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. I can tell my partner my fears, reach for my partner and tell my partner my needs | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. I can identify key injuries and begin to heal them | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. I can talk more openly about sex and my sexual needs | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. I am planning to make specific efforts to take care of my relationship | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Appendix B

Ethics Approval

File Number: 08-11-39

Date (mm/dd/yyyy): 11/03/2011



Université d'Ottawa **University of Ottawa**
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice Social Science and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Susan	Johnson	Social Sciences / Psychology	Principal Investigator
Nikki	Kennedy	Social Sciences / Psychology	Co-investigator

File Number: 08-11-39

Type of Project: Professor

Title: The Hold Me Tight Relationship Enrichment Program Outcome Project

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
11/03/2011	11/02/2012	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:

N/A

File Number: 08-11-39

Date (mm/dd/yyyy): 12/13/2012



Université d'Ottawa **University of Ottawa**
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice
Social Science and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Susan	Johnson	Social Sciences / Psychology	Principal Investigator
Nikki	Kennedy	Social Sciences / Psychology	Co-investigator

File Number: 08-11-39**Type of Project:** Professor**Title:** The Hold Me Tight Relationship Enrichment Program Outcome Project

Renewal Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
11/03/2012	11/02/2013	Ia

(Ia: Approval, Ib: Approval for initial stage only)**Special Conditions / Comments:**

N/A

1

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<http://www.recherche.uottawa.ca/deontologie/index.html>

File Number: 08-11-39B

Date (mm/dd/yyyy): 11/26/2013



Université d'Ottawa **University of Ottawa**
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice
Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Susan	Johnson	Social Sciences / Psychology	Supervisor
Nikki	Kennedy	Social Sciences / Psychology	Student Researcher

File Number: 08-11-39B**Type of Project:** PhD Thesis**Title:** The Hold Me Tight Relationship Enrichment Program Outcome Project

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
11/26/2013	11/25/2014	Ia

(Ia: Approval, Ib: Approval for initial stage only)**Special Conditions / Comments:**
N/A

Appendix C

Letter of Information for Study Participants

TITLE OF RESEARCH STUDY: Hold Me Tight Relationship Enrichment Program Outcome Project

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INTRODUCTION

You are being asked to take part in a research study. This Letter will provide you with information about the research study and what your participation will involve. If you would like more information about something mentioned here, or if you have any other questions, please feel free to ask.

Once you understand what the research study involves, you will be asked to complete the attached questionnaires if you want to take part in this research study. You are free to choose whether or not to take part in the research study. Also, you are free to withdraw from this research study at any time, even after the program has begun. If you withdraw from the study, you do not have to withdraw from the relationship enhancement program. If you choose to withdraw from the study, the data gathered until up until your withdrawal from the study will be kept, however all identifying information will be destroyed. You may also choose to have your data destroyed and not included in the research study.

Before you complete the questionnaires, please ask questions on any aspects of this research study that are unclear to you. You may take as much time as necessary to think this over.

PURPOSE OF THIS RESEARCH STUDY

This research study is designed to assess the efficacy of the Hold Me Tight Relationship Enhancement Program. The purpose of the research study is to help couples develop a closer relationship with their partner and to learn how to maintain this closeness after the program is completed.

PROCEDURE

Research Participation

If you decide to participate in this research study, you will be asked to complete a series of questionnaire roughly four weeks prior to the commencement of the program. We will also ask you to complete similar questionnaires immediately before commencement of the program, immediately after completion of the program and finally, six months following completion of the program. The questionnaires will ask you about your personality, moods and some of the ways in which you interact with your partner in your day-to-day life.

The first set of questionnaires, to be completed four weeks prior to the commencement of the Hold Me Tight relationship enhancement program, will be sent to you in the mail or a link to the questionnaires will be sent via email, depending on your preference. When the questionnaires are sent to you (by e-mail or mail) we will ask for them to be completed and returned within a certain timeframe (usually from 1 to 1.5 weeks). The questionnaires being completed immediately before the first session of the program and immediately after the last session will be completed on location where the programs are being held and returned to the facilitators once completed. The final set of questionnaires, given six months after the completion of the program, will again be e-mailed or mailed to you with a return envelope provided. Each set of questionnaires will require maximum 30 minutes to complete.

