Through Thick and Thin: A Romantic Attachment Perspective on Couples Coping with Stress

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To Rob – my husband, my partner, my best friend,
my world… my everything.

General Abstract

Stress has traditionally been conceptualized as an intrapsychic phenomenon with detrimental effects on one's physiological and psychological health when coping resources are perceived to be inadequate (Lazarus & Folkman, 1984). However, empirical findings from the past three decades suggest that stressful life events have crossover effects from one person to another, namely from one romantic partner to the other (Bodenmann et al., 2006). Hence, stress experienced in the context of romantic relationships is now better understood as an interpersonal phenomenon with potential negative interpersonal (i.e., relationship satisfaction) and intrapersonal ramifications (i.e., mental health) for both partners (Papp & Witt, 2010; Randall & Bodenmann, 2009; Rusu et al., 2016). Due to the interdependent nature of couple relationships, romantic partners engage in a joint stress management process called dyadic coping in an attempt to restore individual and relational homeostasis, and buffer against these negative consequences (Bodenmann et al., 2006). Emerging research has found that common dyadic coping (CDC), which is a specific form of dyadic coping that occurs when both partners conjointly work together towards mitigating or resolving stressors experienced as a dyad, is the most salient form of dyadic coping for couples facing stressors (Falconier et al., 2015).

The romantic attachment framework has provided valuable direction to researchers in their understanding of couples coping with stress as insecure romantic attachment is well-known to interfere with adequate coping (Mikulincer & Shaver, 2016). Given that romantic attachment has been found to be a predictor of relationship functioning and protective factor against mental health disorders (Cassidy & Shaver, 2016; Mikulincer & Shaver, 2016), researchers have been increasingly focused on studying the mechanisms by which they are related. While few studies have examined dyadic coping within a romantic attachment framework (Alves et al., 2019;

Fuenfhausen & Cashwell, 2013; Levesque et al., 2017; Levey, 2003; Meuwly et al., 2012), far fewer have narrowed the focus to the ways in which CDC may explain the development of interpersonal (i.e., relationship satisfaction) and intrapersonal outcomes (i.e., mental health) using dyadic data analyses. The unique nature of CDC therefore necessitates research elucidating its role in these links within and between romantic partners. Therefore, the present thesis expands the existing literature on CDC through a romantic attachment lens in two independent yet complimentary studies. The objective of the first study was to evaluate how CDC mediates the relationship between insecure romantic attachment (i.e., attachment anxiety and attachment avoidance) and relationship satisfaction among couples in good health sampled from the community. The objective of the second study was to examine the potential mediational effects of CDC on the association between insecure romantic attachment (i.e., attachment anxiety and attachment avoidance) and mental health indicators of depression and anxiety among couples in which one partner has a diagnosis of cardiac illness.

The first study was an investigation of the interpersonal process of CDC as a potential mediator of the association between insecure romantic attachment (i.e., attachment anxiety and attachment avoidance) and relationship satisfaction. The sample consisted of 187 heterosexual couples (N = 374 individuals) from the community. An Actor-Partner Interdependence Mediation Model (APIMeM) was used to assess actor, partner, and direct and indirect effects. Results revealed that the higher men were on attachment avoidance, the less likely they and their partner were to engage in joint coping efforts, which in turn appeared to make men less satisfied with their romantic relationship. However, the degree to which avoidantly attached women felt satisfied with their romantic relationship was solely influenced by their own CDC. Results also showed that the higher men and women were on attachment avoidance, the less they engaged in

joint coping efforts, which in turn made them less satisfied with their relationship. Results also revealed that the higher men (but not women), were on attachment anxiety, the less they engaged in CDC, which in turn made men less satisfied with their relationship. Lastly, the higher men were on attachment avoidance (but not women), the less their partner engaged in joint coping efforts, which in turn made men less satisfied with their relationship.

In the second study, we examined the potential mediational effects of CDC on the relationship between insecure romantic attachment (i.e., attachment anxiety and avoidance) and mental health outcomes (i.e., depression and anxiety). The sample consisted of 181 patients and their spouses (N = 362 individuals), where one of the partners had received a cardiac diagnosis. An APIMeM was used to test hypothesized relations. While the hypothesized mediations were not confirmed, our results provide partial support to the tested model since patient and spouse attachment anxiety were significantly related to their own mental health. Results also showed that patient and spouse attachment avoidance were associated both with their own and their partner's CDC.

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Content of Thesis and Statement of Author Contributions

The present thesis is composed of four chapters: a general introduction, two major independent studies (written as journal manuscripts), and a general discussion. The general introduction provides an exhaustive theoretical conceptualization and empirical review of all study variables, specifies previous research limitations, and presents the main objectives and strengths of the thesis. The first study is entitled *We're in This Together: The Mediational Effects of Common Dyadic Coping on the Link between Romantic Attachment and Relationship Satisfaction*. The authors are planning to submit this manuscript to the *Journal of Social and Personal Relationships* following the defence of this doctoral thesis. The second study is entitled *Romantic Attachment, Common Dyadic Coping and Mental Health in Couples Facing Heart Disease.* The authors are planning to submit this manuscript to the journal *Health Psychology* following the defence of this doctoral thesis. Lastly, the general discussion reviews and consolidates the findings from both studies, presents the collective empirical and clinical implications and provides direction for future research endeavours. The study materials for both studies, such as ethics certificate from institutional review boards, consent forms, and self-report measures, are included as appendices.

Thesis author, Ms. Karolina Sztajerowski, appears as the primary author of both study manuscripts. Thesis supervisor, Dr. Paul Greenman, appears as the second author for both studies. Thesis committee member and co-investigator in Study 1, Dr. Marie-France Lafontaine, appears as the third author for the first study. Thesis committee member and co-investigator in Study 2, Dr. Heather Tulloch, appears as the third author for the second study. Post-doctoral fellow and research team member, Dr. Karen Bouchard, appears as the fourth author for the second study.

Ms. Sztajerowska participated in every aspect of the thesis project, including conducting the literature review and conceptualizing the studies, developing, and implementing study procedures and methods, selecting the validated measures, contributing to writing the research ethics request for the second study and subsequent modifications, preparing study materials, screening and recruiting participants, collecting, entering, managing and analyzing the data, and writing the thesis document.

For the first study, Dr. Greenman helped guide and oversee the major direction of the project, while Dr. Lafontaine provided the data set and provided guidance in the conceptualization of the research questions.

For the second study, Drs. Greenman and Tulloch (Principal Investigator for the study held at the University of Ottawa Heart Institute) served invaluable roles providing global oversight of the project, monitoring, providing guidance on major aspects of this study as well as editing the manuscript. Dr. Bouchard assisted and contributed to participant pre-screening and recruitment.

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General Introduction

Marriage or common-law unions are widely viewed as the most intimate and enduring relationship in one's life (Levenson et al., 1993). However, as couples are inevitably confronted with a broad array of stressful life circumstances (e.g., childcare, finances, illness, work, housekeeping, death, and loss) that can contribute to personal and relational distress, it is of utmost importance for romantic partners to learn effective ways of navigating the ups and downs to maintain their relationship. Unfortunately, statistics from a recent national survey revealed that 2.74 million Canadians struggled to maintain their relationship and proceeded to end their union by divorce or separation in the past two decades (Government of Canada, 2022). The increasing rate of relational dissolutions has been associated with adverse effects on psychological (e.g., increased levels of depression, anxiety, and psychological distress) and physiological health (e.g., greater incidence of chronic conditions and mobility limitations) not only among partners but their children as well (Amato, 2000; Hughes & Waite, 2009; Strohschein, 2005).

In light of this reality, many researchers have attempted to further advance understanding of relationship functioning by investigating ways in which couples manage stress, in an effort to promote personal and relational well-being and to prevent relational dissolutions. Arising out of this research, extensive evidence has highlighted the paramount role that adult romantic attachment plays in relationship satisfaction and mental health (Mikulincer & Shaver, 2016). Although the established associations between insecure romantic attachment with both relationship satisfaction and mental health difficulties have been robustly demonstrated in the literature (Mikulincer & Shaver, 2016), much remains to be explored about the potential mechanisms linking insecure romantic attachment to interpersonal (i.e., relationship satisfaction)

and intrapersonal outcomes (i.e., mental health). Interestingly, emerging theory and empirical evidence have provided the insight that couples' ways of managing stressful life encounters (referred to hereafter as dyadic coping) might explain the nature of the relation between these constructs (Bodenmann et al., 2006). In fact, results suggest that dyadic coping might be vital to healthy relationship functioning as it has been linked to enhanced perception of relationship satisfaction and overall health (Badr & Acitelli, 2017; Falconier et al., 2015a). Specifically, common dyadic coping (CDC), which refers to the conjoint coping efforts used by partners when dealing with stressors that affect the couple as a whole, may be a particularly relevant mediating variable as CDC has been found to have a predominant effect on relationship functioning in comparison to other forms of dyadic coping (Badr & Acitelli, 2017; Falconier et al., 2015). Hence, the present thesis aims to shed light on CDC as a potential underlying relational mechanism that connects insecure romantic attachment with interpersonal (i.e., relationship satisfaction) and intrapersonal outcomes (i.e., mental health indicators of depression and anxiety) using a dyadic framework (i.e., within and between both romantic partners).

Conceptualizations of Stress and Coping

Stress has been defined as a normative response to positive (e.g., promotions, weddings, house purchases, parenthood) or negative life events (e.g., financial problems, conflictual relationships, difficulties with school and/or work, injury, illness, and death) when there are insufficient resources to cope with the associated situational pressures or demands (Lazarus & Folkman, 1984). Stress automatically triggers a chain of hormonal and physiological reactions, known as the "fight, flight, or freeze" response, that enables individuals to react to threatening or dangerous situations (Everly & Lating, 2013). When the stressful situation has subsided or been resolved, individuals are able to re-establish a state of balance called homeostasis (Everly &

Lating, 2013). The experience of stress is inevitably encountered by individuals across the world at some point in their lives (WHO, 2021). In fact, an estimated one quarter of Canadians experience high levels of stress on most days (Government of Canada, 2021). Despite the high prevalence of stress in the general population, the effects of stress are idiosyncratic in that they vary greatly from one person to another. Researchers have suggested that certain factors such as limited social support, emotion regulation difficulties, inadequate coping resources, and negative views of the self and others may in fact worsen or prolong stress (Lazarus & Folkman, 1984). In such cases, prolonged exposure to stress has been found to not only alter the neuroendocrine, cardiovascular, autonomic, and immunological functioning, but also lead to negative changes in health behaviours (e.g., disturbed eating, exercising, and sleeping patterns, as well as increased substance use, and social withdrawal). In turn, inability to cope with stress has been shown to heighten people's vulnerability to physical and psychological diseases, such as mood and anxiety disorders (for a review, see Cohen, Kessler, & Gordon, 1995), Additionally, coping ineffectively with stressful life events has also been found to contribute to increased interpersonal difficulties, particularly within romantic relationships (Karney & Bradbury, 2020). Namely, poor communication quality as well as decreased relationship satisfaction and sexual functioning have been linked with the pervasive sequalae of stress (Randall & Bodenmann, 2009). Hence, learning how to cope with stress is capital for physiological, psychological, and relational wellbeing of individuals, including romantic partners in committed relationships.

Individual Stress

The pioneering contributions of Hans Selye (1950, 1956, 1973) on systemic stress and of Richard Lazarus (1966, 1974, 1999) on psychological stress have profoundly influenced social science and our understanding of stress. Numerous investigators have extensively studied the

concept of stress, generating a significant volume of research and myriad conceptualizations of it. Nonetheless, the phenomenon of stress has been typically viewed in one of the following ways: (a) stress as a *response* defined by a three-stage process of specific psychological and physical reactions (alarm, resistance, and exhaustion) to acute or enduring demands (Selye, 1976), (b) stress as a *stimulus* characterized by significant life events or changes requiring adjustment and triggering psychological or physical stress-related reactions, such as anxiety and cardiovascular problems (Dohrenwend & Dohrenwend, 1974; Holmes & Rahe, 1967), and (c) stress as a *transaction* between individuals and their environment involving a biphasic cognitive process of subjective appraisal and coping strategies, known as the Transactional Theory of Stress and Coping (Lazarus & Folkman, 1984).

Despite these differing conceptualizations, researchers have suggested that stress is unequivocally linked to detrimental effects on physical health, mental health, and social functioning. *Physical health* can be worsened by stress through mechanisms such as increasing vulnerability to cardiovascular conditions, cancer, colds, asthma, irritable bowel syndrome, ulcerative colitis, arthritis, respiratory diseases, skin disorders, diabetes, headaches, musculoskeletal pain, gastrointestinal upset, hyperventilation, insomnia, and fatigue (for a review, see Lyon, 2012). Stress can also compromise *mental health,* including the development of psychopathology such as mood disorders, anxiety disorders, schizophrenia, externalizing disorders, substance-related and addictive disorders, eating disorders and personality disorders (for a review, see Hankin & Abela, 2005). Additionally, there are *social ramifications* of stress, such as lower quality of life (Racic et al., 2017) and lower relationship satisfaction (Karney & Bradbury, 2020). Hence, in order to buffer against the negative consequences of stress, individuals engage in the process of coping.

Individual Coping

The current coping literature has largely adopted Lazarus and Folkman's definition of coping as the "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are perceived as taxing or exceeding the resources of the person" (1984, p. 141). Although there exist countless ways in which one may engage in the process of coping, individual coping has been commonly divided into two categories. *Problem-focused* coping refers to an individual's active efforts at managing and/or changing the situation out of which stress arises, whereas *emotion-focused* coping refers to an individual's active efforts at controlling and/or regulating the emotional response or changing the relational meaning after stress emerges (Lazarus & Folkman, 1980; 1984). The use of problem-focused coping strategies typically takes place when the stressful situation is perceived as solvable and amendable to change (e.g., financial problems, conflictual relationships, difficulties at work and/or school), while the use of emotion-focused coping usually occurs when the stressful situation is perceived as uncontrollable and unamendable to change (e.g., injury, illness, death). Moreover, problem-focused and emotion-focused can either be *adaptive* (e.g., seeking social support, engaging in self-care, positive self-talk) or *maladaptive* (e.g., substance use, avoidance, wishful thinking).

Multiple stress theorists have conceptualized stress and coping as experiences predominantly affecting individuals and their well-being, despite the presumed social ramifications of personal stress (Lazarus, 1999; Lazarus & Folkman, 1984; Pearlin & Schooler, 1978). Interestingly, theoretical and empirical developments from the past few decades indicate that an individual-oriented understanding of stress and coping neglects the fact that individuals face stressful life situations within a social context. Indeed, Hobfoll and colleagues (1994) suggested that an individual's experience of stress is inherently embedded within a social context

and is influenced by their perception of social consequences associated with coping. Hence, his work shifted the focus from conceptualizing stress and coping as individual phenomena to social phenomena. This paradigmatic shift allowed stress and coping to be examined in various relationship contexts, namely couples. Given that the majority of individuals in romantic relationships first turn towards their partner when stressed (Bodenmann, 2005), relationship theorists have developed models of stress in close relationships to take into account the dynamic interplay between romantic partners. This has allowed for the conceptualization of stress and coping as social phenomena with interpersonal costs (Berg & Upchurch, 2007; Bodenmann, 1995, 2005; Coyne & Smith, 1991; Hill, 1958; Karney et al., 2005; McCubbin & Patterson, 1983). Therefore, the shared experience of stressors in romantic relationships is multileveled as it impacts the individual, the partner, and the couple.

Dyadic Stress

Dyadic stress has been defined as any form of stressful life encounter directly affecting the couple as a unit, eliciting common concerns and joint appraisals in both romantic partners (Bodenmann, 1997, 2005). For example, a medical or mental health diagnosis of an individual in a committed relationship often results in shared concerns and joint appraisals by both partners. Given the various sources of stress experienced by couples, Randall and Bodenmann (2009). developed a couples' stress taxonomy based on three dimensions: (a) the *locus* of the stress (internal or external), (b) the *intensity* of the stress (major or minor), and (c) the *duration* of the stress (acute or chronic). First, *internal* stressors originate within the couple, such as conflicts on contrasting goals, attitudes, needs, and desires. In contrast, *external* stressors arise outside the couple, such as one's occupational, financial, social, or familial stress indirectly affecting the other partner and spilling over into the romantic dyad (Randall & Bodenmann, 2009). Second, *major* stressors consist of normative and non-normative significant life events, such as severe

illness, whereas *minor* stressors involve daily stressors, such as late arrivals for appointments (Randall & Bodenmann, 2009). Lastly, *acute* stressors are defined as temporary stressful life events with time-limited effects, such as legal disputes, while *chronic* stressors are characterized as stable stressful life events with long-lasting effects, such as low socioeconomic status (Karney et al., 2005; Randall & Bodenmann, 2009). Research has found that dyadic stress, from daily hassles to chronic illness, can affect the mental health and relationship satisfaction of romantic partners, and that effective dyadic coping may buffer against these negative outcomes (Aldwin & Revenson, 1987; Papp & Witt, 2010; Randall & Bodenmann, 2009; Rusu et al., 2016).

Dyadic Coping

The Systemic Transactional Model (STM; Bodenmann, 1995, 2005) can be understood as an extension of the Transactional Theory of Stress and Coping (Lazarus & Folkman, 1984) within a romantic perspective. The STM is based upon the postulate that stress has crossover effects from one romantic partner to the other due to the interdependent nature of couple relationships (Bodenmann, 1995). Theoretically, the STM suggests that the resources of a supportive partner may augment the available resources of the stressed partner, thereby reshaping the appraisal of external and/or internal demands as less threatening (Bodenmann, 1995). Dyadic coping is conceptualized as an interpersonal stress regulation process involving both romantic partners dealing jointly with stressors that affect each partner, either directly or indirectly (Bodenmann, 2005). Coping dyadically involves a stress communication process in which one partner's appraisal of stress is verbally or nonverbally communicated to the other partner, who in turn perceives, interprets, decodes, and responds to the messages with either positive or negative forms of dyadic coping (Bodenmann, 2005). Positive forms of dyadic coping include: (a) *supportive dyadic coping*, which manifests when one partner helps the other to deal with stress using either problem-focused (e.g., providing practical advice) or emotion-focused

(i.e., empathic understanding) coping efforts, (b) *common dyadic coping (CDC)*, which involves both partners engaging jointly to deal with stress using either problem-focused (e.g., joint problem-solving) or emotion-focused (e.g., joint relaxation) coping efforts, and, (c) *delegated dyadic coping*, which manifests when one partner undertakes the responsibilities usually assumed by the other to help relieve the experienced stress (e.g., taking over the partner's typical laundry duties to lessen their stress). Negative forms of dyadic coping include: (a) *hostile dyadic coping*, which occurs when one partner disparages, withdraws, mocks, or criticizes the other in a sarcastic, disinterested or minimizing way, (b) *ambivalent dyadic coping*, which takes place when one partner offers support reluctantly or grudgingly, and (c) *superficial dyadic coping*, which manifests when one partner offers support in an insincere, inattentive and/or indifferent manner. Given that dyadic coping serves as an individual and relationship maintenance strategy with the objectives of reducing stress, enhancing wellbeing as well as fostering a sense of "we-ness" both within dyad members and within the relationship (Meuwly et al., 2012), it is important to better understand ways in which dyadic coping is related to mental health and relationship satisfaction.

Intrapersonal and Interpersonal Outcomes of Dyadic Coping

Although the dyadic coping literature suggests that dyadic coping may be more closely related to relational outcomes than individual outcomes (Bodenmann et al., 2011), recent study findings have nonetheless revealed that positive dyadic coping is linked to better mental health and increased relationship satisfaction in both non-clinical and clinical couple samples (Falconier et al., 2015; Staff et al., 2017).

Mental Health

According to the World Health Organization (2022), mental health can be understood as a state of well-being that allows individuals to cope with stressful life situations and function in social, occupational, and educational domains. It has been suggested that individuals with lower levels of mental well-being are at elevated risk of developing mental disorders (WHO, 2022). Results from a 2011 national survey revealed that by the age of 40, one in two Canadians reported directly experiencing a mental illness at some point in their lives (Smetanin et al., 2015). While the revised version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR, 2022) lists nearly 300 mental disorders, results from a 2019 worldwide observational epidemiological study have shown that mood (e.g., Major Depressive Disorder, Persistent Depressive Disorder, etc.) and anxiety disorders (e.g., Social Anxiety Disorder, Agoraphobia, Generalized Anxiety Disorder) specifically are among the most prevalent mental disorders and leading causes of global health burden. Alarmingly, in the wake of the COVID-19 pandemic, the results of a recent systematic review indicate that there was a 27.6% increase in cases of mood disorders and a 25.6% increase in cases of anxiety disorders across 204 countries (Santomauro et al., 2021). Compared to the general population, the rates of mood and anxiety disorders are significantly higher in clinical populations such as individuals faced with chronic illness.

For instance, elevated levels of depressive and anxiety symptoms are reported by nearly 50% of individuals diagnosed with any given cardiovascular disease (CVD) immediately following their cardiac event or during their hospitalization (Chen et al., 2019; Lichtman et al., 2014). Among a sample of 236,595 patients undergoing cardiac surgery such as coronary artery bypass grafting (CABG) or valve repair/replacement, a systematic review and meta-analytic study found that 14.1% of perioperative patients were diagnosed with a depressive disorder, and

21.9% were diagnosed with an anxiety disorder (Takagi et al., 2017). More recently, researchers have found that CVD is a form of dyadic stress that generates negative spillover effects from the ill patient to the healthy spouse (Bidwell et al., 2017). Namely, spouses of patients with CVD have not only been shown to be at elevated risk of developing clinically significant symptoms of depression and anxiety, but also to experience more severe and more persistent psychological distress than their ill partner (Randall et al., 2009). Understandably, the scientific community has been invested in the study of predictors of mental health indicators of depression and anxiety in clinical populations such as couples faced with CVD. Although recent developments are beginning to yield evidence supporting the buffering role of dyadic coping against the development of depressive and anxiety disorders, much remains to be explored, particularly within couples where one of the partners has received a cardiac diagnosis. Additionally, given that positive dyadic coping has been found to reduce self-reported heart failure symptoms within cardiac populations (Rohrbaugh et al., 2008), deepening our understanding of dyadic coping is crucial.

At the individual level, researchers have demonstrated that positive forms of dyadic coping promote better mental health in community couples by improving life satisfaction (Gabriel et al., 2016) and reducing neuroticism (Merz et al., 2014). A recent systematic review indicated that only four studies had examined mental health outcomes related to dyadic coping (Staff et al., 2017). Bodenmann and colleagues (Bodenmann et al., 2008) conducted a randomized control trial (RCT) on 60 couples in which one of the partners was diagnosed with major depressive disorder or persistent depressive disorder. Their results showed that Couple-Oriented Couples Therapy (COCT; (Bodenmann et al., 2008), a therapeutic approach that focuses on enhancing dyadic stress communication and promoting positive dyadic coping

strategies within couples, was effective in treating the depressive symptomatology of the depressed partner (γ_{50} = 11.51; p < .001). Among a sample of 443 Swiss couples from the community, Bodenmann and colleagues (2011) found that dyadic coping lowered psychological distress. More specifically, positive and negative dyadic coping were shown to be significant predictors of depression and anxiety in women, whereas for men, only negative dyadic coping was related to higher levels of depression and anxiety.

Likewise, positive dyadic coping has been associated with improved mental health among couples living with chronic conditions such as cancer. For instance, among a sample of 42 men diagnosed with prostate cancer and their wives, Regan and colleagues (2014) found that both dyad members experienced increased symptoms of anxiety and depression when their partner engaged in negative forms of dyadic coping. Rottman and colleagues (2015) conducted a longitudinal study in a sample of 538 opposite-sex couples where the women were diagnosed with breast cancer. Their results showed that dyadic coping, particularly CDC, was linked to reduced distress and fewer depressive symptoms in both partners. In a similar vein, Meier and colleagues (2019) evaluated the ways in which CDC influenced psychological distress indicators of depression, anxiety and somatization in a sample of 70 opposite-sex couples where the women were diagnosed with breast cancer. Results of their longitudinal study showed that CDC was linked with lower psychological distress in both partners. As such, CDC appears to be the most salient form of dyadic coping for couples facing chronic and uncontrollable stress such as chronic illnesses. However, given that the most prolific subgroup of chronic illness in the dyadic coping literature to date has been cancer, little is known about the ways in which CDC influences mental health in other subgroups such as couples in which one of the partners is diagnosed with CVD. Individuals with more depressive and anxious symptomatology, including those with

CVD, may be less likely to be responsive to their partner and engage in fewer positive interactions with their romantic partner (Meyer et al., 2019). Hence, poor mental health may contribute to greater interpersonal distress, and circularly, maintain and/or worsen symptoms of depression and anxiety among individuals in committed relationships.