ADVANTAGES AND DISADVANTAGES

Participating in the study will require some of your time (completing questionnaire packages taking about 20-30 minutes to complete). However, there are also advantages to participating in the research study. Participants in the research study will receive the Hold Me Tight DVD to help you maintain the strong bond that will be enhanced through the Hold Me Tight program. Not only will you receive a free copy of the Hold Me Tight DVD after the completion of the follow-up questionnaires, but you will also be contributing to important groundbreaking research and helping other couples just like you!

The questionnaires that you will be asked to complete will include questions about how you handle stress or your marital satisfaction that could make you sad or uncomfortable. No benefits are guaranteed to you for taking part in this research study. As a result of the program, you may experience less distress and more intimacy in the relationship and you may also begin to resolve conflicts with more satisfaction, but no guarantees are made. The goals of the Hold Me Tight relationship enhancement program are to improve your understanding of your bond with your partner to so that you are better able to cherish that bond and to reduce future risk for relationship distress.

CONFIDENTIALITY

Your confidentiality will be protected. The data will become the property of ICEEFT, and ICEEFT will take the necessary measures to protect your information. Your data will be used for research purposes and for the publication of an academic article, but for no other use. Your names will be known only to the people who are directly involved in the research study. These include the study investigators, the clinical supervisor, and the facilitator. Anonymity will be assured through the pooling of all data so that the published results will be presented in group format and no individual or couple will be identified.

CONSERVATION OF DATA

The data collected from you (both electronic and hard copies of questionnaires) will be kept in a secure manner in a locked filing cabinet at ICEEFT and the University of Ottawa. Only Dr. Johnson and Nikki Kennedy will have access to the data. The data will be kept for a period of 10 years, after which time it will be disposed of in a secure manner.

Please take note that by completing the attached questionnaires, you are agreeing to participate in the Hold Me Tight Program Outcome Study. By agreeing to participate, you are agreeing that the data you input into the questionnaire be used for scientific research purposes. Your name or any other identifying information will not be used when the data is discussed.

THANK YOU FOR YOUR PARTICIPATION!!

Appendix D

Model A: Unconditional Linear Models for Main Outcome Variables

Level 1 model (repeated measures)

$$Y_{tijk} = \pi_{0ijk} + \pi_{1ijk} * (\text{time}_{tijk}) + e_{tijk}$$

Level 2 model (individuals)

$$\pi_{0ijk} = \beta_{00jk} + \beta_{01jk} * (\text{individual_prescore}_{ijk}) + r_{0ijk}$$

$$\pi_{1ijk} = \beta_{10jk} + \beta_{11jk} * (\text{individual_prescore}_{ijk})$$

Level 3 model (couples)

$$\beta_{00jk} = \gamma_{000k} + \gamma_{001k} (\text{couple_prescore}_{jk}) + u_{00jk}$$

$$\beta_{01jk} = \gamma_{010k}$$

$$\beta_{10jk} = \gamma_{100k} + \gamma_{101k} (\text{couple_prescore}_{jk}) + u_{10jk}$$

$$\beta_{11jk} = \gamma_{110k}$$

Level 4 model (HMT program groups)

$$Y_{000k} = \delta_{0000} + \delta_{0001} * (\text{group_prescore}_k) + v_{000k}$$

$$Y_{001k} = \delta_{0010}$$

$$Y_{010k} = \delta_{0100}$$

$$Y_{100k} = \delta_{1000} + \delta_{1001} * (\text{group_prescore}_k) + v_{100k}$$

$$Y_{101k} = \delta_{1010}$$

$$Y_{110k} = \delta_{1100}$$

Model B: Quadratic Models for Main Outcome Variables

Level 1 model (repeated measures)

$$Y_{tijk} = \pi_{0ijk} + \pi_{1ijk} * (\text{time}_{tijk}) + \pi_{2ijk} * (\text{quad_time}_{tijk}) + e_{tijk}$$

Level 2 model (individuals)

$$\pi_{0ijk} = \beta_{00jk} + \beta_{01jk} * (\text{individual_prescore}_{ijk}) + r_{0ijk}$$

$$\pi_{1ijk} = \beta_{10jk} + \beta_{11jk} * (\text{individual_prescore}_{ijk})$$

$$\pi_{2ijk} = \beta_{20jk} + \beta_{21jk} * (\text{individual_prescore}_{ijk})$$

Level 3 model (couples)

$$\beta_{00jk} = \gamma_{000k} + \gamma_{001k} (\text{couple_prescore}_{jk}) + u_{00jk}$$

$$\beta_{01jk} = \gamma_{010k}$$

$$\beta_{10jk} = \gamma_{100k} + \gamma_{101k} (\text{couple_prescore}_{jk}) + u_{10jk}$$

$$\beta_{11jk} = \gamma_{110k}$$

$$\beta_{20jk} = \gamma_{200k} + \gamma_{201k} (\text{couple_prescore}_{jk}) + u_{20jk}$$

$$\beta_{21jk} = \gamma_{210k}$$

Level 4 model (HMT program groups)

$$Y_{000k} = \delta_{0000} + \delta_{0001} * (\text{group_prescore}_k) + v_{000k}$$

$$Y_{001k} = \delta_{0010}$$

$$Y_{010k} = \delta_{0100}$$

$$Y_{100k} = \delta_{1000} + \delta_{1001} * (\text{group_prescore}_k) + v_{100k}$$

$$Y_{101k} = \delta_{1010}$$

$$Y_{110k} = \delta_{1100}$$

$$Y_{200k} = \delta_{2000} + \delta_{2001} * (\text{group_prescore}_k) + v_{200k}$$

$$Y_{201k} = \delta_{2010}$$

$$Y_{210k} = \delta_{2100}$$

Model C: Cubic Models for Main Outcome Variables

Level 1 model (repeated measures)

$$Y_{tijk} = \pi_{0ijk} + \pi_{1ijk} * (\text{time}_{tijk}) + \pi_{2ijk} * (\text{quad_time}_{tijk}) + \pi_{3ijk} * (\text{cubic_time}_{tijk}) + e_{tijk}$$

Level 2 model (individuals)

$$\pi_{0ijk} = \beta_{00jk} + \beta_{01jk} * (\text{individual_prescore}_{ijk}) + r_{0ijk}$$

$$\pi_{1ijk} = \beta_{10jk} + \beta_{11jk} * (\text{individual_prescore}_{ijk})$$

$$\pi_{2ijk} = \beta_{20jk} + \beta_{21jk} * (\text{individual_prescore}_{ijk})$$

$$\pi_{3ijk} = \beta_{30jk} + \beta_{31jk} * (\text{individual_prescore}_{ijk})$$

Level 3 model (couples)

$$\beta_{00jk} = \gamma_{000k} + \gamma_{001k} (\text{couple_prescore}_{jk}) + u_{00jk}$$

$$\beta_{01jk} = \gamma_{010k}$$

$$\beta_{10jk} = \gamma_{100k} + \gamma_{101k} (\text{couple_prescore}_{jk}) + u_{10jk}$$

$$\beta_{11jk} = \gamma_{110k}$$

$$\beta_{20jk} = \gamma_{200k} + \gamma_{201k} (\text{couple_prescore}_{jk}) + u_{20jk}$$

$$\beta_{21jk} = \gamma_{210k}$$

$$\beta_{30jk} = \gamma_{300k} + \gamma_{301k} (\text{couple_prescore}_{jk}) + u_{30jk}$$

$$\beta_{31jk} = \gamma_{310k}$$

Level 4 model (HMT program groups)

$$Y_{000k} = \delta_{0000} + \delta_{0001} * (\text{group_prescore}_k) + v_{000k}$$

$$Y_{001k} = \delta_{0010}$$

$$Y_{010k} = \delta_{0100}$$

$$Y_{100k} = \delta_{1000} + \delta_{1001} * (\text{group_prescore}_k) + v_{100k}$$

$$Y_{101k} = \delta_{1010}$$

$$Y_{110k} = \delta_{1100}$$

$$Y_{200k} = \delta_{2000} + \delta_{2001} * (\text{group_prescore}_k) + v_{200k}$$

$$Y_{201k} = \delta_{2010}$$

$$Y_{210k} = \delta_{2100}$$

$$Y_{300k} = \delta_{3000} + \delta_{3001} * (\text{group_prescore}_k) + v_{300k}$$

$$Y_{301k} = \delta_{3010}$$

$$Y_{310k} = \delta_{3100}$$

Model D: Cubic Models for Attachment Avoidance

Level 1 model (repeated measures)

$$Y_{tijk} = \pi_{0ijk} + \pi_{1ijk} * (\text{time}_{tijk}) + \pi_{2ijk} * (\text{quad_time}_{tijk}) + \pi_{3ijk} * (\text{cubic_time}_{tijk}) + e_{tijk}$$