Relationship Satisfaction

Relationship satisfaction has been defined as one's subjective evaluation about the quality, closeness, contentment, and commitment to the intimate relationship (Fincham & Beach, 2010; Sabourin et al., 2005a; Spanier, 1976). Couple-based researchers have documented that romantic partners with lower levels of relationship satisfaction have an elevated risk of developing psychological disorders (e.g., mood and anxiety disorders) and physical conditions (e.g., cardiovascular disease, diabetes, cancer; for a review see, Kiecolt-Glaser & Wilson, 2017; Robles et al., 2014). Specifically, Proulx and colleagues (2007) conducted a meta-analytic review of 93 studies (66 cross-sectional and 27 longitudinal) to investigate the link between relationship quality and personal well-being indicators of depression, self-esteem, physical health, global happiness and life satisfaction. Their findings revealed that relationship quality was positively associated to personal well-being both concurrently and over time, with an average weighted effect size *r* of .37 for cross-sectional and .25 for longitudinal studies. Robles and colleagues (2014) completed a meta-analytic review of 126 studies examining the link between relationship quality (which includes relationship satisfaction along with other constructs) and physical health. The study spanned 50 years with a cumulative sum of 72,000 participants across all studies. The findings suggest that greater relationship quality was linked to better physical health, with small mean effect sizes (r = .07 to .21). Greater relationship quality was also associated with reduced mortality rates (r = .11) and cardiovascular reactivity (r = -.13). Unsurprisingly, the scientific community has sought to identify the predictors of relationship

satisfaction given its significant ramifications on individual and relational health (Falconier al., 2015). Among the wide array of studied predictors in the literature, dyadic coping has drawn the attention of many researchers in recent years.

At the relational level, findings suggest that positive forms of dyadic coping are related to increased feelings of tenderness and togetherness (Bodenmann et al., 2006) and constructive communication (Falconier et al., 2013; Ledermann et al., 2010). Dyadic coping has also been found to be strongly related to relationship satisfaction in both non-clinical and clinical couple samples. Bodenmann (2005) conducted a meta-analysis of 13 studies with a combined sum of 783 couples, confirming a significantly strong relationship between positive dyadic coping and relationship satisfaction (d = 1.3). Falconier and colleagues (2015) also conducted a meta-analysis of 72 independent samples with a combined sum of 17,856 participants. Their results revealed that positive dyadic coping is a strong predictor of relationship satisfaction notwithstanding gender, age, relationship length, education level, or nationality (r = .45). These findings corroborate with those from a large study of 7973 married individuals that included 3584 men and 4349 women (Hilpert et al., 2016). In this investigation, multilevel modeling results revealed that dyadic coping was a significant predictor of relationship satisfaction across 35 nations ($\beta = 0.59$), which indicates that married individuals engaging in more dyadic coping reported being more satisfied with their relationship.

Additionally, longitudinal research findings also suggest that dyadic coping is a significant predictor of relationship satisfaction (Parise et al., 2019). Bodenmann and Cina (2006) demonstrated that dyadic coping was positively related to relationship satisfaction and reduced risk of divorce in 62 Swiss couples from the community over a 5-year period. Further, among a sample of 90 Swiss opposite-sex couples from the community, Bodenmann and

colleagues (2006) found that men and women that engaged in more positive dyadic coping and less negative dyadic coping reported better relationship quality (i.e., decreased quarreling, and increased togetherness/communication and tenderness). However, in comparison to other forms of dyadic coping, CDC in particular has been found to have a predominant beneficial effect from a relationship lens (Falconier et al., 2015; Rusu et al., 2020). Recent studies have shown that CDC is vital to positive relationship functioning as it promotes romance, sexuality, passion, and constructive conflict resolution (Bodenmann et al., 2010; Landis et al., 2013; Vedes et al., 2013). Additionally, CDC has been found to foster feelings of mutual trust, shared meaning, and commitment in addition to a general sense of "we-ness" within the relationship (Traa et al., 2015). Given that an individual's ability to cope with stressful life situations has been found to be shaped by their attachment disposition (Bowlby, 1969/1982), adult romantic attachment appears to be a particularly fitting context for examining the intrapersonal and interpersonal outcomes of CDC within and between romantic partners in committed relationships.

Attachment Theory

Recognized as one of the most influential frameworks in contemporary psychology, attachment theory has played a paramount role in advancing knowledge about the ways in which individuals experience intrapersonal and interpersonal distress (Mikulincer & Shaver, 2016). The central tenets of attachment theory as originally proposed by Bowlby (1969/1982) are based on the inherent and lifelong propensity of humans to pursue and preserve proximity to individuals that can provide protection and support (referred to hereafter as attachment figures) when faced with threatening or dangerous situations. Bowlby claimed that the attachment behavioural system is a hardwired and deeply rooted evolutionary program that serves the biologically adaptive function of survival (Mikulincer & Shaver, 2016). Although the attachment behavioural system

remains active throughout the lifespan, it appears to be particularly critical in early years as vulnerable infants and children are heavily dependent on attachment figures to tend to their basic survival needs (e.g., food and shelter). In fact, according to attachment theory, the quality of early attachment experiences shapes emerging expectations, attitudes, and beliefs about oneself, others, and the larger social world (referred to hereafter as internal working models; Mikulincer & Shaver, 2016). A reliable pattern of interactions in which attachment figures behave with responsiveness, availability, and emotional engagement to proximity bids is known to soothe one's distress and deactivate the attachment system, which in turn, allows the pursuit of growth-oriented activities such as exploration and affiliation (Cassidy & Shaver, 2016). Over time, these repeated experiences of security attainment are stored at the level of schematic memory and promote the development of a secure attachment bond (Cassidy & Shaver, 2016). Namely, securely attached individuals learn that proximity seeking is an effective emotion regulation strategy that can be confidently and reliably used to relieve distress in times of stress. (Simpson & Rholes, 2017)

Conversely, a recurring pattern of interactions in which primary attachment figures lack these characteristics either maintains or heightens one's distress and keeps the attachment system activated (Mikulincer & Shaver, 2016). These repeated experiences of security nonfulfillment are also stored at the level of schematic memory, but in this case, foster the development of an insecure attachment bond (Mikulincer & Shaver, 2016). Insecurely-attached individuals learn that proximity seeking is an ineffective regulation strategy in times of stress and that alternative strategies (which may involve hyperactivation or deactivation of the attachment system) are needed to relieve distress (Cassidy & Shaver, 2016). As a result, early attachment experiences provide salient procedural knowledge about distress management, laying the foundation for later

intrapersonal development and interpersonal functioning (Mikulincer & Shaver, 2016; Thompson, 2008).

Adult Romantic Attachment

The internal dynamics of the behavioural attachment system have been found to carry forward into adulthood and to exert a continuing influence on a broad range of social contexts, especially in romantic love. Individuals within a romantic dyad mutually become each other's central source of support, comfort, and security in times of need (i.e., primary attachment figures), thus making the emotional bond that develops between romantic partners one of the most significant relationships in adulthood (Mikulincer & Shaver, 2016). Attachment theorists extended the premises of Bowlby's attachment theory (1969/1982) to incorporate models of adult romantic attachment, which serve as an explanatory framework for understanding the development and stability of romantic relationships. The cognitive, emotional, and behavioural functioning of individuals within a romantic dyad is claimed to be rooted in early attachment experiences as the most chronically accessible internal working models (i.e., attachment style) loudly echo throughout time and relationships (Fraley & Roisman, 2015; Mikulincer & Shaver, 2016). However, despite their relative stability, these mental representations remain provisional in nature in that subsequent disconfirming experiences or events can alter their structure over time (Simpson, 2017).

The two-dimensional conceptualization of adult romantic attachment is widely recognized as the most comprehensive way of encapsulating the underlying patterns of attachment in adulthood (Bartholomew & Horowitz, 1991; Brennan et al., 1998). The first dimension, attachment anxiety, is governed by negative models of the self which involve excessive fears about partner availability due to persistent self-doubts about one's worth, lovability, and emotion regulation abilities (Mikulincer & Shaver, 2016). These recurring worries

of rejection or abandonment by a romantic partner lead to heightened proximity-seeking efforts, known as hyperactivating strategies (Cassidy & Kobak, 1988). In such cases, anxiously attached individuals amplify their distress as a hopeless attempt to obtain attention, protection, and support from their romantic partner and, ultimately, experience a sense of security.

The second dimension, attachment avoidance, is governed by negative models of others which involve fears of emotional dependency and discomfort with interpersonal closeness (Mikulincer & Shaver, 2016). Deeply rooted mistrust about partner availability leads to weakened or blocked proximity-seeking efforts, known as deactivating strategies. In such cases, avoidantly attached individuals suppress their distress and engage in compulsive self-reliance to protect themselves against rejection or vulnerability (Simpson, 2017). Considering that differences in the organization of the attachment system in adulthood are measured along these dimensions, high scores of either anxiety or avoidance are characteristic of insecure attachment, whereas low scores on both dimensions are indicative of secure attachment (Feeney, 2016). In such cases, securely attached individuals are thought to possess positive models of the self and others, thereby allowing adaptive emotion regulation. For example, in times of need, a partner with a positive view of self (i.e., “I am worthy”) and others (i.e., “My partner is trustworthy”) will be more likely to engage in primary strategies, such as optimistic beliefs, self-efficacy, appropriate expression of distress, support- or proximity- seeking, and problem-solving. In contrast, a partner with a negative view of self (i.e., “I am unworthy”) and others (i.e., “My partner is untrustworthy”) will be more likely to engage in secondary strategies, such as hyperactivation or deactivation of attachment needs. As could be expected, adult romantic attachment thus influences individual outcomes such as mental health as well as relational

processes such as relationship satisfaction (Candel & Turliuc, 2019; Cassidy & Shaver, 2016; Mikulincer & Shaver, 2016).

Adult Romantic Attachment and Mental Health

A growing body of research has found that insecure attachment is a well-established predictor of affective disorders in adulthood, such as depression and anxiety (Mikulincer & Shaver, 2016). Individuals with anxious attachment orientations have negative views of themselves (e.g., persistent self-doubts about their own worth and lovability), whereas individuals with avoidant orientations tend to have negative views of others (e.g., fears of emotional dependency and discomfort with interpersonal closeness). Theoretically, these negative internal working models may decrease the ability of people with insecure attachment to effectively regulate negative emotions, cope with adversity, and restore emotional equanimity, which consequently may reduce psychological resilience and predispose anxiously and avoidantly attached individuals to develop and maintain symptoms of depression and anxiety (Simpson et al., 2021).

Additionally, although hyperactivating and deactivating strategies are conceptualized as attempts to experience a sense of security, these maladaptive emotion regulation strategies paradoxically magnify distress during threatening contexts, and in turn, further increase insecure individuals' vulnerability to the development of mental disorders (Carnelley et al., 2016; Mikulincer & Shaver, 2016). There is empirical evidence of hyperactivating or deactivating strategies' role in the etiology of depression and anxiety (Conradi et al., 2018; Malik et al., 2015; Marganska et al., 2013; Nielsen et al., 2017). For instance, among a sample of 67 adult patients with a diagnosed depressive disorder, researchers have found that depressive symptomatology was more severe ($F = 4.13$, $df = 2.67$, $p < 0.05$) both in patients with anxious and avoidant attachment orientations in comparison to patients with a secure attachment orientation

(Ponizovsky & Drannikov, 2013). Among patients with chronic illness such as CVD, Kidd and colleagues (2016) found that attachment anxiety (but not attachment avoidance) significantly predicted depressive and anxiety symptomatology in a sample of 155 perioperative cardiac patients. Interestingly, this finding aligns with the results of a recent meta-analysis which has found a consistently stronger link between depressive and anxiety symptomatology in individuals with anxious attachment orientations in comparison to their avoidantly attached counterparts (Zheng et al., 2020). Given that insecure attachment is a well-known predictor of mood and anxiety disorders, researchers have been increasingly exploring the pathways mediating this link. Although theoretical evidence suggests that dyadic coping strategies could be a noteworthy mediating factor, empirical support for this idea is currently lacking.

Adult Romantic Attachment and Relationship Satisfaction

Attachment theorists have posited that one's history of interactions with early primary attachment figures plays an instrumental role in relationship satisfaction (Kobak et al., 1994). Theoretically, individuals with secure attachment bonds are more likely to experience fulfilment of attachment-based needs (e.g., connection, intimacy, trust, and support) within couple relationships than are those with insecure attachment bonds (Hazan & Shaver, 1987). Securely attached people seem to fundamentally possess deeply-rooted perceptions of themselves as worthy of love and capable of self-soothing, as well as expectations that their romantic partner will be responsive, sensitive, and available in times of need (Brassard et al., 2009; Mikulincer & Shaver, 2016). As such, they learn that actual or symbolic proximity-seeking behaviours are effective means of coping with stress and experiencing felt security when facing threats or dangers. Successfully regulating distress through this primary attachment strategy deactivates the attachment system, allowing one to pursue nonattachment activities (e.g., exploration, affiliation,

caregiving, and sexual matting) which can strengthen the relational bond and increase relationship satisfaction (Mikulincer & Shaver, 2016).

Conversely, insecurely attached people inherently hold negative models of self and others, which predisposes them to relational difficulties. In fact, a recent meta-analytic review of the literature on the actor and partner associations between adult romantic attachment and relationship satisfaction found that insecure attachment was linked to heightened relational conflict and weakened dyadic support, which in turn were linked to impoverished relationship satisfaction (Candel & Turliuc, 2019). Namely, findings yielded by this study revealed significant actor and partner effects of insecure romantic attachment (i.e., attachment anxiety and avoidance) on relationship satisfaction, regardless of gender. In other words, one's anxious or avoidant attachment negatively affected their own and their partner's relationship satisfaction. Interestingly, actor associations between insecure romantic attachment and relationship satisfaction were stronger than were partner associations due to self-serving distortions.

On one hand, anxiously attached individuals tend to overestimate relational threats while underestimating their partner's commitment to the relationship, which intensifies negative thoughts and emotions about themselves, their partner, and their relationship (Mikulincer & Shaver, 2016). Constant fears of rejection or abandonment motivate anxious individuals to adopt hyperactivating strategies as a way to attain a sense of attachment security and fulfill attachment needs. However, secondary maladaptive coping strategies such as coercion, criticism, blame, guilt induction, intrusiveness, and clinging can conduce to negative responses from their partner therefore further lowering their own and their partner's relationship satisfaction (Feeney & Fitzgerald, 2019). On the other hand, avoidantly attached individuals tend to discount relational threats while inhibiting their own emotional experiences. Chronic fears of emotional dependency

and discomfort with interpersonal closeness motivate avoidant individuals to adopt deactivating strategies in order to maximize emotional and physical distance from their partner as well as to suppress their attachment needs (Mikulincer & Shaver, 2016). However, secondary maladaptive coping strategies such as withdrawal, disengagement, defensiveness, and compulsive self-reliance can lead to negative responses from partners, further crystallising mistrust about attachment-figure availability, devaluating the importance of the relationship, and further lowering their own and their partner's relationship satisfaction (Candel & Turliuc, 2019). Moreover, attachment avoidance has been found to be more strongly associated with relationship dissatisfaction than has attachment anxiety (Li & Chan, 2012). In sum, secure attachment may enhance relationship satisfaction as it fosters security-based strategies of emotion regulation, allowing securely attached people to be more attuned to their own and their partner's distress and in turn adopt adaptive coping strategies in times of stress (Shaver & Mikulincer, 2015).

Adult Romantic Attachment and Dyadic Coping

The central tenets of attachment theory postulate that one's attachment orientation affects emotion regulation and coping abilities in times of stress (Bowlby, 1969, 1982). Indeed, attachment researchers (e.g., Cassidy & Shaver, 2016; Mikulincer & Shaver, 2016; Simpson & Rholes, 2017) have found that internal working models as well as primary (i.e., proximity-seeking) and secondary attachment strategies (i.e., hyperactivation and deactivation) not only shape the ways in which individuals in romantic relationships seek and perceive support from their partner, but also influence how they provide support to their distressed partner. Given that insecure romantic attachment has been found to compound emotion regulation and individual coping difficulties, a growing body of empirical evidence suggests that insecure romantic attachment may also have detrimental effects on dyadic coping (Alves et al., 2019; Batinic & Kamenov, 2017; Fuenfhausen & Cashwell, 2013; Gagliardi et al., 2013; Levesque et al., 2017).

For instance, Batinic and Kamenov (2017) examined actor and partner effects of insecure romantic attachment on dyadic coping in a sample of 223 opposite-sex, married couples through dyadic analyses. They found significant actor and partner effects (ranging from β= -.11 to β= -.46), indicating that men and women with high levels of attachment anxiety and attachment avoidance were both less prone to engage in CDC themselves and less prone to have a partner who engaged in CDC. In the same vein, Alves and colleagues (2019) recently conducted a longitudinal study investigating the mediating effect of CDC between insecure romantic attachment and parental adjustment in a sample of 92 opposite-sex couples. Significant actor and partner effects were found, suggesting that fathers and mothers with high levels of attachment anxiety and attachment avoidance were both less likely to engage in CDC themselves and less likely to have a partner that engaged in CDC. Interestingly, their findings revealed that the associations between attachment anxiety and CDC were broadly weaker in comparison to the associations between attachment avoidance and CDC, suggesting that the excessive worries experienced by individuals with high levels of attachment anxiety may inhibit their ability to engage in joint coping efforts in times of stress.

Mediating Role of Dyadic Coping

In light of theoretical and empirical developments from the past few years, researchers have increasingly started exploring whether dyadic coping may serve as a pathway through which romantic attachment affects intrapersonal and interpersonal outcomes. While the dyadic coping literature indicates that dyadic coping may be more closely related to relational outcomes than individual outcomes (Bodenmann et al., 2011), dyadic coping has nonetheless been found to mediate the relationship between romantic attachment and intrapersonal outcomes, such as mental health (Kafescioglu et al., 2010), non-suicidal self-injury (Levesque et al., 2017), parental

adjustment (Alves et al., 2019), and quality of life (Crangle et al., 2020). Dyadic coping has also been shown to mediate the relationship between romantic attachment and intrapersonal outcomes, such as relational intimacy and notably relationship satisfaction (Fuenfhausen & Cashwell, 2013; Iuga & Candel, 2020; Wendołowska et al., 2022). Given that CDC has been found to have predominantly beneficial effects from an individual and relationship perspective (Falconier et al., 2015; Rusu et al., 2020), the present thesis will specifically focus on CDC as a mediator using a dyadic approach as a way to account for actor and partner effects.

Common Dyadic Coping as a Mediator between Romantic Attachment and Mental Health

To our knowledge, there has been only one study to date of the ways in which dyadic coping (i.e., supportive and negative dyadic coping exclusively) may be a mediating factor between insecure romantic attachment and mental health. Among a sample of 63 couples in which one partner had received a cardiac diagnosis, Kafescioglu and colleagues (2010) conducted Actor-Partner Interdependence Model (APIM) analyses through the use of a pooled regression approach. They found two significant mediating effects. On one hand, patients with higher levels of attachment avoidance were more likely to engage in more negative dyadic coping, which in turn, negatively influenced their own mental health (b = -28.72, $t(1)$ = -3.16, p < .05). On the other hand, spouses with higher levels of attachment anxiety were more likely to engage in more supportive dyadic coping, which in turn, positively affected their own mental health (b = -1.85, $t(1)$ = -2.45, p < .05). However, the findings from this study should be interpreted in light of several limitations (see below), and additional research in this area is most definitely required.

Common Dyadic Coping as a Mediator between Romantic Attachment and Relationship

Satisfaction

To our knowledge, the role of dyadic coping as a mediator between insecure romantic attachment (i.e., attachment anxiety and avoidance) and relationship satisfaction has only been evaluated in four studies to date. The first study, by Levey (2003), was conducted on a sample of 93 engaged and newly married couples. Results indicated that dyadic coping did not significantly mediate the link between attachment (i.e., secure, hostile, avoidant, and ambivalent) and relationship satisfaction. While this study did reveal that individuals with higher levels of attachment insecurity engaged in more negative dyadic coping, no direct links were found between attachment security and positive dyadic coping. The second study, by Fuenfhausen and Cashwell (2013), was conducted with a sample of 209 married students. Their findings indicated that attachment insecurity (i.e., attachment anxiety and avoidance) and dyadic coping cumulatively accounted for 67% of the variance in relationship satisfaction. Their findings also revealed significant negative relationships between attachment anxiety, avoidance, and dyadic coping, which suggests that romantic attachment might shape individuals' dyadic appraisals and coping. The third study, by Iuga and Candel (2020), was conducted using a sample of 147 participants (predominantly women) involved in a romantic relationship. They found that dyadic coping mediated the link between attachment avoidance (but not attachment anxiety) and relationship satisfaction. Most recently, a study by Wendoloska and colleagues (2022) was conducted in a sample of 114 Polish couples. Their findings revealed that dyadic coping partially mediated the association between romantic attachment and relationship satisfaction. Although these four studies have contributed to the advancement of knowledge in the field of dyadic coping, these investigations present methodological and statistical limitations (as discussed below in the Previous Research Limitations section). Hence, further research is needed to address these limitations.

Limitations of Previous Research

First, while several researchers in the field have investigated the direct links between insecure romantic attachment, CDC, mental health, and relationship satisfaction, many of them have studied these variables without using dyadic data analysis. Thus, the complex nature of intimate relationships and the interdependence of romantic partners have been essentially omitted in the scientific literature. For this reason, we will address this limitation in the present thesis by simultaneously testing all variables in one comprehensive actor-partner independence mediation model (APIMeM) using structural equation modeling (SEM). SEM is an advantageous statistical procedure in dyadic research, recognized for its compatibility with distinguishable dyad members (e.g., partners in a couple relationship) and its capacity to examine the impact of a particular variable on an individual (actor effect) and on their partner (partner effect; Ledermann & Kenny, 2017).

Second, although some researchers have examined these variables among samples of couples in which one partner had a cancer diagnosis, to our knowledge there is only one study of these variables among a sample of couples in which one partner has a cardiac diagnosis (Kafescioglu et al., 2010). However, this study presented considerable limitations, such as the small sample size (N = 63) and the use of APIM analyses through a pooled regression approach instead of SEM. Also, this study employed the Medical Outcomes Study Short Form 36-Item (SF-36), which has been criticized for its questionable test-retest reliability on the mental health, role emotional, and physical role scales (Busija et al., 2011). Thus, this previous study appears to be unreliable. We have addressed these limitations by recruiting an adequately large sample size and using sound psychometric mental health measures in an APIMeM (Ledermann et al., 2011).

Finally, although there are many studies of the relation between dyadic coping and relationship satisfaction, to our knowledge only one study has included CDC as a mediator between insecure romantic attachment and relationship satisfaction using dyadic analyses (Wendołowska et al., 2022). However, given that this study was conducted in an Eastern European population, the present thesis will address this limitation by testing this model in a North American population.

The Current Studies

Given the gaps mentioned above in couple-based research, the overarching objective of the two independent yet complementary studies included in this present thesis was to investigate the pathways connecting insecure romantic attachment (i.e., attachment anxiety and attachment avoidance) with interpersonal and intrapersonal variables. Specifically, we tested CDC in two distinct samples (i.e., community and clinical couples), as this relational construct was theorized to help explain the development of interpersonal (i.e., relationship satisfaction) and intrapersonal outcomes (i.e., mental health) within an attachment framework. In the first study (Chapter II) we examined the mediating role of CDC in the link between insecure romantic attachment and relationship satisfaction among opposite-sex couples in good health sampled from the general population. In the second study (Chapter III) we investigated the mediational effects of CDC on the association between insecure romantic attachment and mental health outcomes among opposite-sex couples in which one partner had a diagnosis of cardiac illness. Both studies were grounded in attachment theory, featured samples that consisted of couples, and included advanced statistical analyses that accounted for the complex nature of intimate relationships and the interdependence of romantic partners. Distinct types of dyadic stress were investigated in these two studies (i.e., minor and major stress), with two distinct samples (i.e., couples in good

health and couples in which one partner had heart disease). Given that couples have been found to use different dyadic coping strategies depending on the type of dyadic stress (Randall et al., 2009), each study uniquely yielded a better understanding of the impact of CDC on interpersonal and intrapersonal outcomes (i.e., relationship satisfaction and mental health).

In summary, the aim of the present thesis is to broaden current understanding of coping in important ways by assessing the links between CDC and intrapersonal and interpersonal outcomes through a romantic attachment lens. The innovative findings of these two studies provide valuable knowledge to researchers and clinicians alike by informing prevention and intervention programs for couples coping with stressful life events, from daily hassles to chronic illness such as CVD. The respective and collective implications of both studies are addressed and integrated at full length in subsequent chapters of the thesis.

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Chapter II:

We're in This Together: The Mediational Effects of Common Dyadic Coping on the Link between Romantic Attachment and Relationship Satisfaction

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Abstract

A large body of existing empirical research has demonstrated that insecure romantic attachment and common dyadic coping are both separate, strong predictors of relationship satisfaction (Candel & Turliuc, 2019; Falconier et al., 2015). Recent studies have also yielded evidence of a link between insecure romantic attachment and common dyadic coping (Alves et al., 2019; Batinic & Kamenov, 2017b; Fuenfhausen & Cashwell, 2013b; Levesque et al., 2017b). Since the mechanisms of the relation between insecure romantic attachment and relationship satisfaction are currently poorly understood, the objective of the present study was to examine the potential mediational effects of common dyadic coping (CDC) on the associations between insecure romantic attachment and relationship satisfaction. A sample of 187 opposite-sex couples from the community completed questionnaires measuring romantic attachment, dyadic coping, and relationship satisfaction. A structural equation modeling (SEM) framework was used to perform an actor-partner interdependence mediation model (APIMeM). Results revealed that CDC partially mediated the association between attachment avoidance and relationship satisfaction. Overall, findings from our study reveal an interesting pattern wherein attachment avoidance, for both men and women, has a negative link to relationship satisfaction through their own and their partner's CDC.

Keywords: couples, romantic attachment, dyadic coping, relationship satisfaction

We're in This Together: The Mediational Effects of Common Dyadic Coping on the Link between Romantic Attachment and Relationship Satisfaction

Relationship satisfaction, which refers to the overall subjective evaluation that people make about the quality of their couple relationship (Li & Fung, 2011), is widely-known to influence psychological and physical health, as well as life satisfaction (Proulx et al., 2007; Robles et al., 2014). The degree to which romantic partners feel satisfied within couple relationships has been recognized to be influenced by factors such as personal background and characteristics, including attachment experiences (Bradbury et al., 2000). Indeed, the robust link between adult romantic attachment and relationship satisfaction is now well-established in the literature in that insecure attachment has been found to have negative effects on romantic partners' satisfaction with their couple relationships (Mikulincer & Shaver, 2016). The strength of this association has led many researchers to examine possible mediators in an effort to better understand the ways in which insecure romantic attachment might exert its influence on relationship satisfaction (Feeney, 2016).

One such mediator is known as dyadic coping, which refers to the manner in which romantic partners manage stressful life events as a unit (Bodenmann, 1995, 1997, 2005). Dyadic coping appears to affect the relationship satisfaction of couples whose bond is insecure (Fuenfhausen & Cashwell, 2013; Iuga & Candel, 2020; Wendołowska et al., 2022), such that romantic partners with high levels of insecure attachment may be more likely to engage in negative cognitive appraisals about stressors. This may inhibit their use of dyadic coping strategies, and in turn decrease their relationship satisfaction. Empirical studies have demonstrated that common dyadic coping (CDC), which reflects joint coping efforts used by both partners in times of stress, appears to be a stronger predictor of relationship satisfaction than

other forms of dyadic coping (Falconier et al., 2015). Although the evidence points to the important mediating role of CDC, the interplay among both partners' romantic attachment, CDC, and relationship satisfaction remains to be explored.

Adult Romantic Attachment

Bowlby's (1969/1982) attachment theory encapsulates the propensity and innate need of human beings to form strong affectional bonds with significant others. According to the theory, an innate behavioural attachment system serves as an instinctive survival mechanism that activates the emotion regulation process when confronted with physical or psychological threats, and causes a person to seek protection, security, and support from primary attachment figures (Mikulincer et al., 2013). Over time, these interactions with primary attachment figures produce enduring mental representations of the self and others (known as internal working models), which influence personality development (Ainsworth & Bowlby, 1991) and shape expectations, attitudes, and beliefs about relationships later in life (Collins & Read, 1994).

Considering that primary attachment figures typically shift from parents to intimate partners as infants gradually mature into adults, Hazan and Shaver (1987) extended the central tenets of attachment theory from infant-caregiver relationships to romantic dyads. Subsequent researchers found that individual differences in attachment styles in adulthood can be measured along two orthogonal dimensions: *attachment anxiety* (i.e., excessive worries of under-appreciation or abandonment, extreme need for approval and closeness) and *attachment avoidance* (i.e., inclination toward emotional and physical distance over intimacy, discomfort with interpersonal closeness and emotional dependency; Bartholomew & Horowitz, 1991; Brennan et al., 1998). In order to alleviate distress in times of need, securely attached adults with low levels of attachment anxiety and low levels of attachment avoidance rely on adaptive coping

strategies such as proximity-seeking (Brennan et al., 1998; Simpson & Rholes, 2012), whereas insecurely attached adults with high levels of attachment anxiety or high levels of attachment avoidance rely on maladaptive coping strategies. Anxiously attached adults tend to use hyperactivating strategies (e.g., excessive reassurance seeking, clinging, coercion) to increase proximity with their partner (Simpson & Rholes, 2012), while avoidantly attached adults tend to use deactivating strategies (e.g., cognitive and emotional suppression, compulsive self-reliance) to maintain emotional distance from their partner (Mikulincer & Shaver, 2007). Regulating distress through proximity-seeking behaviours deactivates the attachment system and promotes the pursuit of nonattachment activities (e.g., exploration, affiliation, caregiving, and sexual mating), which appears to strengthen the relational bond and increase relationship satisfaction (Mikulincer & Shaver, 2016). Conversely, hyperactivating and deactivating behaviours maintain the activation of the attachment system and inhibit the pursuit of nonattachment activities, thereby predisposing insecurely attached people toward a greater likelihood of relational difficulties. In this way, secure attachment may enhance relationship satisfaction as securely attached individuals tend to be more attuned to their own and to their partner's distress, and to adopt adaptive coping strategies in times of stress (Shaver & Mikulincer, 2015).

The Mediating Role of Common Dyadic Coping

According to the Systemic-Transactional Model, close relationships are characterized by interdependence because romantic partners are embedded within a shared social context in which they continuously exchange, influence, and respond to one another (Bodenmann, 2005; Bodenmann et al., 2017). From this perspective, external stressors (e.g., finances, illness, parenthood, work, and grief) encountered by one romantic partner are viewed as interpersonal phenomena due to stress crossover effects that can have a negative effect on both partners'

mood, well-being, and behaviour (Bodenmann et al., 2016). At the couple level, extradyadic stress, including stress from daily hassles, may have detrimental effects on couple functioning by increasing relationship dissatisfaction (Falconier et al., 2015).

Such dyadic stressors trigger coping efforts whereby both romantic partners engage in an interpersonal process known as dyadic coping in order to restore individual and relational homeostasis (Bodenmann, 1995, 1997, 2005). Forms of dyadic coping include partner- and couple-oriented behaviours that are either positive (e.g., supportive, delegated, or CDC) or negative (e.g., hostile, ambivalent, or superficial dyadic coping; for a review, see Falconier & Kuhn, 2019). Engaging in positive forms of dyadic coping, namely CDC, has been found to help romantic partners reduce individual stress, fulfill relational needs, and in turn, enhance relationship satisfaction (Falconier et al., 2015). CDC occurs when partners jointly engaging in problem-focused (e.g., shared problem-solving, information seeking, and division of tasks) and emotion-focused (e.g., mutual solidarity and relaxation efforts) behaviours when confronted with a common stressor (Bodenmann, 1995, 1997, 2005). Among all forms of dyadic coping, CDC has been found to be the strongest predictor of relationship satisfaction (Falconier, Jackson, et al., 2015).

There are only four studies to date of the role of dyadic coping as a mediator between romantic attachment and relationship satisfaction, which have yielded inconsistent results due to differences in methodology and statistical analyses. Levey (2003) found that dyadic coping did not significantly mediate the relation between adult attachment styles (i.e., secure, hostile, avoidant, and ambivalent) and relationship satisfaction in a sample of 93 engaged and newly married couples. Results nonetheless revealed significant relationships between adult attachment styles and dyadic coping; men with hostile attachment and women with ambivalent attachment

were found to be more likely to engage in negative dyadic coping. Results also revealed significant associations between dyadic coping and relationship satisfaction for men only; men engaging in negative dyadic coping were more likely to be dissatisfied with their couple relationship. Fuenghhausen and Cashwell (2013) found that total dyadic coping (i.e., all forms of dyadic coping aggregated together) partially mediated the link between attachment insecurity and relationship satisfaction in a sample of 209 married students. Their findings also revealed that attachment insecurity and dyadic coping cumulatively accounted for 67% of the variance in relationship satisfaction. Iuga and Candel (2020) found that total dyadic coping mediated the link between attachment avoidance (but not attachment anxiety) and relationship satisfaction in a sample of 147 participants (predominantly women) involved in a romantic relationship. Lastly, Wendolowska and colleagues (2022) recently found that the association between insecure romantic attachment and relationship satisfaction was partially mediated by positive dyadic coping in a sample of 114 Polish couples. Their findings found that the total indirect actor effect size of CDC was larger than supportive and delegated dyadic coping.

Although these studies provide partial evidence of the mediating role of CDC in the link between insecure romantic attachment and relationship satisfaction, current understanding of the mechanisms linking them together is limited. The aim of the present study is therefore to expand our understanding of the relational pathways through which CDC mediates the link between insecure romantic attachment and relationship satisfaction in a sample of North American opposite-sex couples from the community using advanced statistical dyadic data analysis. An actor-partner interdependence mediation model (APIMeM) was used to investigate the hypothesized associations between each partner's insecure romantic attachment and relationship satisfaction through CDC (see Figure 1 for all hypothesized relationships).

Hypothesis 1: We hypothesized a series of male and female *actor effects*, including direct links between attachment avoidance, attachment anxiety and relationship satisfaction (direct paths C'A1, C'A2, C'A3, C'A4). Notably, we predicted that greater attachment insecurity (i.e., attachment avoidance and attachment anxiety) would be linked to lower relationship satisfaction in both men and women.

Hypothesis 2: We hypothesized full *actor mediations,* including indirect effects from insecure romantic attachment to relationship satisfaction through CDC indirect paths aa1 to ba1, ap2 to bp1, aa2 to ba2, ap1 to bp2 for male and female attachment avoidance, and indirect paths aa3 to ba1, ap4 to bp1, aa4 to ba2, ap3 to bp2 for male and female attachment anxiety). Notably, we predicted that, at the individual (actor) level: (a) CDC would help explain the association between attachment insecurity and relationship satisfaction (b), at the partner level, CDC would help explain the association between insecure romantic attachment and relationship satisfaction.

Hypothesis 3: We hypothesized a series of male and female *partner effects* including direct links between attachment avoidance and attachment anxiety with their partner's relationship satisfaction (direct C'p1, C'p2, C'p3, C'p4). Notably, we predicted that greater attachment insecurity in individuals would be linked to lower relationship satisfaction in their partners.

Hypothesis 4: We hypothesized that there would be full *partner mediations*, including indirect links from one's own insecure romantic attachment to their partner's relationship satisfaction through CDC (indirect paths aa2 to bp1, ap1 to ba1, aa1 to bp2, ap2 to ba2 for male and female attachment avoidance, and indirect paths aa4 to bp1, ap3 to ba1, aa3 to bp2, ap4 to ba2 for male and female attachment anxiety). Notably, we predicted that: (a) individuals' CDC

would mediate the association between their insecure romantic attachment and their partner's relationship satisfaction, and that (b) partners' CDC would mediate the association between individual insecure romantic attachment and partners' relationship satisfaction.

Method

Participants

The sample consisted of 187 opposite-sex couples (*N* = 374 individuals) from the community. Eligibility criteria for participation in the present study required both partners of the relationship to be at least 18 years of age, have a good understanding of English, and be able to provide informed consent. To be eligible to participate, couples also needed to be involved in a relationship with the same partner for at least one year and living together for a minimum of six months at the time of participation. The use of such inclusion criteria allowed to target a population with predefined characteristics considered to be representative of stable romantic relationships.

On average, women were 30.2 years old (*SD* = 9.2) and men were 32.4 years old (*SD* = 10.4). The average length of romantic relationships was 6.4 years (*SD* = 7.5). Most couples were in a common-law relationship (57.2%) and did not have any children with their current partner (81.3%). Most participants had completed post-secondary education (62% with a university degree and 17.9% with a college degree) and had an average individual annual income of CAN$45,604 (*SD* = CAN$25,109). Most of the participant sample self-identified as Caucasian (89.8%) and English-speaking (71.1%). Demographic information is summarized in Table 1.

Procedure

This study was embedded within a larger 3-year longitudinal investigation that included three participation points that took place at 12-month intervals. The cross-sectional sample used

for this study consisted of couples who either participated in the first (n = 69), or in the second (n = 118) time-point. Various recruitment methods were used including local newspaper advertisements, presentations in undergraduate classes, and local bridal events. Eligible couples completed a questionnaire package separately on site. At the end of the session, participants received their research compensation (i.e., CAN$40 per couple). These procedures were approved by the University of Ottawa Research Ethics Board.

Measures

Sociodemographic Questionnaire. This questionnaire is a self-report form that collected both personal (e.g., age, gender, ethnicity, educational level, salary, occupation, etc.) and relationship demographics (e.g., marital status, relationship length, duration of cohabitation, number of children).

Experiences in Close Relationships (ECR; Brennan et al., 1998). The ECR is a 36-item self-report questionnaire that is composed of two subscales: attachment anxiety (e.g., "I worry a fair amount about losing my partner") and attachment avoidance (e.g., "I don't feel comfortable opening up to romantic partners"). The rating of each 18-item subscale is achieved using a 7-point Likert scale, and subsequently averaged independently for the interpretation of the results. Elevated mean scores on the anxiety and avoidance subscales are representative of higher insecure attachment. The scale has been found to be a reliable and valid measure of adult romantic attachment in numerous couple populations (for a review, see Mikulincer & Shaver, 2016). The internal consistency indices (.94 and .91 for the avoidance and anxiety subscales, respectively) originally reported by Brennan and colleagues (1998) were supported by a recent meta-analysis of 503 studies which produced overall high average Cronbach alpha coefficients (.90 and .89 for the avoidance and anxiety subscales, respectively; Graham & Unterschute,

2015). Alpha coefficients in the present study were .92 and .91 for the avoidance and anxiety subscales, respectively.

Dyadic Coping Inventory (DCI; Bodenmann, 2008). The DCI is a 37-item self-report questionnaire that measures the stress management process in couples. Using a 5-point Likert scale, the DCI provides information on each partner's self-perceived dyadic coping, partner-perceived dyadic coping, couple-perceived dyadic coping and overall satisfaction with dyadic coping. Although the DCI is comprised of 10 subscales, only the CDC subscale was used in the present study. It consists of five items (e.g., "We help one another to put the problem in perspective and see it in a new light") that are summed together. An elevated score on this subscale is indicative of greater levels of CDC. The psychometric properties of the English version reveal acceptable to good internal reliability coefficients, with Cronbach alpha coefficients ranging from .79 to .87 for the CDC subscale (Levesque et al., 2014; Randall et al., 2016). The Cronbach alpha coefficient was .82 for the CDC subscale in the present study.

Dyadic Adjustment Scale- 4 items (DAS-4; Sabourin et al., 2005). Derived from the original 32-item DAS (Spanier, 1976b)**,** the DAS-4 is a shortened self-report measure of relationship satisfaction for individuals involved in romantic relationships. This abbreviated version consists of four items that were extracted from the satisfaction scale of the DAS-32. Respondents rate the first three items (e.g., "Do you confide in your mate?") using a 6-point Likert scale and the fourth item (i.e., description of the degree of happiness in the relationship) using a 7-point Likert scale. The norms of the DAS-4 were based on two samples of couples from the community (Sabourin et al., 2005), hence rendering strong community norms for studies such as the present one. A global score lesser than 13 is representative of distressed spouses, whereas a global score greater than 13 is representative of non-distressed spouses. This

cut-off point corresponds to established thresholds of < 21 for the DAS-7, < 34 for the DAS-10, < 45 for the DAS-14, and < 100 for the DAS-32 (Sabourin et al., 2005). The psychometric properties of the DAS-4 have been found to have good predictive validity, temporal stability, and internal reliability with a Cronbach alpha coefficient of .84 (Sabourin et al., 2005b). Subscale reliability for the present study found a lower yet acceptable pooled Cronbach alpha coefficient of .73.

Statistical Analyses

We conducted standard data screening steps to certify the accuracy of the data file and resolve potential data-related issues (Tabachnick & Fidell, 2019). Means and standard deviations were plausible, and all values were within expected range. The missing data rate was less than 5%. However, Little's missing completely at random (MCAR) test was significant, χ^2 (3656) = 3894.125, p = .003. As asserted by Schafer (1999), we determined that the violation of the MCAR assumption would not yield markedly biased results or distorted parameter estimates given the negligible amount of missing data rate in our sample (i.e., .16%). Lastly, the internal consistency of each scale was calculated separately with Cronbach's alpha coefficients. Descriptive statistics, Pearson correlation coefficients, multivariate analyses of variance (MANOVAs) and repeated-measures MANOVA were conducted to examine sample characteristics, mean differences, and the relation between study variables.

For the principal analyses, we conducted an APIMeM (Ledermann et al., 2011) in Mplus Version 8.5 (Muthén & Muthén, 2020). We used a structural equation modeling (SEM) framework because it facilitated the estimation of the entire model in one single analysis (Ledermann & Kenny, 2017). APIMeM enables the assessment of mediation in dyadic models while testing the fit of more parsimonious models constraining actor and partner effects (Peugh

et al., 2013). The 6-step procedure developed by Kenny and Ledermann (2010) for APIMeM analysis with distinguishable dyad members was implemented: (1) estimating the saturated distinguishable model and testing of all effects; (2) testing the indistinguishability assumption and specification of a simpler model with direct effects that constrain to equality; (3) estimating the *k's* and their confidence intervals (Cis) using phantom variables; (4) setting the corresponding *k's* equal in the event that both the *a* and *b* effects are statistically equal; (5) fixing the *k's* to 1, 0, or -1 once the CIs values obtained and evaluate the relative fit of the model; and (6) re-specifying the simpler model by constraining effects and eliminating the *k* paths if possible. The fit of the model was determined using several indices. Given the complexity of the present model, the Satorra-Bentler scaled x^2 difference test (2001) was applied, in addition to the Root Mean Square Error of Approximation (RMSEA), the Tucker-Lewis index (TLI), the Comparative Fit Index (CFI), and the Standardised Root Mean Square Residual (SRMSR). According to statistical guidelines, acceptable fit indices are <.06 for RMSEA, >.95 for TLI, >0.95 for CFI, and <.08 for SRMSR (Hooper et al., 2008; Hu & Bentler, 1999). Lastly, differences in the CFI of .002 and the Satorra-Bentler scaled x^2 difference test will be used to compare nested models (Meade et al., 2008).

Results

Preliminary Analyses

As summarized in Table 2, there were several significant correlations between men and women's insecure romantic attachment, CDC, and relationship satisfaction. Both men and women's attachment avoidance had stronger correlations with study variables than did attachment anxiety. There were also moderate positive partial correlations between men and

women's relationship satisfaction while controlling for men and women's age, length of relationship, education, and income. Results of the zero-order correlations revealed similar moderate, positive correlations. As such, results of these analyses indicate that controlling for men and women's age, length of relationship, education, and income had negligible effects on the strength of the association between men and women's relationship satisfaction.

We conducted four separate MANOVAs to determine the effect of time of participation on sociodemographic variables (e.g., age, length of relationship, length of cohabitation, number of children with their current partner, and individual annual income) and attachment anxiety, attachment avoidance, CDC, and relationship satisfaction, for men and women separately. Results revealed non-significant effects for time of participation on study variables. We also conducted eight MANOVAs separately for men and women to determine the effects of sociodemographic variables on attachment anxiety, attachment avoidance, CDC, and relationship satisfaction. Results revealed that sociodemographic variables did not have any significant effects on study variables.

We conducted a one repeated-measures MANOVA to determine the effect of self-identified gender (i.e., male or female) on attachment anxiety, attachment avoidance, CDC, and relationship satisfaction. Using Wilk's statistic, results of the repeated-measures MANOVA revealed a significant effect of gender ($\Lambda = .80$, F (4, 182) = 11.39, $p < .001$). The multivariate η^2 based on Wilk's Λ was .20. Separate univariate ANOVAs revealed only one significant effect of gender on attachment anxiety (F (1, 185) = 35.82, $p = < .001$, $\eta^2 = .16$). This result suggests that women were significantly higher in attachment anxiety than were men. Otherwise, there were no significant effects of gender on attachment avoidance (F (1, 185) = .03, $p > .0125$), CDC

(F (1, 185) = 3.03, p >.0125), and relationship satisfaction (F (1, 185) = .20, p >.0125). Bonferroni adjustments critical values of .0125 (.05/4) were used.

Mediation Model

Effect size (i.e., index r) has been found to be equivalent to standardized path coefficients of direct effects in SEM, these coefficients were therefore used to assess the magnitude and direction of the relations between variables (Durlak, 2009). For direct effects, 10 of the 20 associations were significant with small to medium effect sizes, meanwhile for indirect effects, seven of the 16 mediations were significant with small effect sizes (Table 3 and Figure 2).

Direct Effects

***a* effects ($X \rightarrow M$).** In terms of male actor effects, both men's attachment avoidance (β= -.38, p= .000) and men's attachment anxiety (β= -.15, p= .046) were significantly associated with their own CDC, with medium and small effect sizes, respectively. As hypothesized, the more avoidantly and anxiously attached they were, the less men engaged in CDC. In terms of female actor effects, only women's attachment avoidance (β= -.27, p= .000) was significantly related to their own CDC, with a medium effect size. As hypothesized, the more avoidantly attached they were, the less women engaged in CDC.

With regard to male partner effects, women's attachment avoidance (β= -.24, p= .001) was significantly associated with men's CDC with a medium effect size. Analogously for female partner effects, men's attachment avoidance (β= -.29, p= .000) was significantly associated with women's CDC with a medium effect size. As hypothesized, the more their partners were avoidantly attached, the less men and women engaged in CDC. However, contrary to our hypotheses, neither men nor women's attachment anxiety were significantly related to their partner's CDC.

***b* effects (*M* → *Y*).** In terms of male actor effects, men's CDC (β= .18, *p*= .018) was associated with men's relationship satisfaction with a small effect size. Similarly, for female actor effects, women's CDC (β= .19, *p*= .040) was associated with women's relationship satisfaction with a small effect size. As hypothesized, these results indicate that the more men and women engaged in CDC, the more satisfied they were with their relationship. With regard to male partner effects, women's CDC (β= .15, *p*= .026) was significantly related to men's relationship satisfaction with a small effect size. In contrast, male CDC was not significantly related to women's relationship satisfaction. Contrary to our hypotheses, these results indicate that the more women (but not men) engaged in CDC, the more satisfied their partner was with their relationship.