Level 2 model (individuals)

$$\pi_{0ijk} = \beta_{00jk} + \beta_{01jk} * (\text{individual_prescore}_{ijk}) + r_{0ijk}$$

$$\pi_{1ijk} = \beta_{10jk} + \beta_{11jk} * (\text{individual_prescore}_{ijk})$$

$$\pi_{2ijk} = \beta_{20jk} + \beta_{21jk} * (\text{individual_prescore}_{ijk})$$

$$\pi_{3ijk} = \beta_{30jk} + \beta_{31jk} * (\text{individual_prescore}_{ijk})$$

Level 3 model (couples)

$$\beta_{00jk} = \gamma_{000k} + \gamma_{001k} (\text{couple_prescore}_{jk}) + u_{00jk}$$

$$\beta_{01jk} = \gamma_{010k}$$

$$\beta_{10jk} = \gamma_{100k} + \gamma_{101k} (\text{couple_prescore}_{jk}) + u_{10jk}$$

$$\beta_{11jk} = \gamma_{110k}$$

$$\beta_{20jk} = \gamma_{200k} + \gamma_{201k} (\text{couple_prescore}_{jk}) + u_{20jk}$$

$$\beta_{21jk} = \gamma_{210k}$$

$$\beta_{30jk} = \gamma_{300k} + \gamma_{301k} (\text{couple_prescore}_{jk}) + u_{30jk}$$

$$\beta_{31jk} = \gamma_{310k}$$

Level 4 model (HMT program groups)

$$Y_{000k} = \delta_{0000} + \delta_{0001} * (\text{group_format}_k) + \delta_{0002} * (\text{group_prescore}_k) + v_{000k}$$

$$Y_{001k} = \delta_{0010}$$

$$Y_{010k} = \delta_{0100}$$

$$Y_{100k} = \delta_{1000} + \delta_{1001} * (\text{group_format}_k) + \delta_{1002} * (\text{group_prescore}_k) + v_{100k}$$

$$Y_{101k} = \delta_{1010}$$

$$Y_{110k} = \delta_{1100}$$

$$Y_{200k} = \delta_{2000} + \delta_{2001} * (\text{group_format}_k) + \delta_{2002} * (\text{group_prescore}_k) + v_{200k}$$

$$Y_{201k} = \delta_{2010}$$

$$Y_{210k} = \delta_{2100}$$

$$Y_{300k} = \delta_{3000} + \delta_{3001} * (\text{group_format}_k) + \delta_{3002} * (\text{group_prescore}_k) + v_{300k}$$

$$Y_{301k} = \delta_{3010}$$

$$Y_{310k} = \delta_{3100}$$

Appendix E

Hold Me Tight Program Implementation Scale

Date: _____ Group session number: _____

Facilitator: _____ Rater: _____

Please read each of the following statements carefully and decide whether or not the Facilitator completed the listed task during the session. Indicate how frequently the facilitator did so during the session by circling the appropriate number on the scale beside each statement.

1 = NEVER

4 = FREQUENTLY

2 = OCCASIONALLY

5 = ALWAYS

3 = SELDOM

- | | | | | | |
|---|---|---|---|---|---|
| 1. The facilitator created a safe supportive atmosphere for learning and sharing. | 1 | 2 | 3 | 4 | 5 |
| 2. The facilitator presented the didactic material for the conversation well and explained the topic clearly. | 1 | 2 | 3 | 4 | 5 |
| 3. The facilitator encouraged group discussion and kept the focus on attachment issues and the conversation as presented in the program. | 1 | 2 | 3 | 4 | 5 |
| 4. The facilitator showed sections of the DVD and made it relevant to the group and the conversation at hand. | 1 | 2 | 3 | 4 | 5 |
| 5. The facilitator outlined the exercises clearly using the material provided in the guide. | 1 | 2 | 3 | 4 | 5 |
| 6. The facilitator guided couples through the exercises in a supportive way. | 1 | 2 | 3 | 4 | 5 |
| 7. The facilitator encouraged couples to share with the group their experience practicing the conversation presented in the session. | 1 | 2 | 3 | 4 | 5 |
| 8. The facilitator outlined patterns of emotional responses in clear and simple terms and related the responses to couples' interactional patterns. | 1 | 2 | 3 | 4 | 5 |

Additional comments:

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