***c* effects (*X* → *Y*).** In terms of actor effects, only men and women's attachment avoidance were significantly related to their own relationship satisfaction. Specifically, men's attachment avoidance (β= -.42, *p*= .000) was related to their own relationship satisfaction with a medium effect size, and women's attachment avoidance (β= -.32, *p*= .000) was related to their own relationship satisfaction with a medium effect size. As hypothesized, these results indicate that the more men and women were avoidantly attached, the less satisfied they were with their relationship. With regard to partner effects, and contrary to our hypotheses, neither men or women's insecure attachment was significantly related to their partner's relationship satisfaction.

Indirect Effects

In terms of male indirect effects, our results indicate that men's CDC (β= -.07, 95% CI [-.145, -.012]) and women's CDC (β= -.04, 95% CI [-.104, -.006]) both partially explained the relationship between men's attachment avoidance and men's relationship satisfaction. As hypothesized, these results suggest that men with higher levels of attachment avoidance were less likely to engage in CDC and to have partner's that engaged less in CDC, which in turn was

related to a decrease in their relationship satisfaction. Men's CDC also fully explained the relationship between men's attachment anxiety and men's relationship satisfaction (β= -.03, 95% CI [-.80, -.001]). As hypothesized, this result indicates that men with higher levels of attachment anxiety were less likely to engage in CDC, which in turn was related to a decrease in their relationship satisfaction.

In terms of female indirect effects, men's CDC partially explained the link between women's attachment avoidance and men's relationship satisfaction (β= -.04, 95% CI [-.103, -.009]). As hypothesized, this result indicates that women with higher levels of attachment avoidance were less likely to have a partner that engaged in CDC, which in turn was related to a decrease in their relationship satisfaction. Women's CDC partially explained the link between women's attachment avoidance and women's (β= -.05, 95% CI [-.127, -.004]) and men's relationship satisfaction (β= -.04, 95% CI [-.098, -.007]). As hypothesized, these results indicate that women with higher levels of attachment avoidance were less likely to engage in CDC, which in turn was related to a decrease in their own and in their partner's relationship satisfaction. Finally, women's CDC fully explained the link between men's attachment avoidance and women's relationship satisfaction (β= -.06, 95% CI [-.133, -.008]). As hypothesized, this result indicates that men with higher levels of attachment avoidance were less likely to have a partner who engaged in CDC, which in turn was related to a decrease in women's relationship satisfaction.

Dyadic Patterns

Dyadic patterns (e.g., actor-only, partner-only, couple-oriented, and contrast pattern) within the APIMeM were estimated by way of *k* parameters (see Table 4). For actor-only, couple-oriented, and contrast patterns, *k* represents the ratio of the partner effect on the actor effect ($k = p/a$), whereas for the partner-only pattern, *k* represents the ratio of the actor effect on

the partner effect ($k = a/p$). These parameters were computed by means of phantom variables, which are defined as latent variables without any observed indicators or residuals (see Table 3; Rindskopf, 1984). The use of a phantom model approach imposes complex constraints with no conceptual meaning or disturbance to the estimated model, and enables bootstrapping of confidence intervals (CIs) of coefficients (Macho & Ledermann, 2011). Each *k* parameter was interpreted using corresponding bootstrapped CIs and fixed to the closest values of the obtained estimates. As recommended by Gareau and colleagues (2016), we fixed *k's* to their closest interpretable values including 1.5, 2, -1.5, and -2 as a way to obtain more nuanced result interpretations. We computed a total of five different models in an effort to identify the closest and best fitting values for dyadic patterns (see Table 5). Goodness of absolute fit was found within the last model tested.

We conducted the Satorra-Bentler scaled x^2 difference test, which revealed that the model was consistent with the data, χ^2 (6) = .418, p = 0.998 (Hooper et al., 2008). Goodness of fit was further supported as all other absolute fit indices met their respective cut-off values (i.e., RMSEA =.00, SRMSR = 0.006, CFI = 1.00, TLI = 1.00). We calculated the coefficient of determination (R^2) in order to measure the proportion of variance explained by the model (Field, 2009). Results indicate that men and women's insecure romantic attachment account for 26.4% of the variance in men's CDC (R^2 = 0.264), and 18.5% of the variance in women's CDC (R^2 = 0.185). Men and women's insecure romantic attachment account for 40.7% of the variance in men's relationship satisfaction (R^2 = 0.407), and 23.4% of the variance in women's relationship satisfaction (R^2 = 0.234).

For the effects of attachment avoidance on men's CDC, we fixed the k_1 ratio at 0.5. This denotes a pattern that is halfway between an actor-only pattern and a couple-oriented pattern.

More specifically, the effect of women's attachment avoidance on male CDC was half the size of the effect of men's attachment avoidance. For the effects of attachment avoidance on women's CDC, we fixed the k_2 ratio at 1.5. This is representative of a couple-oriented pattern characterized by a preponderant partner effect that is 1.5 times stronger than the actor effect. More specifically, the effect of men's attachment avoidance on women's CDC was 1.5 stronger than the effect of women's attachment avoidance. For the effects of attachment anxiety on men's CDC, we fixed the k_3 ratio to 0. This is representative of an actor-only pattern where the partner effect is zero. More specifically, only men's attachment anxiety had a significant effect on male CDC. The effect of women's attachment anxiety on men's CDC was not significant. For the effects of attachment anxiety on women's CDC, we fixed the k_4 ratio to -2. This is representative of a contrast pattern characterized by a preponderant partner effect that is twofold stronger than the actor effect. However, the effects of both men and women's attachment anxiety on women's CDC were not significant. For the effects of CDC on men's relationship satisfaction, we fixed the k_5 ratio to 1. This is representative of couple-oriented pattern. More specifically, the effect of women's CDC on men's relationship satisfaction had just as much of an effect as did men's CDC. For the effects of CDC on women's relationship satisfaction, we fixed the k_6 ratio to 0. This is representative of an actor-only pattern where the partner effect is zero. More specifically, only women's CDC had a significant effect on women's relationship satisfaction. The effect of men's CDC on women's relationship satisfaction was not significant.

Discussion

The main objective of the present study was to investigate the mediating effects of CDC on the relationship between insecure romantic attachment and relationship satisfaction in a sample of opposite-sex couples from the community using APIMeM.

Actor and Partner Effects

We expected that men and women's insecure romantic attachment (i.e., attachment anxiety and attachment avoidance) would be linked to their own and their partner's relationship satisfaction. Consistent with our hypotheses, men and women's attachment avoidance were indeed related to their own relationship satisfaction, but unexpectedly, not to their partner's. These results imply that the men and women with higher levels of attachment avoidance were more likely to be more dissatisfied with their romantic relationship. The same findings did not emerge for attachment anxiety, in that there was no effect of attachment anxiety (one's own or one's partner's) on relationship satisfaction in either men or women. While many researchers have found that both attachment anxiety and attachment avoidance are detrimental to relationship satisfaction (Mikulincer & Shaver, 2016b), the findings from our study reveal that the only the latter was true in our sample.

Our results are congruent with meta-analytic findings (Candel & Turliuc, 2019; Li & Chan, 2012) which have shown that attachment avoidance has a stronger effect on relationship satisfaction than does attachment anxiety. One possible explanation is that avoidantly attached individuals attempt to keep their romantic relationship from being an important part of their lives due to discomfort with interpersonal closeness and emotional dependency. In turn, they may have more difficulties valuing their relationship, trusting their partner, and having positive experiences within their couple than do anxiously attached individuals (Mikulincer & Shaver, 2016b). Although we did not detect any significant direct partner effects, this finding partially corroborates those from other studies that have shown that the actor effects of insecure attachment are stronger than partner effects (Candel & Turliuc, 2019).

Actor and Partner Mediations

We hypothesized that men and women's CDC would fully mediate the link between their own and their partner's insecure romantic attachment (i.e., attachment anxiety and attachment avoidance) and relationship satisfaction. Our findings provide partial support for these hypotheses. The relationship between men's attachment avoidance and men's relationship satisfaction was partially mediated both by their own and their partner's CDC. In other words, men with higher levels of attachment avoidance were not only less likely to engage in CDC but were also less likely to have a partner who engaged in CDC, which in turn appeared to make men more dissatisfied with their romantic relationship. Likewise, women with higher levels of attachment avoidance were also less likely to engage in CDC, which in turn appeared to make women more dissatisfied with their romantic relationship. Interestingly, the preceding finding suggests that avoidantly attached women's satisfaction with their romantic relationship was not influenced by their partner's CDC.

The findings from our study also reveal that the relationship between men's attachment avoidance and women's relationship satisfaction was fully mediated by women's CDC (but not by men's CDC). These results signal that men with higher levels of attachment avoidance were less likely to have a partner who engaged in CDC, which in turn appeared to make their partner more dissatisfied with their romantic relationship. In parallel, the relationship between women's attachment avoidance and men's relationship satisfaction was partially mediated both by men and women's CDC. These results indicate that women with higher levels of attachment avoidance were not only less likely to engage in CDC but were also less likely to have a partner who engaged in CDC, which in turn appeared to make men more dissatisfied with their romantic relationship.

Contrary to our initial hypotheses, the same results overall did not hold true for men or women with higher levels of attachment anxiety in the current sample. Surprisingly, only the relationship between men's attachment anxiety and men's relationship satisfaction was fully mediated by men's CDC. This result suggests that men with higher levels of attachment anxiety were less likely to engage in CDC, which in turn appeared to make them more dissatisfied with their romantic relationship.

Taken together, the first path of our model suggests that men and women with higher levels of attachment avoidance were not only less likely to engage in CDC but were also less likely to have a partner who engaged in CDC. However, this pattern did not emerge for attachment anxiety (except for men with higher levels of attachment anxiety). Our results align with prior findings which have shown that attachment avoidance is a stronger predictor of CDC than is attachment anxiety, as avoidant individuals are less likely to engage in joint coping efforts due to their use of deactivating strategies (Alves et al., 2019; Batinic & Kamenov, 2017; Levesque et al., 2017). The second path of our model suggests that men and women who engaged more often in CDC were more likely to be satisfied with their romantic relationship. Interestingly, women (but not men) who engaged more often in CDC also seemed to make their partner more likely to be satisfied with their romantic relationship. This result is congruent with those in the existing literature, in which CDC has been a strong predictor of relationship satisfaction, perhaps because jointly engaging in problem- and emotion-focused behaviours in times of stress promotes a sense of "we-ness" within couples (Falconier et al., 2015; Helgeson et al., 2018). Overall, findings from our study reveal an interesting pattern wherein attachment avoidance, for both men and women, negatively affects relationship satisfaction through their own and their partner's CDC. Given that avoidantly attached individuals tend to have

predominantly negative internal working models about others, they likely expect their own and their partner's joint coping efforts to be ineffective in reducing distress, which in turn, may make them more dissatisfied with their romantic relationship (Fuenfhausen & Cashwell, 2013).

Limitations and Future Directions

Although our study provides important contributions to the literature, some limitations and directions for future studies warrant consideration. First, according to comprehensive guidelines for SEM, some suggest a minimum data sample size of 200 (Weston & Gore, 2006), whereas others recommend at least 10 participants per estimated parameter in order to ensure sufficient statistical power (Kline, 2016). As such, future researchers may be interested in replicating the present study with a larger sample size. Second, the use of cross-sectional self-report data may have posed limitations to the subjectivity of the collected data. It would be advantageous for future researchers to consider longitudinal designs to assess temporal sequencing between variables and to incorporate observational measures to reduce participant bias. Third, the lack of variation in our sample characteristics limits the generalizability of the results to the general population. For this reason, it would be useful for future researchers to improve participation through a more diverse sample of couples, such as couples with clinical presentations (e.g., mental or physical health conditions) or same-sex couples.

Conclusion

The findings from our study illustrates the key role that insecure attachment plays in relationship satisfaction, and further strengthens the notion that close relationships are characterized by interdependence and dyadic complexity. Our study also provides insight into the underlying relational mechanisms between adult romantic attachment and relationship

satisfaction. Specifically, our results suggest that the ways in which romantic partners jointly cope with stressful life events may serve as a link between attachment avoidance and relationship satisfaction.

Our research findings bear interesting implications for clinicians working with avoidantly attached romantic partners that are dissatisfied with their relationship. Namely, individuals with high levels of attachment avoidance may particularly benefit from receiving relationship education programs and couples therapy, such as the Couples Coping Enhancement Training or Coping-oriented Couple Therapy (Bodenmann et al., 2017) through which they could learn that joint coping strategies within their romantic relationship can be effective in reducing distress, and subsequently, improve their relationship satisfaction.

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Table 1

Sample Characteristics

Characteristics	Women Mean (*SD*)	Men Mean (*SD*)
Age (years)	30.2 (9.2)	32.4 (10.4)
Relationship length (years)	6.5 (8.0)	6.2 (6.9)
Cohabitation length (years)	4.8 (7.84)	4.8 (7.8)
Marital status		
Married	60 (32.1%)	60 (32.1%)
Common law	106 (56.7%)	108 (57.8%)
Separated	1 (0.5%)	1 (0.5%)
Single	18 (9.6%)	15 (8.0%)
Number of children		
With current partner	0.23 (0.62)	0.23 (0.62)
With previous partner	0.17 (0.52)	1.22 (0.71)
Language		
English	128 (68.4%)	138 (73.8%)
French	41 (21.9%)	29 (15.5%)
Other	13 (7.0%)	15 (8.0%)
Highest Education Level Attained		
University	121 (64.7%)	111 (59.4%)
College	37 (19.8%)	30 (16.0%)
High School	29 15.5%)	44 (23.5%)
Primary School	0	2 (1.1%)
Annual Income (Canadian dollars)	$41,061 ($22,716)	$49,897 ($26,531)
Occupation		
Blue collar	4 (2.1%)	27 (14.4%)
White collar	112 (59.9%)	105 (56.1%)
Enterprise owner or self-worker	7 (3.7%)	4 (2.1%)
Unemployed	2 (1.1%)	3 (1.6%)
Student	38 (20.3%)	31 (16.6%)
Stay at home	5 (2.7%)	2 (1.1%)
Other	18 (9.6%)	15 (8.0%)
Ethnicity		
White/Caucasian	166 (88.8%)	170 (90.9%)
Black	4 (2.1%)	5 (2.7%)
Asian	7 (3.7%)	4 (2.1%)
Latino or Hispanic	4 (2.1%)	4 (2.1%)
Pacific Islander	0	0
Middle Eastern	3 (1.6%)	2 (1.1%)
Indigenous	1 (0.5%)	1 (0.5%)
Other	1 (0.5%)	0

Table 2

Pearson Correlations between Romantic Attachment Insecurity, and Common Dyadic Coping and Relationship Satisfaction and Descriptive Statistics

	1	2	3	4	5	6	7	8
1. Female Attachment Avoidance	-							
2. Male Attachment Avoidance	0.092	-						
3. Female Attachment Anxiety	.350**	.213**	-					
4. Male Attachment Anxiety	0.057	.268**	0.107	-				
5. Female Common Dyadic Coping	-.310**	-.304**	-.206**	0.004	-			
6. Male Common Dyadic Coping	-.276**	-.433**	-.157*	-.259**	.401**	-		
7. Female Relationship Satisfaction	-.422**	-.151*	-.268**	-0.005	.325**	.195**	-	
8. Male Relationship Satisfaction	-.238**	-.562**	-.197**	-.198**	.382**	.458**	.337**	-
M	2.43	2.42	3.31	2.69	19.30	18.76	17.22	17.15
SD	.88	.76	1.15	.95	3.94	3.87	2.80	2.96

*$p < 0.05$. ** $p < 0.01$.

Note. N = 187.

Table 3

Standardized Estimates, Bootstrap Confidence Intervals, and Proportion of the Total Effects

Effects	Estimate	95% Confidence Interval	Proportion of total effect
Male Attachment Avoidance → Male Relationship Satisfaction			
Total effect	-.530	[-.630, -.419]	
Total indirect effect	-.112	[-.200, -.045]	21.13
MAVOID → MCOPE → MSATIS	-.067	[-.145, -.012]	12.64
MAVOID → FCOPE → MSATIS	-.044	[-.104, -.006]	8.30
Direct effect	-.418	[-.539, -.291]	78.87
Male Attachment Anxiety → Male Relationship Satisfaction			
Total effect	-.045	[-.179, .083]	
Total indirect effect	-.011	[-.066, .032]	24.44
MANX → MCOPE → MSATIS	-.026	[-.800, -.001]	57.78
MANX → FCOPE → MSATIS	.016	[-.001, .051]	35.56
Direct effect	-.034	[-.162, .096]	75.56
Female Attachment Avoidance → Female Relationship Satisfaction			
Total effect	-.374	[-.523, -.221]	
Total indirect effect	-.052	[-.130, .004]	13.90
FAVOID → MCOPE → FSATIS	-.001	[-.036, .035]	.27
FAVOID → FCOPE → FSATIS	-.050	[-.127, -.004]	13.37
Direct effect	-.323	[-.474, -.161]	86.36
Female Attachment Anxiety → Female Relationship Satisfaction			
Total effect	-.122	[-.258, .024]	
Total indirect effect	-.011	[-.056, .016]	9.02
FANX → MCOPE → FSATIS	.000	[-.010, .015]	0
FANX → FCOPE → FSATIS	-.011	[-.059, .012]	9.02
Direct effect	-.111	[-.249, .031]	90.98
Male Attachment Anxiety → Female Relationship Satisfaction			
Total effect	.056	[-.075, .168]	
Total indirect effect	.019	[-.014, .067]	33.93
MANX → MCOPE → FSATIS	-.001	[-.029, .021]	1.79
MANX → FCOPE → FSATIS	.019	[-.001, .068]	33.93
Direct effect	.037	[-.096, .158]	66.07

Male Attachment Avoidance → Female Relationship Satisfaction			
Total effect	-.099	[-.233, .037]	
Total indirect effect	-.057	[-.150, ,010]	57.58
MAVOID → MCOPE → FSATIS	-.002	[-.063, .047]	2.02
MAVOID → FCOPE → FSATIS	-.055	[-.133, -.008]	55.56
Direct effect	-.042	[-.184, .104]	42.42
Female Attachment Avoidance → Male Relationship Satisfaction			
Total effect	-.183	[-.312, -.050]	
Total indirect effect	-.084	[-.159, -.036]	45.90
FAVOID → MCOPE → MSATIS	-.043	[-.013, -.009]	23.50
FAVOID → FCOPE → MSATIS	-.041	[-.098, -.007]	22.40
Direct effect	-.099	[-.237, .052]	54.10
Female Attachment Anxiety → Male Relationship Satisfaction			
Total effect	-.017	[-.135, .110]	
Total indirect effect	-.005	[-.053, .037]	29.41
FANX → MCOPE → MSATIS	.004	[-.018, .041]	23.53
FANX → FCOPE → MSATIS	-.009	[-.048, .011]	52.94
Direct effect	-.012	[-.129, .109]	70.59

Note. N = 187.

Note: MANX = male attachment anxiety, MAVOID = male attachment avoidance, FANX = female attachment anxiety, FAVOID = female attachment avoidance, MCOPE = male common dyadic coping, FCOPE = female common dyadic coping, MSATIS = male relationship satisfaction, FSATIS = female relationship satisfaction.

Table 4

Model Fit Indices

Models	*df*	χ^2	SRMSR	RMSEA	TLI	CFI
Basic saturated APIM	0	0	.000	.000	1.00	1.00
Saturated APIM with k	0	0	.000	.000	1.00	1.00
k_1@0.5; k_2@1; k_3@;0; k_4@0; k_5@1; k_6@ 0	6	2.831	.016	.000	1.00	1.00
k_1@1;k_2@1;k_3@;0; k_4@; 0;k_5@; 1; k_6@ 0	6	5.923	.025	.00	1.00	1.00
k_1@1; k_2@1; k_3@0; k_4@ -1;k_5@ 1; k_6@ 0	6	4.143	.022	.00	1.00	1.00
k_1@0.5; k_2@1; k_3@0; k_4@-1.5; k_5@1; k_6@0	6	.881	.009	.00	1.00	1.00
k_1@0.5; k_2@1; k_3@0 ; k_4@-2; k_5@1; k_6@0	6	.858	.008	.00	1.00	1.00
k_1@0.5; k_2@1.5; k_3@0 ; k_4@-2; k_5@1; k_6@0	6	.418	.006	.00	1.00	1.00

Note. N = 187. *df* = degrees of freedom, χ^2 = chi-square, SRMSR = standardized root mean square residual, RMSEA = root mean square error of approximation, TLI = Tucker-Lewis index, CFI = comparative fit index.

Table 5

Model Fit Indices

Models	*df*	χ^2	SRMSR	RMSEA	TLI	CFI
Basic saturated APIM	0	0	.000	.000	1.00	1.00
Saturated APIM with k	0	0	.000	.000	1.00	1.00
k_1@0.5; k_2@1; k_3@;0; k_4@0; k_5@1; k_6@ 0	6	2.831	.016	.000	1.00	1.00
k_1@1;k_2@1;k_3@;0; k_4@; 0;k_5@; 1; k_6@ 0	6	5.923	.025	.00	1.00	1.00
k_1@1; k_2@1; k_3@0; k_4@ -1;k_5@ 1; k_6@ 0	6	4.143	.022	.00	1.00	1.00
k_1@0.5; k_2@1; k_3@0; k_4@-1.5; k_5@1; k_6@0	6	.881	.009	.00	1.00	1.00
k_1@0.5; k_2@1; k_3@0 ; k_4@-2; k_5@1; k_6@0	6	.858	.008	.00	1.00	1.00
k_1@0.5; k_2@1.5; k_3@0 ; k_4@-2; k_5@1; k_6@0	6	.418	.006	.00	1.00	1.00

Note. N = 187. *df* = degrees of freedom, χ^2 = chi-square, SRMSR = standardized root mean square residual, RMSEA = root mean square error of approximation, TLI = Tucker-Lewis index, CFI = comparative fit index.

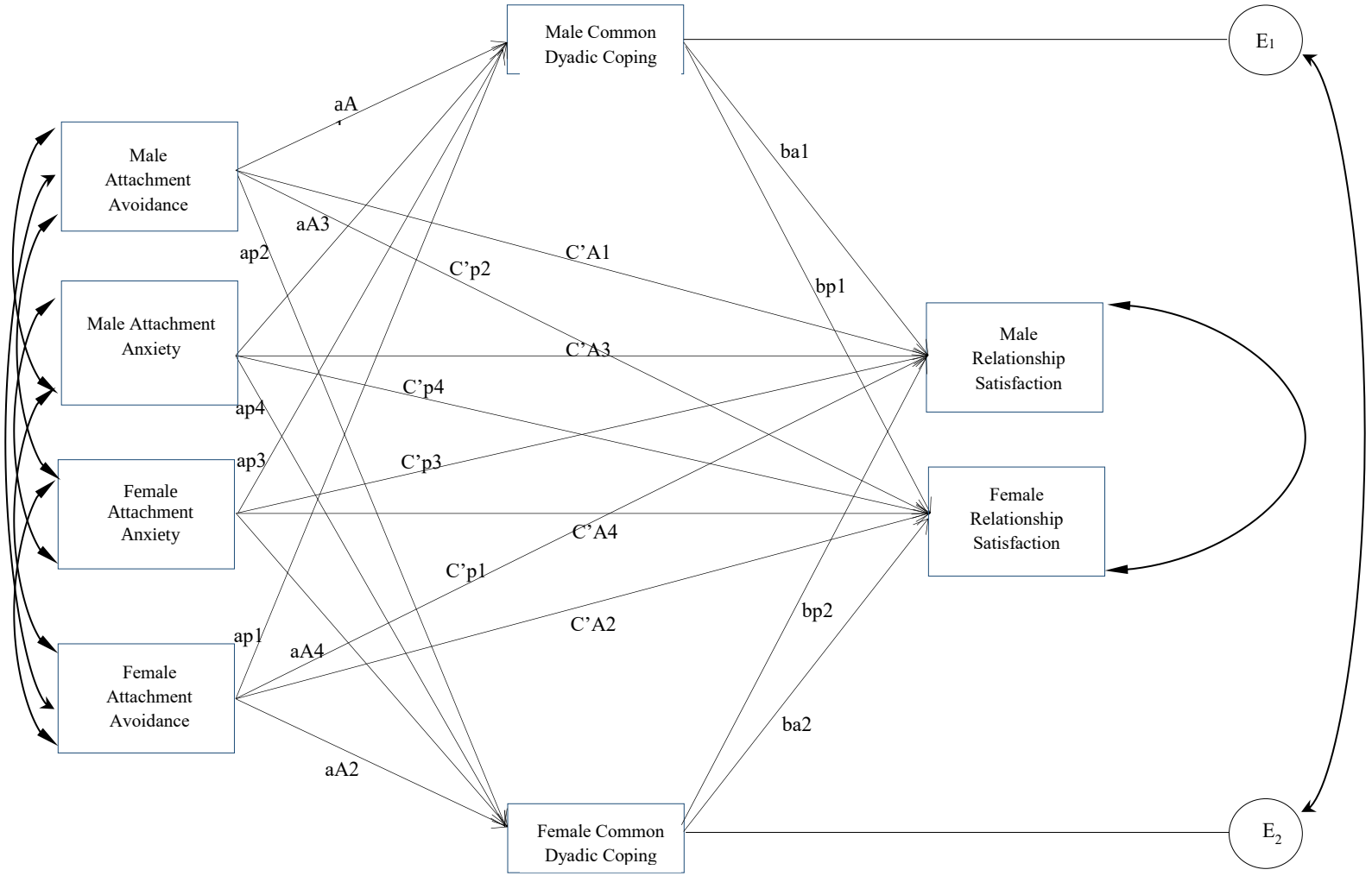

Figure 1. Hypothesized actor-partner interdependence mediation model relating insecure romantic attachment, common dyadic coping and relationship satisfaction.

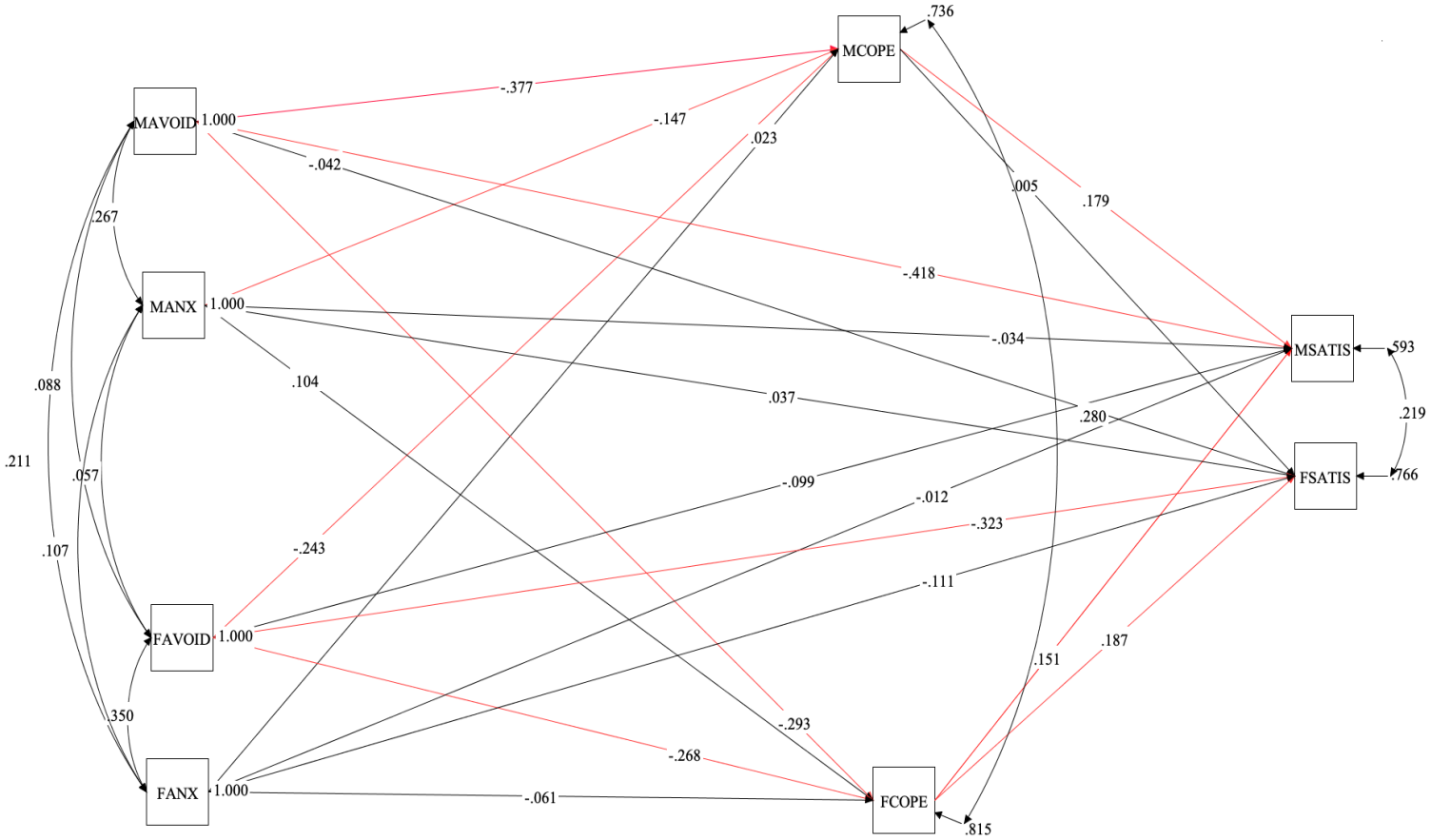

Figure 2. Actor-partner interdependence mediation model relating insecure romantic attachment, common dyadic coping and relationship satisfaction.

Note: MANX = male attachment anxiety, MAVOID = male attachment avoidance, FANX = female attachment anxiety, FAVOID = female attachment avoidance, MCOPE = male common dyadic coping, FCOPE = female common dyadic coping, MSATIS = male relationship satisfaction, FSATIS = female relationship satisfaction.

Chapter III:

Romantic Attachment, Common Dyadic Coping, and Mental Health in Couples Facing Heart Disease

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Abstract

Objective: Research findings indicate that romantic attachment insecurity may be associated with symptoms of depression and anxiety in healthy individuals. However, much remains to be understood regarding the mechanisms by which romantic attachment insecurity might affect the mental health of patients with cardiovascular disease (CVD) and their spouses. The aim of this study was to examine whether common dyadic coping (CDC) might mediate the relationship between attachment insecurity and the mental health of patients with CVD and their spouses.

Methods: Patients with CVD and their spouses (N = 362; 181 couples), recruited at cardiac rehabilitation program entry, completed validated questionnaires measuring romantic attachment, dyadic coping, depression, and anxiety. A structural equation modeling (SEM) framework was used to test an actor-partner interdependence mediation model (APIMeM).

Results: Patients' attachment anxiety predicted their own and their spouse's symptoms of depression and anxiety, and spouses' attachment anxiety predicted their own and patients' symptoms of depression and anxiety. Mediation analyses were not significant as CDC was not predictive of romantic partners' mental health in this sample.

Conclusions: These results suggest that attachment anxiety is an important factor in the mental health of couples facing heart disease. Consideration of romantic attachment may be important in the treatment for anxiety and depression among patients and their spouses.

Keywords: romantic attachment, dyadic coping, anxiety, depression, cardiovascular disease

Romantic Attachment, Common Dyadic Coping, and Mental Health in Couples Facing Heart Disease

Cardiovascular disease (CVD) is a hypernym for various types of heart and blood vessel pathologies, such as coronary artery disease and heart failure. Recent findings revealed that CVD was the leading cause of global mortality in 2019, accounting for 32% of deaths worldwide (WHO, 2021). Investigators have increasingly conceptualized CVD as a relational phenomenon as most individuals do not get sick in isolation (Helgeson et al., 2018). Given these alarming rates, a growing number of studies are emerging to better understand the impact of cardiac illness in couples. The reason for this is that the onset of CVD generally occurs in late adulthood, a stage of life in which most people are involved in an interdependent relationship with a romantic partner.

Researchers have found that CVD can affect both members of the couple. To illustrate, links between heart disease and symptoms of depression, anxiety, and post-traumatic stress in patients are well established in the literature (Greenman et al., 2018). There is also evidence that their romantic partners encounter a plethora of shared stressors, including drastic changes in domestic roles, lifestyle, responsibilities, goals, and life plans (Dalteg et al., 2011). The stress that accompanies the threat of a potentially life-threatening and long-term illness like CVD might also endanger the integrity of the couple relationship (Smith & Baucom, 2017; Tulloch & Greenman, 2018). Clinicians and researchers have conceptualized couple relationships as an attachment bond between adults for more than three decades (Cassidy & Shaver, 2016).

Attachment Theory

Bowlby's (1969) attachment theory posits that people are biologically hardwired to form and maintain affectional bonds with reliable caregivers across the lifespan, such as parents and romantic partners. The assumed function of the attachment system is to promote survival by seeking proximity to caring others known as "attachment figures" when a person needs protection and comfort in the face of environmental or symbolic dangers (Mikulincer & Shaver, 2016). "Securely attached" romantic partners tend to seek emotional comfort and support from each other in the face of stressors such chronic illness. In contrast, "insecurely attached" romantic partners tend to either demonstrate excessive preoccupation with their relationship and use hyperactivating strategies like clinging, or to display persistent avoidance and use deactivating strategies like withdrawal as ways of coping with psychological distress (Pietromonaco & Beck, 2019).

Attachment and Mental Health

Secure attachment can provide a buffer against poor mental health outcomes, whereas insecure attachment (i.e., anxious and avoidant) may actually act as a catalyst for the development and maintenance of symptoms of depression and anxiety (Mikulincer & Shaver, 2016). Empirically, the results of several studies of non-clinical samples have indeed shown that people with insecure attachment orientations appear to lack the inner resources that promote psychological resilience, and that chronically relying on hyperactivating or deactivating strategies might play a major role in the etiology of depression and anxiety (Conradi et al., 2018; Malik et al., 2015; Marganska et al., 2013; Nielsen et al., 2017). Burgeoning research found similar findings among clinical samples, including people with CVD (George-Levi et al., 2017; Kidd et al., 2016; Vilchinsky et al., 2010).

Chronic health problems like CVD have been found to prolong the activation of the attachment system (Simpson & Rholes, 2012). From an attachment perspective, people with CVD and their partners would both long for emotional support and comfort to reduce the stress related to cardiac disease or event. However, due to the chronic nature of heart conditions, the stress of CVD never fully dissipates, which may sustain activation of the attachment system and concomitant levels of psychological distress in people with both secure and insecure attachment. Such distress may be compounded in individuals with insecure attachment due to the ineffective emotion-regulation strategies (i.e., hyperactivation and deactivation) that they tend to employ. Over time, patients with CVD and their spouses might therefore be at elevated risk for developing depression and anxiety due to the continuous activation of the attachment system and difficulties responding effectively to their own and their partner's distress.

Dyadic Coping

An increasing number of researchers have shown interest in understanding the mechanisms that might be involved in the relation between attachment insecurity and affective disorders, including reactive and suppressive styles of coping (Lopez et al., 2001; Wei et al., 2003). However, one important limitation of these studies is that coping has only been examined from an individual perspective, which discounts the importance of social relationships. This is problematic because theory and research have demonstrated that in couples, both partners are affected and engage in joint coping efforts (hereafter referred to as "dyadic coping") in order to manage chronic illnesses such as CVD (Helgeson et al., 2018; Leuchtmann & Bodenmann, 2017).

According to the Systemic Transactional Model (STM; Bodenmann, 1995), stress and coping in romantic relationships are dyadic processes. Distinct from social support, dyadic coping is defined as the ways in which romantic partners cope together as a unit when dealing with stressors (Bodenmann, 1995, 1997). Dyadic coping aims to restore individual and relational homeostasis, and to improve the couple's cohesion, trust, intimacy, and sense of "we-ness" (Helgeson et al., 2018; Leuchtmann & Bodenmann, 2017). This multidimensional stress management process includes *positive* (e.g., stress communication; supportive, delegated, and common dyadic coping) and *negative* (e.g., hostile, ambivalent, and superficial dyadic coping) forms of coping (Bodenmann, 1995b). Dyadic coping is considered a major predictor of health, psychological equilibrium and relational outcomes, particularly among couples dealing with chronic illness (Berg & Upchurch, 2007b). In particular, common dyadic coping (CDC) has received the most attention in research as this specific form of dyadic coping occurs when romantic partners face a stressor that is relevant to the dyad (e.g., chronic illness), which triggers joint coping strategies to resolve problems and/or reduce emotional distress. Our focus on CDC in the context of CVD is driven by evidence that chronic illness is often experienced as a "we-disease" and that illness-specific coping efforts are most effective at generating positive outcomes when romantic partners work together to manage the illness (Berg & Upchurch, 2007).

Empirically, CDC has been shown to alleviate psychological distress in cancer patients and their spouses (Meier et al., 2019; Rottmann et al., 2015). Although CDC has been shown to reduce self-reported heart failure symptoms (Rohrbaugh et al., 2008), very little is known about the role of CDC and its implications for mental health in CVD patients and their spouses. As far as we know, there has been only one study of supportive and negative dyadic coping as mediators between insecure romantic attachment and health (physical and mental). It was

conducted on a sample of 63 couples in which one partner had received a cardiac diagnosis (Kafescioglu et al., 2010). Results revealed that patients' negative dyadic coping mediated the link between their own attachment avoidance and their own mental health (b = -28.72, $t(1)$ = -3.16, $p < .05$), and spouses' supportive dyadic coping mediated the link between their own attachment anxiety and their own mental health (b = -1.85, $t(1)$ = -2.45, $p < .05$). However, the small sample size in this study, the use of measures with poor psychometric properties, the use of pooled regressions-APIM analyses, and the exclusion of CDC considerably limit our understanding of dyadic coping in a cardiac context. As such, the purpose of this study was to investigate the meditating role of CDC in the link between insecure romantic attachment and mental health indicators of anxiety and depression among cardiac patients and their spouses (see Figure 1 for all hypothesized relationships).

H1: We hypothesized a series of patient and spouse *actor effects*, including direct links between attachment avoidance, attachment anxiety and mental health outcomes (direct paths C'A1, C'A2, C'A3, C'A4). In particular, we predicted that insecure romantic attachment (attachment avoidance and attachment anxiety) would be linked with poorer mental health outcomes (increased levels of depression and anxiety).

H2: We hypothesized full actor mediations, including indirect effects from romantic attachment to mental health outcomes through CDC (indirect paths aa1 to ba1, ap2 to bp1, aa2 to ba2, ap1 to bp2 for patient and spouse attachment avoidance, and indirect paths aa3 to ba1, ap4 to bp1, aa4 to ba2, ap3 to bp2 for patient and spouse attachment anxiety). In particular, we predicted that: (a) an individual's own lower CDC would help explain the association between their own insecure romantic attachment and poorer mental health outcomes, and (b) the partner's

lower CDC would help explain the association between an individual's own insecure romantic attachment and poorer mental health outcomes (increased levels of depression and anxiety).

H3: We hypothesized a series of patient and spouse *partner effects* including direct links between attachment avoidance and attachment anxiety with their partner's mental health outcomes (direct C'p1, C'p2, C'p3, C'p4). Hence, we predicted that an individual's own attachment anxiety and avoidance would predict their partner's poorer mental health outcomes (increased levels of depression and anxiety).

H4: We hypothesized full partner mediations, including indirect links from an individual's romantic attachment to their partner's mental health outcomes through CDC (indirect paths aa2 to bp1, ap1 to ba1, aa1 to bp2, ap2 to ba2 for patient and spouse attachment avoidance, and indirect paths aa4 to bp1, ap3 to ba1, aa3 to bp2, ap4 to ba2 for patient and spouse attachment anxiety). In particular, we predicted that: (a) an individual's lower CDC would help better explain the association between their own insecure romantic attachment and their partner's poorer mental health outcomes (increased levels of depression and anxiety), and (b) a partner's lower CDC would help better explain the association between an individual's insecure romantic attachment and their partner's poorer mental health outcomes (increased levels of depression and anxiety).

Methods

Participants

Participants were recruited from a cardiac rehabilitation program. Eligibility criteria included: (a) patient experienced a cardiac event in the past six months, (b) romantic involvement with a partner for at least one year, (c) cohabitating with their partner for a

minimum of six months, (d) 18 years of age or older, and (e) ability to read and/or speak English or French. There were no restrictions placed on cardiac diagnosis.

Procedures

Eligible participants were approached by research staff by phone or onsite to obtain informed consent. If spouses were absent, the consent form and questionnaire package was provided to the patient for their spouse to fill out at home, although research staff were available by phone if potential participants had any questions. Participants were instructed to fill out their questionnaires independently and to return their completed questionnaire packages in person or by mail. The procedures performed in this study were approved both by the Ottawa Health Science Network Research Ethics Board and the University of Ottawa Research Ethics Board.

Measures

Sociodemographic Questionnaire. Participants completed a sociodemographic questionnaire that included personal (e.g., age, gender, ethnicity, educational level) and relationship demographics (e.g., marital status, relationship length), as well as clinical information (e.g., physical and mental health conditions, treatment history). Patient's medical charts were also accessed to confirm cardiac diagnoses and medical history.

Experiences in Close Relationships-12 (ECR-12; Lafontaine et al., 2016). The ECR-12 is a 12-item self-report questionnaire that measures two dimensions of adult romantic attachment: anxiety over abandonment and avoidance of intimacy. Items were rated on a 7-point Likert scale ranging from 1 (*strongly disagree)* to 7 (*strongly agree).* The mean score of each 6-item subscale was performed independently for result interpretation; elevated scores are indicative of higher attachment anxiety or avoidance. Akin to the original 36-item ECR (Brennan et al., 1998), the

ECR-12 has demonstrated acceptable to good internal consistency coefficients within English and French-Canadian samples, with alpha's ranging between .78 to .87 for the anxiety subscale, and .74 and .83 for the avoidance subscale (Lafontaine et al., 2016). Subscale reliability for the present study found comparable indices with alpha coefficients of .82 and .84 for the avoidance and anxiety subscales, respectively.

Dyadic Coping Inventory (DCI; Bodenmann, 2008). The subscale for CDC from the DCI was used to measure joint coping efforts. The five items were rated on a 5-point Likert scale ranging from 1 (*Very rarely)* to 5 (*Very often*) and summed together to yield a total score, whereby elevated scores are indicative of greater CDC. Past research revealed acceptable to good internal reliability coefficients, with coefficients ranging from .76 to .91 (Ledermann et al., 2010; Levesque et al., 2014; Randall et al., 2016). Subscale reliability for the present study found a comparable index for the CDC subscale ($\alpha = .845$).

Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001). The PHQ-9 is a 9-item depression module embedded within a larger PHQ questionnaire. Participants rated statements regarding the presence of nine symptoms of depression within the last two weeks. Items were rated on a 4-point Likert scale ranging from 0 *(not at all)* to 3 *(nearly every day).* The nine items were summed together to yield a total score ranging from 0-27, with cut-off points of 5, 10, 15, and 20 representing mild, moderate, moderately severe and severe levels of depression severity, respectively. Several validation studies have found the PHQ-9 to be reliable and valid measure of depression among general (Löwe et al., 2004), psychiatric (Beard et al., 2016), and cardiac populations (Beach et al., 2013). Scale reliability for the present study yielded a Cronbach alpha coefficient of .81.

Generalized Anxiety Disorder Scale-7 (GAD-7; Spitzer et al., 2006). The GAD-7 is a 7-item self-report measure of Generalized Anxiety Disorder symptoms. Participants rated statements regarding the presence of seven anxiety symptoms within the last two weeks. Items were rated on a 4-point Likert scale ranging from 0 *(not at all)* to 3 *(nearly every day).* The seven items were summed together to yield a total score ranging from 0-21, with cut-off points of 5, 10, and 15 representing mild, moderate, and severe levels of anxiety severity, respectively. Several validation studies have found the GAD-7 to be a reliable and valid measure of anxiety among general (Löwe et al., 2008), primary care (Ruiz et al., 2011) and cardiac populations (Conway et al., 2016). Scale reliability for the present study found a Cronbach alpha coefficient of .90.

Data Analysis

The hypotheses of the present study were tested using structural equation modeling (SEM) actor-partner interdependence mediation model (APIMeM) analyses (Ledermann et al., 2011) in Mplus 8.5. The APIMeM is a complex analysis of non-independent data that enables the assessment of mediation in dyadic models while testing the fit of more parsimonious models constraining actor (i.e., the impact of an individual's independent variable on their own dependent variable) and partner effects (i.e., the impact of an individual's independent variable on their partner's dependent variable; Peugh et al., 2013). The 6-step procedure developed by Kenny and Ledermann (2010) for APIMeM analyses with distinguishable dyad members was implemented. The fit of the model was determined through the use of several indices, namely the Satorra-Bentler scaled x2 difference test (2001), the Root Mean Square Error of Approximation (RMSEA), the Tucker-Lewis index (TLI), the Comparative Fit Index (CFI), and the Standardised

Root Mean Square Residual (SRMSR). Lastly, differences in the CFI of .002 and the Satorra-Bentler scaled x2 difference test was used to compare nested models.

Results

Participants

A total of 309 eligible couples were approached to participate in the present study. From this sample, 257 patient and spouse dyads consented to participate (83%), and 181 patient and spouse dyads (70% of consented couples) returned completed questionnaires (see Figure 2 for the study flow chart). The average age of participants was 63.15 years (SD = 10.32). Most patients were men (*n* = 143, 79%) diagnosed with coronary artery disease (*n* = 120, 66.3%). Most spouses were women (*n* = 134, 74%). The average length of romantic relationships was 33.70 years (SD = 14.89). The majority of couples were married (*n* = 155, 85.6%), and had children with their current spouse (*n* = 123, 68%). The sample was mostly comprised of heterosexual couples (*n* = 173, 95.6%). Sample characteristics are summarized in Table 1.

Preliminary Analyses

Overall, less than 5% of data was missing. Little's missing completely at random (MCAR) test was nonsignificant, $\chi 2$ (11385) = 11367.124, p = .545. Means, standard deviations and Pearson correlations for all studied variables are presented in Table 2. Results of the configural, metric, scalar, and residual invariance for all studied variables (summarized in Table 3) showed that most constructs were invariant across members.

APIMeM

The resulting model is displayed in Figure 2, while the actor, partner, direct and indirect effects are summarized in Table 4.

Direct Effects

***a* effects (*X* → *M*).** In terms of patient actor effects, patient attachment avoidance (β= -.45, *p*= .000) significantly predicted their own CDC with a medium effect size. Similarly for spouse actor effects, spouse attachment avoidance (β= -.48, *p*= .000) significantly predicted their own CDC with a medium effect size. Contrary to our hypotheses, other relationships were not statistically significant. Regarding patient partner effects, spouse attachment avoidance (β= -.18, *p*= .003) was significantly associated with patient CDC with a small effect size. Analogously for spouse partner effects, spouse attachment avoidance (β= -.18, *p*= .02) significantly predicted their own CDC with a small effect size. Contrary to our hypotheses, neither patients' nor spouses' attachment anxiety were significantly related to their partner's CDC.

***b* effects (*M* → *Y*).** Contrary to our hypotheses, CDC was not significantly associated with mental health in any of the four *b* effects.

***c* effects (*X* → *Y*).** Only patient and spouse attachment anxiety were significantly related to their own mental health. As hypothesized, patient attachment anxiety (β= .25, *p*= .003) was related to patient mental health with a small effect size, and spouse attachment anxiety (β= .42, *p*= .000) was related to spouse mental health with a medium effect size. Contrary to our hypotheses, neither patient nor spouse insecure attachment was significantly associated with their partner's mental health.

Indirect Effects

Contrary to our hypotheses, CDC did not mediate the relationship between insecure attachment and mental health in either patients or spouses.

Dyadic Patterns

Dyadic patterns (e.g., actor-only, partner-only, couple-oriented, and contrast pattern) were estimated by way of *k* parameters. Ten different models were computed in an effort to

identify the closest and best fitting values for dyadic patterns (Table 5). Goodness of absolute fit was found within the last model tested. Results indicated that patient and spouse insecure romantic attachment accounted for 37.1% of the variance in patient CDC (R^2 = 0.371), and 37.5% of the variance in spouse CDC (R^2 = 0.375). Patient and spouse insecure romantic attachment accounted for 18.1% of the variance in patient mental health (R^2 = 0.181), and 24.9% of the variance in spouse mental health (R^2 = 0.249).

For the effects of attachment avoidance on patient CDC, we fixed the k_1 ratio to 0.5. More specifically, the effect of spouse attachment avoidance on patient CDC was half the size of the effect of patient attachment avoidance. For the effects of attachment avoidance on spouse CDC, we also fixed the k_2 ratio to 0.5. More specifically, the effect of patient attachment avoidance on spouse CDC was half the size of the effect of spouse attachment avoidance. We did not detect any significant effects of patient or spouse attachment anxiety on patient CDC, of patient or spouse attachment anxiety on spouse CDC, or of patient or spouse CDC on spouse mental health.

Discussion

The primary objective of the present study was to examine the mediating effects of CDC in the relationship between insecure romantic attachment and mental health among patients with CVD and their partners. To our knowledge, this is the first study to use SEM-APIMeM in the investigation of the aforementioned constructs in a cardiac sample.

Actor and Partner Effects

We expected that insecure romantic attachment (attachment avoidance and attachment anxiety) would be linked to depression and anxiety for oneself and their partner. Our findings

provide partial support for these hypotheses. While one's own attachment anxiety was linked to one's own mental health, it did not predict partners' mental health. These findings are in line with theoretical and empirical evidence of the link between attachment anxiety and affective disorders; individuals who score high on attachment anxiety are generally more vulnerable to develop and to maintain symptoms of depression and anxiety (Mikulincer & Shaver, 2016b). This may be attributable to the fact that chronic reliance on hyperactivating strategies, which involve amplification of worries and ineffective dependence on a romantic partner for comfort, often impairs the ability of anxiously attached individuals to cope autonomously with stressors and effectively regulate associated negative emotions, thereby further heightening psychological distress.

However, contrary to expected findings, we found that attachment avoidance was not significantly linked to mental health in neither patients nor spouses. The results yielded by our study were similar to those previously found by Riggs and Kaminski (2010). Our null finding may be explained by deactivating strategies used by avoidantly attached individuals as a mean to cope with negative emotions. Specifically, their propensity to inhibit and suppress negative mood from their awareness may have predisposed patients and spouses with high attachment avoidance to underreport depressive and anxious symptomatology. Taken together, our findings align with those of a recent meta-analysis revealing that the association between depressive and anxiety symptoms has been consistently stronger for attachment anxiety than attachment avoidance (Zheng et al., 2020). Our results also align with existing literature confirming that actor effects are typically stronger than partner effects in understanding the relationship between insecure romantic attachment and mental health (Candel & Turliuc, 2019).

Actor and Partner Mediations

We indicated in our second set of hypotheses that CDC would help explain the association between insecure romantic attachment and mental health for patients and partners. We did not detect any evidence of any actor or partner mediations. Despite the presence of significant links between romantic attachment avoidance and CDC, the absence of significant associations between CDC and mental health in patients and spouses precluded any mediating effects. However, we did find that patient and spouse avoidant attachment was negatively related to their own and their partner's CDC. These findings are consistent with both theory and empirical evidence, which have demonstrated that individuals scoring high on attachment avoidance rely on compulsive self-reliance as well as emotional, cognitive, and physical distancing from their romantic partner as a means to cope with negative emotions (Mikulincer & Shaver, 2016b).

Interestingly, anxious attachment was not significantly associated with CDC in neither patients nor spouses. According to attachment theory, anxiously attached individuals tend to exaggerate their inability to cope with stressful life events and exhibit strident demands for their partner's attention, support, and protection. They become focused on their own internal distress, thereby inhibiting their ability to cope effectively with negative emotions (Mikulincer & Shaver, 2016b). Individuals with an anxious attachment orientation also have internal working models that bias them to make more negative attributions about their partners and relationships, which may strengthen their perception that conjoint coping efforts are insufficient or inadequate (Campbell et al., 2005). It is plausible that the presence of this null finding may be explained by the fact that the CDC subscale has a greater portion of items that measure problem-focused rather than emotion-focused strategies. Knowing that anxiously attached individuals tend to use

more emotion-focused than problem-focused strategies to manage negative affect (Campbell et al., 2005), the CDC subscale may inaccurately capture hyperactivating strategies which preclude effective dyadic coping. Lastly, neither patient nor spouse CDC was significantly related to their own mental health. While this finding was contrary to anticipated predictions, it is possible CDC may in fact be more directly related to relational than individual outcomes (Mittinty et al., 2020).

Limitations and Future Directions

While our study addresses gaps in the literature and has theoretical and methodological strengths, there are also certain limitations that should be noted. First, although the use of cross-sectional self-report data was appropriate for our study, it would be advantageous for future studies to gather longitudinal data to assess temporal sequencing between variables. Future studies could also employ a multi-method approach including narrative and interview measures, behavioral observations, or daily diaries as a way to reduce shared source and shared method variance. Second, the characteristics of the current sample were relatively homogenous in race or ethnic background (i.e., predominantly Caucasian), level of education (i.e., predominantly post-secondary education), gender (i.e., patients were predominantly male whereas spouses were predominantly female), sexual orientation (i.e., predominantly heterosexual), age (i.e., predominantly older adults). Since results may not be representative of the general population, future research is needed to replicate our results with a more diverse array of dyads to test the replicability of these findings. Although the CDC subscale has been found to have good psychometric properties, it is plausible that its brevity may not have entirely captured the ways in which relational coping efforts possible influence mental health, hence limiting the measured variance. Thus, more comprehensive scales may be required.

Conclusion

Given the dyadic nature of cardiac illness, identifying factors associated with depression and anxiety within a romantic attachment framework may be crucial. Although our findings revealed that CDC was not a significant mediator of the relation between insecure romantic attachment and mental health indicators of depression and anxiety, attachment anxiety was associated with symptoms of depression and anxiety in patients with CVD and their spouses. It is plausible that the use of hyperactivating strategies maintains the activation of the attachment system and further intensifies negative emotional experiences when faced with the stress related to CVD, which in turn may lead to the development of symptoms of anxiety and depression. These findings therefore not only extent the existing literature by showing that insecure attachment may serve as an important risk factor for adult psychopathology, but also suggest interventions for patients with CVD and their spouses, such as Emotionally Focused Therapy (EFT) for couples (Johnson, 2020), should be considered. This shift from individual-focused CVD management has yielded more sustainable effects on heart health (Helgeson et al., 2018) and preliminary evidence of enhanced mental health and quality of life after participating in an attachment-based intervention for couples facing heart disease has been observed (Tulloch et al., 2020) .

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Table 1

Sample Characteristics

Characteristics	Patients Mean (*SD*)	Partners Mean (*SD*)
Age (years)	64.46 (9.99)	61.76 (10.49)
Gender		
Female	N=38 (21%)	N=134 (74%)
Male	N=143 (79%)	N=44 (24.3%)
Relationship length (years)	33.70 (14.89)	
Marriage length (years)	33.70 (14.89)	
Cohabitation length (years)	33.09 (14.92)	
Marital status		
Married	N=155 (85.6%)	
Common law	N=155 (85.6%)	
Number of children		
With current partner	2.28 (0.82)	
With previous partner	2.3 (0.98)	1.86 (0.87)
Highest Education Level Attained		
University	N=81 (44.8%)	N=81 (44.8%)
College	N=43 (23.8%)	N=41 (22.7%)
Trade certification	N=15 (8.3%)	N=6 (3.3%)
High School	N=35 (19.3%)	N=49 (27.1%)
Elementary School	N=3 (1.7%)	N=1 (0.6%)
None	N=3 (1.7%)	N=1 (0.6%)
Ethnicity		
Caucasian/White	N=163 (90.1%)	N=163 (90.1%)
African/Black	N=2 (1.1%)	N=3 (1.7%)
Latino/Hispanic	N=2 (1.1%)	N=2 (1.1%)
Asian	N=6 (3.3%)	N=7 (3.9%)
Middle Eastern	N=1 (0.6%)	N=1 (0.6%)
Aboriginal	N=1 (0.6%)	N=1 (0.6%)
Other	N=3 (1.7%)	N=2 (1.1%)
Primary Cardiac Diagnosis		
CAD	N=120 (66.3%)	Not applicable
Arrythmia	N=15 (8.3%)	Not applicable
CHF	N=21 (11.6%)	Not applicable
Valve	N=20 (11%)	Not applicable
Congenital HD	N=2 (1.1%)	Not applicable
Aortic aneurysm	N=3 (1.7%)	Not applicable

Table 2

Means, Standard Deviations and Pearson Correlations for the study variables.

	1	2	3	4	5	6	7	8	9	10
1. Patient Attachment Avoidance	-									
2. Patient Attachment Anxiety	.244**	-								
3. Patient CDC	.436**	-.226**	-							
4. Patient Depression	.246**	-.106	0.134	-						
5. Patient Anxiety	-.144	-.135	.198**	.601**	-					
6. Spouse Attachment Avoidance	.245**	.08	-.275**	-.028	-.052	-				
7. Spouse Attachment Anxiety	.184*	.298**	-.138	-.004	-.074	.211**	-			
8. Spouse CDC	.287**	-.132	.552**	.121	.132	-.443**	-.156*	-		
9. Spouse Depression	-.003	-.029	.039	.051	.007	.03	-.054	.01	-	
10.Spouse Anxiety	-.098	-.032	.094	-.035	-.004	.009	-.021	.034	.636**	-
M	3.24	2.48	16.93	4.25	3.10	3.39	2.72	16.89	4.43	4.16
SD	.846	1.258	4.305	3.940	3.427	.904	1.373	4.244	4.095	4.659

*$p < 0.05$. ** $p < 0.01$.

Table 3

Goodness-of-Fit Statistics for measurement invariance sequential tests

	df	χ^2	CFI	TLI	RMSEA	SRMR	*Δdf*	Δ CFI	Δ RMSEA	Δ SRMR	Δ WLSMV	p-value
CFA for attachment anxiety and avoidance (predictors) with WLSMV												
Configural	190	276.145	.983	.979	.050	.054	n/a	n/a	n/a	n/a	n/a	n/a
Metric	201	291.907	.982	.979	.050	.055	11	.001	.000	.001	17.400	.0966
Scalar	249	343.847	.981	.983	.046	.055	48	.001	.004	.000	62.086	.0832
Residuals	260	364.833	.979	.982	.047	.058	11	.002	.001	.003	27.846	.0034
Residual release (item 18)	259	357.449	.980	.983	.046	.057	10	.001	.000	.002	19.697	.0323
Step 4b. Residual release (items 18; 29)	258	350.004	.982	.984	.045	.056	9	.001	.001	.001	11.901	.2189
Latent mean	260	360.236	.980	.982	.046	.056	2	.002	.001	0	6.090	.0476
CFA for common dyadic coping (mediators) with WLSMV												
Configural	27	64.444	.995	.992	.088	.041	n/a	n/a	n/a	n/a	n/a	n/a
Metric/weak	32	63.508	.996	.994	.074	.042	5	.001	.014	.001	2.301	.8061
Scalar/strong	46	67.731	.997	.997	.051	.042	14	.001	.023	0	9.266	.8136
Residuals/strict	51	70.771	.998	.998	.046	.044	5	.001	.005	.002	5.575	.3497
Latent mean	52	68.133	.998	.998	.041	.044	1	0	.005	0	.175	.6758
CFA for depression and anxiety (outcomes) with WLSMV												
Configural	277	344.289	.985	.979	.037	.059	n/a	n/a	n/a	n/a	n/a	n/a
Metric/weak	310	366.141	.987	.985	.032	.068	33	.002	.005	.009	39.204	.2115
Scalar/strong	333	394.790	.986	.984	.032	.067	23	.001	0	.001	21.756	.5350
Residuals/strict	347	405.461	.987	.986	.031	.069	14	.001	.001	.002	13.757	.4680
Variance and covariance	354	410.951	.987	.986	.030	.074	7	0	.001	.005	10.254	.1746
Latent mean	357	425.774	.985	.984	.033	.074	3	.002	.003	0	9.472	.0236

Note. CFA = confirmatory factor analysis, *df* = degree of freedom, $\chi 2$ = Chi-square, CFI = Comparative fit index, TLI = Tucker-Lewis index, RMSEA = Root mean square error of approximation, SRMR = Standardized root mean residual.

Table 4

Model Fit Indices

Models	df	$\chi 2$	SRMSR	RMSEA	TLI	CFI
Basic saturated APIM	0	0	0	0	1.00	1.00
Saturated APIM with k	0	0	0	0	1.00	1.00
k_1@0.5; k_2@0; k_3@;0; k_4@0; k_5@-0.5; k_6@ 1.5	6	8.424	.031	.047	.971	.992
k_1@0; k_2@0; k_3@0; k_4@0; k_5@-0.5;k_6@1.5	6	19.487	.053	.111	.836	.955
k_1@0;k_2@0;k_3@;0;k_4@; 0;k_5@; -1;k_6@ 2	6	19.963	.054	.113	.830	.954
k_1@0.5;k_2@0.5; k_3@0.5; k_4@ 0.5;k_5@ -1;k_6@ 2	2	2.891	.013	.000	1.00	1.00
k_1@0.5;k_2@0.5; k_3@0.5; k_4@ 0.5;k_5@ -0.5;k_6@ 2	6	2.449	.012	.000	1.00	1.00
k_1@0.5;k_2@0.5; k_3@0.5; k_4@ 0;k_5@ -0.5;k_6@ 2	6	1.485	.009	.000	1.00	1.00
k_1@0.5;k_2@0.5; k_3@0.5; k_4@ 0;k_5@0;k_6@ 2	6	2.149	.012	.000	1.00	1.00
k_1@0.5;k_2@0.5; k_3@0; k_4@ 0;k_5@-0.5;k_6@ 1.5	6	1.589	.009	.000	1.00	1.00
k_1@0.5;k_2@0.5; k_3@0; k_4@ 0;k_5@-0.5;k_6@ 1.5	6	8.447	.031	.047	.970	.992
k_1@0.5;k_2@0.5; k_3@0.5; k_4@ 0;k_5@-0.5;k_6@ 1.5	6	1.461	.009	.000	1.00	1.00

Note. N = 181. Df = degrees of freedom, $\chi 2$ = chi-square, SRMSR = standardized root mean square residual, RMSEA = root mean square error of approximation, TLI = Tucker-Lewis index, CFI = comparative fit index

Table 5

Standardized Estimates, Bootstrap Confidence Intervals, and Proportion of the Total Effects

Effects	Estimate	95% Confidence Interval	Proportion of total effect
Patient Attachment Avoidance → Patient Mental Health			
Total effect	.178	[.035, .311]	
Total indirect effect	.053	[-.023, .136]	9.4
PAVOID → PCOPE → PMH	.067	[-.017, .160]	1.19
PAVOID → SCOPE → PMH	-.014	[-.067, .010]	7.9
Direct effect	.125	[-.030, .277]	70.2
Patient Attachment Anxiety → Patient Mental Health			
Total effect	.267	[.098, .418]	
Total indirect effect	.018	[-.004, .064]	0.48
PANX → PCOPE → PMH	.019	[-.003, .070]	0.51
PANX → SCOPE → PMH	-.001	[-.026, .009]	0.03
Direct effect	.248	[.081, .406]	92.88
Spouse Attachment Avoidance → Spouse Mental Health			
Total effect	.033	[-.011, .283]	
Total indirect effect	.080	[-.008, .184]	242.42
SAVOID → PCOPE → SMH	.031	[.001, .087]	93.94
SAVOID → SCOPE → SMH	.048	[-.041, .153]	145.45
Direct effect	.054	[-.112, .223]	163.64
Spouse Attachment Anxiety → Spouse Mental Health			
Total effect	.436	[.276, .574]	
Total indirect effect	.020	[-.013, .077]	4.59
SANX → PCOPE → SMH	.006	[-.011, .048]	1.38
SANX → SCOPE → SMH	.014	[-.006, .070]	3.21
Direct effect	.416	[.255, .566]	95.41
Patient Attachment Anxiety → Spouse Mental Health			
Total effect	-.025	[-.174, .116]	
Total indirect effect	.023	[-.010, .077]	92
PANX → PCOPE → SMH	.022	[-.001, .074]	88
PANX → SCOPE → SMH	.001	[-.012, .032]	4
Direct effect	-.049	[-.193, .095]	196

Patient Attachment Avoidance → Spouse Mental Health			
Total effect	.013	[-.143, .175]	
Total indirect effect	.095	[.022, .189]	730.77
PAVOID → PCOPE → SMH	.077	[.000, .174]	592.31
PAVOID → SCOPE → SMH	.018	[-.011, .072]	138.46
Direct effect	-.082	[-.245, .095]	630.77
Spouse Attachment Avoidance → Patient Mental Health			
Total effect	.019	[-.130, .150]	
Total indirect effect	-.010	[-.093, .063]	52.63
SAVOID → PCOPE → PMH	.027	[-.003, .085]	142.11
SAVOID → SCOPE → PMH	-.038	[-.128, .040]	200
Direct effect	.030	[-.137, .177]	157.89
Spouse Attachment Anxiety → Patient Mental Health			
Total effect	.087	[-.070, .238]	
Total indirect effect	-.005	[-.043, .021]	5.75
SANX → PCOPE → PMH	.006	[-.010, .043]	6.90
SANX → SCOPE → PMH	-.011	[-.057, .006]	12.64
Direct effect	.092	[-.067, .247]	105.74

Note: PANX = patient attachment anxiety, PAVOID = patient attachment avoidance, SANX = spouse attachment anxiety, SAVOID = patient attachment avoidance, PCOPE = patient common dyadic coping, SCOPE = spouse common dyadic coping, PMH = patient mental health, SMG = spouse mental health.

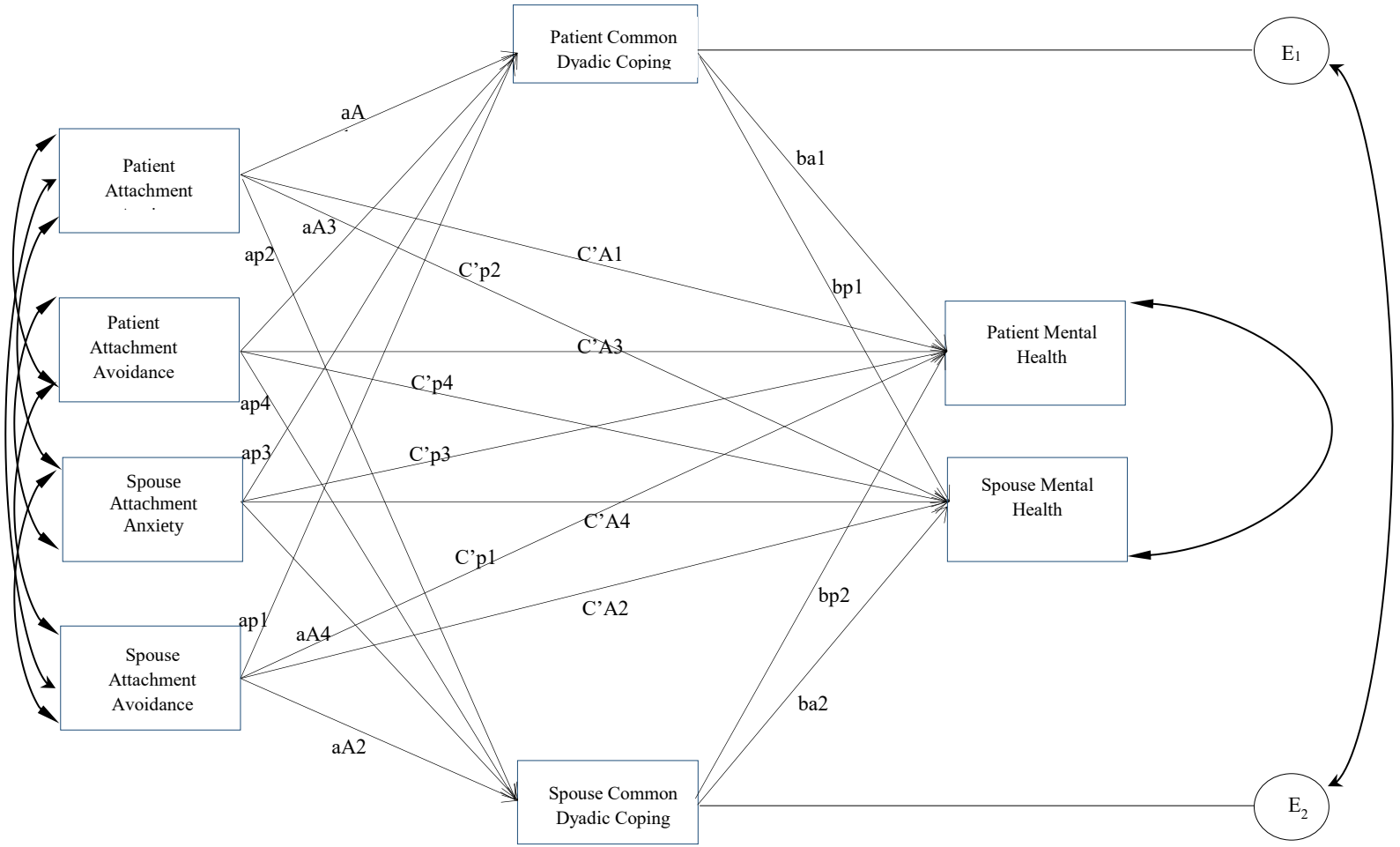

Figure 1. Hypothesized actor-partner interdependence mediation model relating insecure romantic attachment, common dyadic coping and mental health (i.e., depression and anxiety).

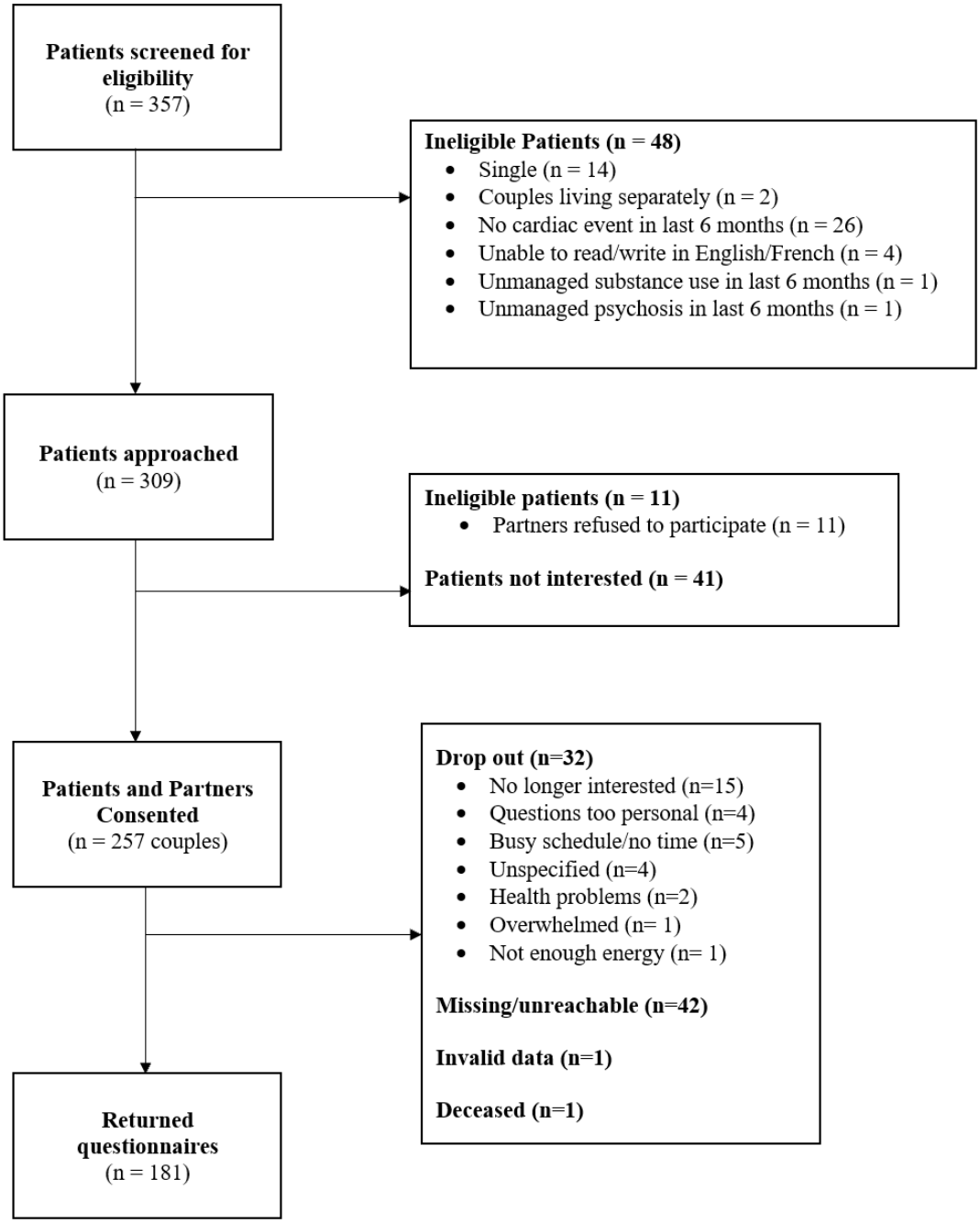

Figure 2. Study flow chart.

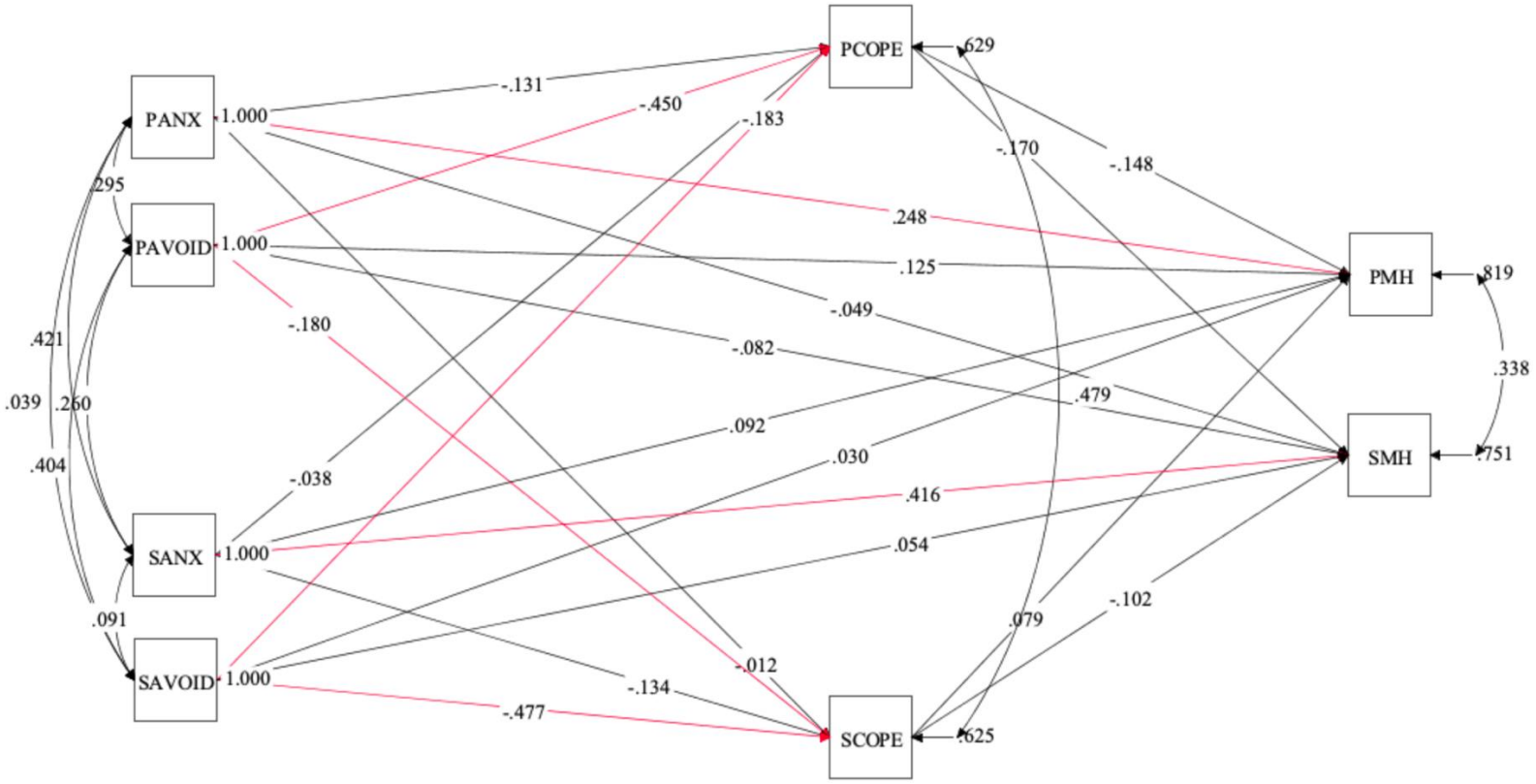

Figure 3. Actor-partner interdependence mediation model relating insecure romantic attachment, common dyadic coping and mental health (i.e, depression and anxiety).

Note: PANX = patient attachment anxiety, PAVOID = patient attachment avoidance, SANX = spouse attachment anxiety, SAVOID = patient attachment avoidance, PCOPE = patient common dyadic coping, SCOPE = spouse common dyadic coping, PMH = patient mental health, SMG = spouse mental health.

General Discussion

Summary of Objectives, Findings, and Strengths

The present thesis was designed to investigate ways in which insecure romantic attachment (i.e., attachment anxiety and attachment avoidance) may be related to interpersonal and intrapersonal variables (i.e., relationship satisfaction and mental health) within a dyadic framework. Given the robust associations between insecure romantic attachment and relationship satisfaction, and the strong evidence supporting the idea that insecure romantic attachment may be a risk factor for affective disorders in adulthood (Mikulincer & Shaver, 2016), the overarching objective of this thesis was to broaden understanding of the underlying relational mechanisms that connect romantic attachment to both relationship satisfaction and mental health, while accounting for the interdependence of romantic partners. The present thesis was based on and assessed the premises that antecedent factors such as adult romantic attachment may shape the ways in which couples cope together as a unit in times of stress, and that outcomes such as relationship satisfaction and mental health may be influenced by coping strategies. More precisely, the two principal aims were to evaluate whether CDC helped explain the development of interpersonal (i.e., relationship satisfaction) and intrapersonal outcomes (i.e., mental health) within an attachment framework in two distinct samples (i.e., community and clinical couples).

The focus of the first study was on assessing the potential mediating role of CDC in the association between insecure romantic attachment and relationship satisfaction among couples in good health from the general population. Although all proposed hypotheses were not confirmed within our sample of opposite-sex couples from the community, our results did provide partial support to the model put forth since CDC was a significant mediator of the association between

attachment avoidance and relationship satisfaction in both men and women. While our results revealed actor and partner effects for avoidantly-attached men, only actor effects were found for avoidantly-attached women. Specifically, the higher men were on attachment avoidance, the less likely they and their partner were to engage in joint coping efforts, which in turn appeared to make men less satisfied with their romantic relationship. In contrast, the degree to which avoidantly attached women felt satisfied with their romantic relationship was solely influenced by their own CDC. Actor effects revealed that the higher men and women were on attachment avoidance, the less they engaged in joint coping efforts, which in turn made them less satisfied with their relationship. Partner effects indicated that the higher men were on attachment avoidance (but not women), the less their partner engaged in joint coping efforts, which in turn made them less satisfied with their relationship.

Interestingly for attachment anxiety, results from our model indicate that CDC only served as a significant mediator for men. The actor effects that we detected suggest that the higher men were on attachment anxiety, the less likely they were to engage in joint coping efforts, which in turn appeared to diminish their satisfaction with their romantic relationship. Overall, these findings demonstrate that CDC may be partly shaped by antecedent factors such as insecure attachment, and that CDC might play a notable role in the couple satisfaction of individuals exhibiting high levels of attachment avoidance. The fear of emotional dependency and discomfort with interpersonal closeness could generate challenges for avoidantly-attached individuals to effectively engage in CDC, and make them more susceptible to relationship dissatisfaction. Altogether, this study presents noteworthy methodological, theoretical, and empirical strengths, including the use of advanced and robust statistical dyadic data analyses in a large sample of opposite-sex couples from the community. Adopting a systemic view of couples

as an interdependent unit (rather than partners as distinct entities) accounted more accurately than an individualist view for the complex nature of couples and coping as a dyadic process.

The second study aimed to examine the potential mediational effects of CDC on the association between insecure romantic attachment and mental health outcomes among couples in which one partner has a diagnosis of cardiac illness. Even though the proposed mediation hypotheses were not confirmed within our clinical sample, our results provide partial support to our model since attachment anxiety served as a significant predictor of mental health indicators of anxiety and depression. Specifically, our results revealed significant direct actor effects (but not partner effects) between attachment anxiety and mental health in both patients and spouses. These findings suggest that high levels of attachment anxiety in both patients and spouses have negative effects on their own (but not their partner's) mental health.

Although the association between attachment avoidance and mental health was not significant in either patients or spouses, our results revealed another pattern whereby attachment avoidance was significantly related to CDC in both patients and spouses. Specifically, patients and spouses with high levels of attachment avoidance were less likely to engage in joint coping efforts (actor effects) than were patients and spouses with low levels of attachment avoidance, and they were less likely to have a partner who engages in joint coping efforts (partner effects). Additionally, direct actor effects were stronger than partner effects, which implies that one's own CDC might be more affected by one's own attachment avoidance than by one's partner's attachment avoidance. Overall, these findings demonstrate that the association between mental health indicators of depression and anxiety is stronger for attachment anxiety than for attachment avoidance, whereas the association between CDC and insecure romantic attachment is stronger for attachment avoidance than for attachment anxiety. In the same vein as the first study, this

second study also presents evident methodological, theoretical, and empirical strengths. Notably, using APIMeM analyses to test dyadic patterns within our large sample of couples facing heart disease not only allowed for a comprehensive investigation of interdependent dyads, but it also offers meaningful insight into the relational mechanisms at play in a complex and difficult-to-reach population.

Collective Empirical Implications Across Studies

At large, the present thesis consisted of two independent, yet complimentary, studies that helped expand the current state of the literature on couple relationship functioning by virtue of their novel contributions. The cumulative results from these respective studies cast light upon CDC as a relational mechanism that connects insecure romantic attachment with interpersonal (i.e., relationship satisfaction) and intrapersonal (i.e., anxiety and depression) outcomes. Such findings represent considerable advancements which are highly relevant not only to the field of couple research, but also to the professional community of clinicians who strive to reduce romantic partners' personal and relational distress.

Important messages can be drawn from the amalgamation of findings in both studies. First, our results constitute the outcomes of CDC have distinct patterns within romantic relationships, as joint coping efforts were found to have greater implications for interpersonal than for intrapersonal constructs. Findings from our first study illustrated that CDC was linked to relationship satisfaction, whereas findings from our second study revealed that CDC was unrelated to anxiety and depression. These contrasting results suggest that CDC is an interpersonal concept that is closely related to couple-level outcomes, which aligns with trends in the literature including meta-analytic results that CDC is a strong predictor of relationship satisfaction (r = .53; Falconier et al., 2015).

Perhaps romantic partners who jointly engage in solution-focused and emotion-focused coping strategies experience respective reductions in their overall stress levels, which in turn improves their relationship satisfaction. Interestingly, the preceding mediation effect was primarily found among avoidantly-attached men and women from the community. There were also gender differences in actor and partner effects; the relationship satisfaction of avoidantly-attached men was dependent on their own and their partner's CDC, whereas the relationship satisfaction of avoidantly-attached women was solely dependent on their own CDC. Avoidant men may be more sensitive to their partner's CDC than avoidant women, possibly due to gender-based attachment patterns in Western cultures whereby women tend to be higher in attachment anxiety whereas men tend be higher in attachment avoidance (Del Giudice, 2011; Harma & Sümer, 2016). Perhaps men high in attachment avoidance are more dissatisfied with their romantic relationship when their partner engages in fewer joint coping efforts because this is incongruent with social norms of women as being more relationship oriented. Meanwhile, avoidant women might prototypically expect their male partner to be more independent and emotionally autonomous, hence fewer joint coping efforts from their male partner might not have a negative impact on women's relationship satisfaction.

Second, our results across studies provide indication that insecure romantic attachment has divergent patterns within romantic relationships. Findings from our first study demonstrated that attachment avoidance had greater implications on relationship satisfaction and CDC, whereas findings from our second study revealed that attachment anxiety had greater implications on mental health indicators of anxiety and depression. These results suggest that avoidantly-attached individuals may be more likely to perceive their relationship as

unsatisfactory and engage in fewer joint coping efforts, while anxiety-attached individuals may be more predisposed to perceive their mental health as distressing.

On one hand, attachment avoidance is governed by negative views of others (e.g., pervasive doubts about the trustworthiness, dependability, and responsiveness of others) which involves deactivating strategies such as compulsive self-reliance. Thus, avoidantly attached individuals may experience more difficulties valuing their relationship, trusting their partner and having positive experiences within their couple which in turn may predispose them to perceive their relationship as unsatisfactory. This finding is congruent with existing evidence that attachment avoidance has stronger effects on relationship satisfaction than does attachment anxiety (Mikulincer & Shaver, 2016). For instance, Li and Chan (2012) conducted a meta-analysis of 118 independent sample with a combined sun of 21,602 individuals. Their results demonstrated that attachment avoidance was more negatively related to relationship satisfaction (r = -.38), connectedness (r = -.29) and support (r = -.32) than attachment anxiety. Our results across studies also revealed that attachment avoidance was linked to CDC in both community and clinical couples. This finding implies that individuals with high levels of attachment avoidance may be less likely to engage joint coping efforts due to fears of emotional dependency and discomfort with interpersonal closeness. These results demonstrate the strong role held by attachment avoidance as it appears to play an antecedent role on the use of joint coping efforts within romantic relationships.

On the other hand, attachment anxiety is governed by negative views of self (e.g., persistent doubts about one's own worth and lovability) which involves hyperactivating strategies such as excessive reassurance seeking. Therefore, the propensity of anxiously attached individuals to adopt a hopeless cognitive style and engage in self-defeating attributions (e.g.,

ruminative worries about their ability to cope with threats on their own) may further intensify their emotional distress, which in turn may erode their psychological resilience and increase their vulnerability to develop affective disorders. This finding is congruent with existing empirical evidence that attachment anxiety is more consistently related to mental health difficulties than attachment avoidance (Zheng et al., 2020). Specifically, results of their meta-analytic review of 78 independent samples with a combined sum of 22,440 individuals revealed that attachment anxiety had stronger associations to depressive symptoms than attachment avoidance ($Q = 46.27$, $p < .001$). Another meta-analysis of 41 independent samples with a cumulative sum of 2,184 individuals investigated the magnitude of the link between attachment representations and symptoms of anxiety both in clinical and non-clinical samples (Dagan et al., 2020). When examining the standardized mean-difference in anxiety symptoms, their results found that individuals with preoccupied attachment representations reported significantly higher symptoms of anxiety in comparison to those with a dismissive attachment representations ($d = .31$).

Given that mental health and relational difficulties often lead to individuals seeking psychological services, the collective implications of these studies thereby hold important implications for clinical practice.

Collective Clinical Implications Across Studies

In thinking about the clinical implications stemming from both studies, the accrued results underscore the unique ways in which insecure romantic attachment and unsuccessful efforts to engage in CDC may negatively interfere with relationship satisfaction and mental health. Translating such findings explicitly into clinical practice can help further inform psychological interventions for romantic partners experiencing personal and relational distress. Namely, implementing an attachment-informed approach such as Emotionally Focused Therapy

for Couples (EFT; Johnson, 2020), which aims to foster a more secure romantic attachment bond could be of great value. EFT may help insecurely attached individuals to soften distress-intensifying appraisals of stressful events by shifting from maladaptive (i.e., hyperactivation or deactivation of the attachment system) to adaptive coping strategies (i.e., proximity seeking and CDC). These positive shifts in interactional positions and patterns could help promote joint coping efforts within couples, which in turn may reinforce a sense of cohesion, togetherness, and emotional connection, and de facto, enhance relationship satisfaction.

Furthermore, increasing attachment security may also serve as a resilience source and protective factor for couples as it may decrease the risk of developing mood and anxiety disorders (Johnson, 2019). Given that EFT has been supported by multiple outcome and process-of change studies in different populations (Johnson, 2019), both non-clinical couples confronted with everyday life hassles and clinical couples faced with severe illness such as CVD may benefit from this evidence-based approach. Additionally, EFT-informed educational programs may also be another fruitful avenue to be considered by couple-based clinicians. The original program called Hold Me Tight (Johnson, 2010) has been designed to help romantic dyads from community settings to prevent problems with relationship functioning, while the adapted 8-week program entitled Healing Hearts Together (HHT; Tulloch et al., 2017) has been tailored to couples in which one partner has a diagnosis of heart disease to facilitate health promotion and positive coping with illness. Studies on the HHT program produced promising results post-intervention, with clinically significant changes in depressive symptoms and statistically significant changes in anxiety symptoms in both partners (Tulloch et al., 2020).

While strengthening the process of CDC could help couple-based clinicians to buffer the maladaptive effects of insecure romantic attachment, our findings offer insight that improving

joint coping efforts may be of greater benefit to individuals with high levels of attachment avoidance (as opposed to attachment anxiety). Hence, avoidantly-attached partners may particularly benefit from Couples Coping Enhancement Training or Coping-oriented Couple Therapy (Bodenmann et al., 2017), through which they could learn that CVD can be an effective strategy in reducing personal and relational distress.

Limitations and Directions for Future Studies

The present thesis has several theoretical, methodological, and statistical strengths and it addresses gaps in the couples literature. Although the findings from both studies should be interpreted in light of certain limitations, as with all empirical projects, a number of future research opportunities nevertheless emerge.

First, both studies utilized self-report measures which may have hindered the objectivity of the collected data. Participants may have been inclined to socially desirable responding in order to paint a favourable image of themselves, their partner, and their couple. Self-report data may have also presented a risk for over- or under-endorsement of measured constructs. Given that individuals with insecure romantic attachment are governed by negative views of self and others which shape cognitions, behaviours, and emotions, participants may have been predisposed to distort reality to answer in a way that aligned with their internal working models. For instance, individuals with high levels of attachment anxiety tend to catastrophize their subjective emotional experiences, whereas individuals with high levels of attachment avoidance tend to lack self-insight, which may have respectively contributed to over- and under-reporting of personal and relational difficulties (Mikulincer & Shaver, 2016). Although all questionnaires used in the context of both studies demonstrated strong psychometric properties, future researchers may wish to consider incorporating assessment methods such as behavioural observations or semi-structured interviews to gather more objective and accurate data. For

instance, insecure attachment could be assessed by way of the Adult Attachment Inventory (AAI; Georges et al., 1985), dyadic coping could be measured through behavioural coding from video-taped conversations about stress (Lau et al., 2019), relationship satisfaction could be tested by way of the Relationship Quality Interview (RQI), and mental health indicators of depression and anxiety could be evaluated through the Structured Clinical Interview for DSM-5 (SCID-5; First et al., 2016). While these alternative assessment methods may help reduce (but not completely eliminate) subjectivity biases, they could also be more taxing in terms of time and resources.

Second, both studies adopted cross-sectional research designs which may have precluded our ability to make inferences about the causality and temporal sequencing between predictor, mediator, and outcome variables. Although attachment patterns have been found to have a moderate to high degree of stability throughout adulthood, existing literature has revealed that attachment-relevant experiences (e.g., separation or loss of attachment figures, interactions with available and responsive attachment figures) may alter internal working models from secure to insecure scripts and vice versa (Mikulincer & Shaver, 2016). The changeability and malleability of attachment patterns over time may correspondingly have rippling effects on interpersonal (e.g., dyadic coping and relationship satisfaction) and intrapersonal variables (e.g., mental health). Longitudinal research designs might could assess and detect changes in relationship dynamics over time.

Third, both studies were composed of relatively homogenous samples. Most participants were married or in common-law relationships, heterosexual, and white, with a post-secondary education and a middle-class income. These sociodemographic characteristics are social determinants of health which not only serve as protective factors against negative health outcomes (WHO, 2022), but also against the negative outcomes linked with insecure attachment

(Schecter, 2013). People from low socioeconomic status (SES) environments have been found to display higher levels of insecure attachment (van IJzendoorn & Bakermans-Kranenburg, 1996). Hence, the generalizability of our findings may be limited and may not extend to the broader population. Future research is needed to replicate our results with a more diverse array of dyads. Further investigating the relationship between romantic attachment and SES would be of utmost value as individuals with lower SES are more vulnerable to experience chronic stress, relational difficulties as well as physical and mental health disorders.

Another interesting avenue for future research would involve conducting group comparison studies with couples from racialized groups (e.g., Black, Asian, Hispanic and Indigenous individuals) and sexual minorities (e.g., lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, pansexual, agender, gender queer and two-spirit individuals). Such research is warranted to determine whether racial and sexual minority couples possess distinct relational profiles from opposite-sex couples, but also considered necessary due to the notable underrepresentation of cultural and ethnic minorities in the scientific literature. Furthermore, given the sample from our second study was predominantly composed of male patients faced with CVD and female spouses, it may have contributed to a gender disparity in our results. Future studies could expand the sample and include a numerically balanced number of male and female patients and spouses in order to control for the role of gender in the context of cardiac illness.

Fourth, another limitation was that dyadic coping strategies measured in our first study were not tied to any specific stressful event. Although non-clinical couples from the community generally face minor chronic everyday stressors (e.g., daily hassles), future studies should identify the type of stressful event using the 3-dimensional taxonomy of couples' stress (e.g.,

locus, intensity, and duration of the stress). Given that couples might cope differently depending on the type of stress (e.g., internal or external, major or minor, acute or chronic), specifying the stressful event may provide a clearer picture and better understanding of the impact of stressors on relational functioning and outcomes (Randall & Bodenmann, 2009).

Fifth, the validity of our findings from both studies may have been limited due to the use of certain measures. In our first study, we found that the DAS-4 had a lower Cronbach alpha coefficient for women ($\alpha = .64$) than for men ($\alpha = .82$). Although we found that the global score of DAS-4 (Sabourin et al., 2005) was invariant across gender, future studies could consider the original 32-item DAS to improve its reliability or other measures of relationship satisfaction such as the Perceived Relationship Quality Components (PRQC; Fletcher et al., 2000).

Conclusion

In closing, the present thesis uniquely expands the current state of the literature as our findings provide preliminary theorical and empirical evidence of the ways in which insecure romantic attachment and joint coping efforts may be related to interpersonal and intrapersonal variables (i.e., relationship satisfaction and mental health) in community and clinical couples. Our results also further highlight the complex nature of intimate relationships and the corresponding necessity to use dyadic statistical analyses such as APIM to account for the interdependence of romantic partners. The key findings of both studies respectively illustrate that attachment avoidance and attachment anxiety present with contrasting relational pathways, which offers exciting avenues for researchers and clinicians to better understand and help romantic partners struggling with personal and relational distress. In sum, the present thesis demonstrated the fruitfulness of steering away from individualist approaches when working with couples.

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Appendix A: Research Ethics Certificate for Chapter II

File Number: 12-04-05B **Date (mm/dd/yyyy):** 03/25/2011

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement and other applicable laws and regulations in Ontario, has examined and approved the application for ethical approval for the above named research project as of the Ethics Approval Date indicated for the period above and subject to the conditions listed the section above entitled "Special Conditions / Comments".

During the course of the study the protocol may not be modified without prior written approval from the REB except when necessary to remove subjects from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the study (e.g. change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, information/consent documentation, and/or recruitment documentation, should be submitted to this office for approval using the "Modification to research project" form available at:
http://www.rges.uottawa.ca/ethics/application_dwn.asp

Please submit an annual status report to the Protocol Officer 4 weeks before the above-referenced expiry date to either close the file or request a renewal of ethics approval. This document can be found at:
http://www.rges.uottawa.ca/ethics/application_dwn.asp

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5841 or by e-mail at:
ethics@uOttawa.ca.

Appendix B: Consent form for Chapter II

Consent form

Successful couple relationships: Personal and relationship factors

I am invited to participate in the above-mentioned research study conducted by the *Couple Research Lab* at the University of Ottawa under the direction of Dr. Marie-France Lafontaine. This project is funded by the Social Sciences and Humanities Research Council of Canada.

I understand that the purpose of the study is to better understand individuals' functioning in their couple relationships. My participation will consist essentially of a 2 ½ hours testing session during which I will complete a questionnaire, and participate in a 15-minute videotaped discussion on a topic that is a source of conflict in my relationship.

The questionnaires cover a number of topics related to my background information, how I resolve conflicts with my partner, my personal and relationship profile, my fear of my partner, my attachment in close relationships, my couple satisfaction, my trust in my partner, my social support behaviours, and my empathy. When answering the questions, I will be asked to answer them as honestly and accurately as possible. I understand that there are no right or wrong answers. What is asked of me is simply my honest opinion.

I understand that some questions and the participation in the filmed discussion may cause some discomfort. Of course, I am not obligated to answer any questions or to participate in the filmed discussion if I do not feel comfortable doing so. I also understand that if I feel tired during the testing session, I can ask for a break.

My participation in this study will contribute to the development of more comprehensive models of well-being and distress in the context of couple relationships.

I have been assured by the researcher that the information I will share will remain strictly confidential. I understand that the information will be used only for a research purpose and that confidentiality will be respected. My partner and I will be assigned identification numbers and only these numbers will appear on the questionnaires and consent forms. The consent forms and questionnaires will be stored separately in a locked cabinet (Couple Research Lab; 120 University) to ensure anonymity and only my identification number will be entered in the database on the computer. Moreover, my filmed discussion will be recorded on a DVD that will also be stored in a locked cabinet.

At the end of the testing session, my partner and I will receive 40$ (40$ per couple) in order to compensate for our time and transportation fees. The research laboratory will also pay for our parking fees.

I am under no obligation to participate and if I choose to participate, I may withdraw from the study at any time, without suffering any negative consequences. If I choose to withdraw, all data

gathered until the time of withdrawal will be either destroyed or used for research purpose, at my convenience.

If I have any questions about the study, I may contact the researchers at 613-562-5800, ext. 4471. If I need help, I can contact the **Distress Centre of Ottawa and Region** at 613-238-3311, **the Victim Crisis Offices**, Ottawa Police Service at 613-236-1222, and the **Anti-Violence Program Family Services** at 613-725-3601. If I have any ethical concerns regarding my participation in this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 Cumberland Street, Room 159, (613) 562-5841 or ethics@uottawa.ca.

I, _____, agree to participate in the above research study conducted by the *Couple Research Lab* at the University of Ottawa under the direction of Dr. Marie-France Lafontaine.
There are two copies of the consent form, one of which is for me to keep.

_____ _____

Name of the participant
(Please print)

Participant's signature

Sex of the Participant: Male □ Female □

Date: _____

_____

Researcher's signature

Dr. Marie-France Lafontaine, C. Psych.
Couple Research Lab
School of Psychology, University of Ottawa
11, Marie Curie
Ottawa, Ontario, CANADA, K1N 6N5

☐ I am interested in the results of this study and wish to receive the *Couple Research Lab Newsletter*.

☐ E-mail: _____
☐ I do not have an E-mail address; please send it through regular mail.

In a few months, I may be contacted again in order to evaluate long-term effects of people's opinions. In the second phase of the study, I will be asked to participate in similar tasks.

☐ I **accept** to be contacted again to participate in the second phase of the study.

☐ I **refuse** to be contacted again to participate in the second phase of the study.

If you plan to move soon, please indicate the name and phone number of a relative or a friend that we could contact in order to be able to contact you at a later point in time.

_____	(_____) _____
Name of a relative or a friend	Phone number

Appendix C: Resource sheet for Chapter II

RESOURCE SHEET

Couple Research Laboratory

Thank you very much for having participated in our study. Your time and honesty was greatly appreciated.

Having responded to the questionnaires and participated in the discussion about a topic that is a source of conflict with your partner may have prompted you to have some questions about your relationship satisfaction. You may also have had some questions about your mental health in general. The following resources allow you to seek out information to respond to your questions, or to contact a therapist in the Ottawa region to discuss your concerns.

Please note that we do not endorse any specific service or treatment.

If you need to talk to someone immediately, you can call the Ottawa Distress Centre phone-line: 613-238-3311

THERAPISTS IN THE OTTAWA REGION

Dr. Marie-France Lafontaine, Ph.D.
(couple and individual therapy)
200 Lees
Ottawa, K1S 5S9
(613) 562-5800 (2498)

Centre for Psychological Services
(couple and individual therapy)
University of Ottawa
(613) 562-5289

Gilmour Psychological Services
(couple and individual therapy)
437 Gilmour
Ottawa, K2P 0R5
(613) 230-4709

The Ottawa Couple and Family Institute
(couple therapy)
1869 Carling Avenue, Suite 201
Ottawa, K2A 1E6
(613) 722-5122
http://www.ocfi.ca

Appendix D: Sociodemographic Questionnaire for Chapter II

Sociodemographic Questionnaire

The following questionnaire involves gathering information with respect to your sociodemographic background. For each question, please circle the number beside the appropriate answer.

SD1.	Indicate your sex. 1 = Male 2 = Female
SD2.	What is your age, in years and months? _____ years and _____ months
SD3.	What is your mother tongue? 1 = French 2 = English 3 = Other, specify: _____ (SDT3a.)
SD4.	What is your current marital status? 1 = Married **(if married go to question SD4a.)** 2 = Common law 3 = Separated 4 = Divorced 5 = Single 6 = Widowed **(if not currently married go to question SD5.)**
SD4a.	How long have you been married to your partner, in years and months? _____ years and _____ months
SD5.	Have you ever been married before this relationship? 1 = Yes 2 = No
SD6.	How long have you been in your current relationship, in years and months? _____ years and _____ months
SD7.	How long have you been living together with your partner, in years and months? _____ years and _____ months
SD8.	How many children do you have with your current partner? _____ **(If none, write 0 and skip to question SD10.)**.
SD9.	How old are these children, starting from the youngest? 1st _____ 2nd _____ 3rd _____ 4th _____ 5th _____ 6th _____ 7th _____
SD10.	How many children do you have from previous relationships? _____ **(If none, write 0 and skip question SDT12)**.
SD11.	How old are these children, starting from the youngest? 1st _____ 2nd _____ 3rd _____ 4th _____ 5th _____ 6th _____ 7th _____
SD12.	How many years have you lived in Canada? 1 = All my life OR 2 = Number of years: _____ (SD12a.)

SD12b. What is your racial or ethnic background (circle as many as apply)?

1 = White/Caucasian
2 = Black (e.g., Haitian, African, Jamaican, Somali)
3 = Asian (e.g., Chinese, East Indian, Japanese, Vietnamese)
4 = Latino or Hispanic
5 = Pacific Islander
6 = Middle Eastern
7 = Native Canadian/First nations/Métis
8 = Other, specify: _____ (SD12c.)

SD13. Indicate the highest educational degree you have received.

1 = University
2 = College
3 = High school
4 = Primary school

SD14. What is your main daily activity?

1 = Blue collar (construction, factory worker, manual work, etc.)
2 = White collar (administrator, lawyer, director, office work, sales, etc.)
3 = Enterprise owner or self-worker
4 = Unemployed
5 = Student
6 = Stay at home
7 = Other, specify: _____ (SD14a.)

SD15. What is your annual personal gross revenue (before tax and deductions)? _____

In the past year, have you consulted a mental health professional (psychologist, social worker, psychiatrist, etc.)…

SD16. …alone?

1 = Yes 2 = No (skip to question SD17.)

SD16a. Duration of services (e.g., 1 year and 2 months):

_____ years _____ months

How long have you consulted a mental health professional (psychologist, social worker, psychiatrist, etc.) with your partner?

SD17. Duration of services:

_____ years _____ months

SD17a. How many sessions have you attended?_____ ☐ Don't know

SD 18. Have you ever consulted a mental health professional (psychologist, social worker, psychiatrist, etc.) with your partner prior to this study?

1 = Yes 2 = No

In the past 12 months, have you or your partner experienced the following events? If your answer is "yes", please indicate the person who experienced the event. Also, for each event experienced, evaluate its consequences on your relationship when it occurred using the following scale.

Extremely harmful 1	Moderately harmful 2	Slightly harmful 3	No consequence 4	Slightly beneficial 5	Moderately beneficial 6	Extremely beneficial 7

				Consequences on your relationship						
SD19a.	Pregnancy	0 = No	1 = Yes Me ___ My partner ___	1	2	3	4	5	6	7
SD19b.	Miscarriage	0 = No	1 = Yes Me ___ My partner ___	1	2	3	4	5	6	7
SD19c.	Serious illness or accident	0 = No	1 = Yes Me ___ My partner ___ Children ___ Other ___	1	2	3	4	5	6	7
SD19d.	Being fired from work	0 = No	1 = Yes Me ___ My partner ___	1	2	3	4	5	6	7
SD19e.	Death of a relative or close friend	0 = No	1 = Yes Me ___ My partner ___	1	2	3	4	5	6	7
SD19f.	An affair	0 = No	1 = Yes Me ___ My partner ___	1	2	3	4	5	6	7
SD19g. Specify:	Other major event? _____	0 = No	1 = Yes Me ___ My partner ___ Children ___ Other ___	1	2	3	4	5	6	7
SD19h. Specify:	Other major event? _____	0 = No	1 = Yes Me ___ My partner ___ Children ___ Other ___	1	2	3	4	5	6	7

SD20a. Have you and your current partner separated in the past 12 months because of conflicts in the relationship?

1 = Yes 2 = No (skip to question SD21.)

SD20b. How long was your separation, in weeks and days (e.g., 2 weeks and 3 days)?

_____ weeks and _____ days

SD20c. <u>If your answer to question SD11a was « yes »</u>, evaluate the consequences of this separation on your relationship when the event occurred.

1 = extremely harmful
2 = moderately harmful
3 = slightly harmful
4 = no consequence
5 = slightly beneficial
6 = moderately beneficial
7 = extremely beneficial

SD20d.	If your answer to question SD11a was "yes", why did you and your partner decide to reconcile? _____ _____ _____
SD21.	Have you ever needed help from Centers for violent partners or shelters for domestic violence victims? 1 = Yes 2 = No
SD22.	Have you ever been diagnosed with a psychiatric disorder? 1 = Yes 2 = No
SD23.	Are you currently taking medication for a psychiatric disorder? 1 = Yes 2 = No
SD24.	Have you had a history of being a victim of abuse? Physical abuse Sexual abuse 1 = Yes 2 = No 1 = Yes 2 = No
SD25.	On average, how much alcohol do you drink each week? _____ (# of drinks) (SD25a.) (1 drink = 5 oz of wine, 1.5 oz of spirits or 12 oz of regular strength beer)

Appendix E: Dyadic Adjustment Scale-4 Chapter I for Chapter II

DYADIC ADJUSTMENT SCALE-4

All the time	Most of the time	More often than not	Occasionally	Rarely	Never
0	1	2	3	4	5

1.	How often do you discuss or have you considered divorce, separation, or terminating your relationship?	0	1	2	3	4	5
2.	In general, how often do you think that things between you and your partner are going well?	0	1	2	3	4	5
3.	Do you confide in your mate?	0	1	2	3	4	5

4. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy", represents the degree of happiness of most relationships. Please circle the number which best describes the degree of happiness, all things considered, of your relationship.

● ● ● ● ● ● ●

Extremely unhappy	Fairly unhappy	A little unhappy	Happy	Very happy	Extremely happy	Perfect
0	1	2	3	4	5	6

Used with the permission of Y. Lussier. Sabourin, Valois, and Lussier (2005)

Appendix F: Dyadic Coping Inventory (DCI) for Chapter II

DYADIC COPING INVENTORY (DCI)

This scale is designed to measure how you and your partner cope with stress. Please respond spontaneously and as honestly as you can. Please respond to any item by circling the appropriate number, which is fitting to your personal situation. There are no wrong answers.

Very rarely	Rarely	Sometimes	Often	Very often
1	2	3	4	5

This section is about how you communicate your stress to your partner.						
DC1.	I let my partner know that I appreciate his/her practical support, advice, or help.	1	2	3	4	5
DC2.	I ask my partner to do things for me when I have too much to do.	1	2	3	4	5
DC3.	I show my partner through my behavior that I am not doing well or when I have problems.	1	2	3	4	5
DC4.	I tell my partner openly how I feel and that I would appreciate his/her support.	1	2	3	4	5
This section is about what your partner does when you are feeling stressed.						
DC5.	My partner shows empathy and understanding to me.	1	2	3	4	5
DC6.	My partner expresses that he/she is on my side.	1	2	3	4	5
DC7.	My partner blames me for not coping well enough with stress.	1	2	3	4	5
DC8.	My partner helps me to see stressful situations in a different light.	1	2	3	4	5
DC9.	My partner listens to me and gives me the opportunity to communicate what really bothers me.	1	2	3	4	5
DC10.	My partner does not take my stress seriously.	1	2	3	4	5
DC11.	My partner provides support, but does so unwillingly and is unmotivated.	1	2	3	4	5
DC12.	My partner takes on things that I normally do in order to help me out.	1	2	3	4	5
DC13.	My partner helps me analyze the situation so that I can better face the problem.	1	2	3	4	5
DC14.	When I am too busy, my partner helps me out.	1	2	3	4	5
DC15.	When I'm stressed, my partner tends to withdraw.	1	2	3	4	5
This section is about how your partner communicates when he/she is feeling stressed.						
DC16.	My partner lets me know that he/she appreciates my practical support, advice, or help.	1	2	3	4	5

DC17.	My partner asks me to do things for him/her when he/she has too much to do.	1	2	3	4	5
DC18.	My partner shows me through his/her behaviour that he/she is not doing well or when he/she has problems.	1	2	3	4	5
DC19.	My partner tells me openly how he/she feels and that he/she would appreciate my support.	1	2	3	4	5

This section is about what you do when your partner makes known his/her stress.						
DC20.	I show empathy and understanding to my partner.	1	2	3	4	5
DC21.	I express to my partner that I am on his/her side.	1	2	3	4	5
DC22.	I blame my partner for not coping well with stress.	1	2	3	4	5
DC23.	I tell my partner that his/her stress is not that bad and help him/her to see the situation in a different light.	1	2	3	4	5
DC24.	I listen to my partner and give him/her space and time to communicate what really bothers him/her.	1	2	3	4	5
DC25.	I do not take my partner's stress seriously.	1	2	3	4	5
DC26.	When my partner is stressed, I tend to withdraw.	1	2	3	4	5
DC27.	I provide support, but do so unwillingly and am unmotivated because I think that he/she should cope with his/her problems on his/her own.	1	2	3	4	5
DC28.	I take on things that my partner would normally do in order to help him/her out.	1	2	3	4	5
DC29.	I try to analyze the situation together with my partner in an objective manner and help him/her to understand and change the problem.	1	2	3	4	5
DC30.	When my partner feels he/she has too much to do, I help him/her out.	1	2	3	4	5

This section is about what you and your partner do when you are both feeling stressed.						
DC31.	We try to cope with the problem together and search for ascertained solutions.	1	2	3	4	5
DC32.	We engage in a serious discussion about the problem and think through what has to be done.	1	2	3	4	5
DC33.	We help one another to put the problem in perspective and see it in a new light.	1	2	3	4	5
DC34.	We help each other relax with such things like massage, taking a bath together, or listening to music together.	1	2	3	4	5
DC35.	We are affectionate to each other, make love and try that way to cope with stress.	1	2	3	4	5

This section is about how you evaluate your coping as a couple.						
DC36.	I am satisfied with the support I receive from my partner and the way we deal with stress together.	1	2	3	4	5
DC37.	I am satisfied with the support I receive from my partner and I find as a couple, the way we deal with stress together is effective.	1	2	3	4	5

Used with the permission of G. Bodenmann (2008).

Appendix G: Experiences in Close Relationships (ECR) for Chapter II

EXPERIENCES IN CLOSE RELATIONSHIPS (ECR)

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience romantic relationships, not just in what is happening in a current relationship. You can answer this questionnaire even if you're not currently in a romantic relationship. Respond to each statement by indicating how much you agree or disagree with it. Circle the number appropriate to your answer, using the following rating scale:

Strongly Disagree			Neutral/ mixed			Strongly Agree
1	2	3	4	5	6	7

ECR1.	I prefer not to show a partner how I feel deep down.	1	2	3	4	5	6	7
ECR2.	I worry about being abandoned.	1	2	3	4	5	6	7
ECR3.	I am very comfortable being close to romantic partners.	1	2	3	4	5	6	7
ECR4.	I worry a lot about my relationships.	1	2	3	4	5	6	7
ECR5.	Just when my partner starts to get close to me I find myself pulling away.	1	2	3	4	5	6	7
ECR6.	I worry that romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6	7
ECR7.	I get uncomfortable when a romantic partner wants to be very close.	1	2	3	4	5	6	7
ECR8.	I worry a fair amount about losing my partner.	1	2	3	4	5	6	7
ECR9.	I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
ECR10.	I often wish that my partner's feelings for me were as strong as my feelings for him/her.	1	2	3	4	5	6	7
ECR11.	I want to get close to my partner, but I keep pulling back.	1	2	3	4	5	6	7
ECR12.	I often want to merge completely with romantic partners, and this sometimes scares them away.	1	2	3	4	5	6	7
ECR13.	I am nervous when my partners get too close to me.	1	2	3	4	5	6	7
ECR14.	I worry about being alone.	1	2	3	4	5	6	7
ECR15.	I feel comfortable sharing my private thoughts and feelings with my partner.	1	2	3	4	5	6	7
ECR16.	My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7
ECR17.	I try to avoid getting too close to my partner.	1	2	3	4	5	6	7

ECR18.	I need a lot of reassurance that I am loved by my partner.	1	2	3	4	5	6	7
ECR19.	I find it relatively easy to get close to my partner.	1	2	3	4	5	6	7
ECR20.	Sometimes I feel that I force my partners to show more feeling, more commitment.	1	2	3	4	5	6	7
ECR21.	I find it difficult to allow myself to depend on romantic partners.	1	2	3	4	5	6	7
ECR22.	I do not often worry about being abandoned.	1	2	3	4	5	6	7
ECR23.	I prefer not to be too close to romantic partners.	1	2	3	4	5	6	7
ECR24.	If I can't get my partner to show interest in me, I get upset or angry.	1	2	3	4	5	6	7
ECR25.	I tell my partner just about everything.	1	2	3	4	5	6	7
ECR26.	I find that my partner(s) don't want to get as close as I would like.	1	2	3	4	5	6	7
ECR27.	I usually discuss my problems and concerns with my partner.	1	2	3	4	5	6	7
ECR28.	When I'm not involved in a relationship, I feel somewhat anxious and insecure.	1	2	3	4	5	6	7
ECR29.	I feel comfortable depending on romantic partners.	1	2	3	4	5	6	7
ECR30.	I get frustrated when my partner is not around as much as I would like.	1	2	3	4	5	6	7
ECR31.	I don't mind asking romantic partners comfort, advice, or help.	1	2	3	4	5	6	7
ECR32.	I get frustrated if romantic partners are not available when I need them.	1	2	3	4	5	6	7
ECR33.	It helps to turn to my romantic partner in times of need.	1	2	3	4	5	6	7
ECR34.	When romantic partners disapprove of me, I feel really bad about myself.	1	2	3	4	5	6	7
ECR35.	I turn to my partner for many things, including comfort and reassurance.	1	2	3	4	5	6	7
ECR36.	I resent it when my partner spends time away from me.	1	2	3	4	5	6	7

Developed by Brennan, Clark and Shaver (1998)

Appendix H: Research Ethics Certificates for Chapter III

The Ottawa Hospital | L'Hôpital d'Ottawa
RESEARCH INSTITUTE | INSTITUT DE RECHERCHE

uOttawa

UNIVERSITY OF OTTAWA HEART INSTITUTE
INSTITUT DE CARDIOLOGIE DE L'UNIVERSITÉ D'OTTAWA

Ottawa Health Science Network Research Ethics Board (OHSN-REB) / Conseil d'éthique de la recherche du réseau de science de la santé d'Ottawa (CÉR-RSSO)

Date:	December 9, 2018
Principal Investigator:	Dr. Heather Tulloch, UOHI/OHIRC
Protocol ID:	20180793-01H
Study Title:	Cardiac Couples' Attachment, Relationship Quality, and Effective Coping
Submission Type:	Initial Application
Review Type:	Delegated
Date of Approval:	December 7, 2018
Approval Expiry Date:	December 7, 2019

Dear Dr. Tulloch,

Thank you for submitting the above referenced study. The Ottawa Health Science Network Research Ethics Board (OHSN-REB) has reviewed the application and granted approval for your study. This approval is granted until the expiration date noted above. This research study is to be conducted by the investigator noted above.

The **OHSN-REB ethics approval** is applicable only for The Ottawa Hospital, University of Ottawa Heart Institute and University of Ottawa Faculty of Medicine.

An **Institutional approval (OHRI and/or UOHI) letter is required prior to the conduct of the study** at this site. The institutional approval letter is an indication that you have satisfied ethics, contracts, departmental notifications, as applicable.

Documents Approved:

Document Name	Document Version Date
CARE-2 Protocol	October 26, 2018
Demographic page dated December 4, 2018	December 4, 2018
English Burden Interview questionnaire August 24, 2018	October 19, 2018
English Caregiver Questionnaire dated October 26, 2018	October 26, 2018

English Dyadic Adustment Scale (DAS) questionnaire dated October 26, 2018	October 26, 2018
English Dyadic Coping Inventory questionnaire dated October 26, 2018	October 26, 2018
English Experience in Close Relationships questionnaire (ECR-12) 2016	October 26, 2018
English GAD-7 questionnaire dated January 26, 2018	October 19, 2018
English HeartQoL questionnaire copyright 2012	October 19, 2018
English Partner Recruitment script dated October 26, 2018	October 26, 2018
English Partner informed consent form dated December 4, 2018	
English Patient informed consent form dated December 4, 2018	
English Patient Recruitment script dated October 26, 2018	October 26, 2018
English PHQ-9 questionnaire dated January 26, 2018	October 19, 2018
English Quality of Life Questionnaire for Cardiac SPouses/Partners dated October 26, 2018	October 26, 2018
English SF-36 questionnaire copyright 1992	October 19, 2018
English Sociodemographic Questionnaire dated October 26, 2018	October 26, 2018
French Caregiver Questionnaire (1994)	
French Dyadic Adjustment Scale (1976)	
French Dyadic Coping Inventory dated 2018	
French Experience In Close relationships (ECR-12) 2016	
French GAD-7 March 12, 2018	
French HeartQoL questionnaire copyright 2012	
French Partner Recruitment script dated October 26, 2018	October 26, 2018
French Patient Recruitment script dated October 26, 2018	October 26, 2018
French PHQ-9 questionnaire dated March 12, 2018	
French QL-SP for Cardiac spouse and partners questionnaire 2016	
French SF-36 copyright 1993	
Prescreener (English).docx	October 26, 2018
Prescreener (French).docx	October 26, 2018

Documents Acknowledged:

Document Name
French translation note.docx

No deviations from, or changes to, the protocol should be initiated without prior written approval of an appropriate amendment from the OHSN-REB, except when necessary to eliminate immediate hazard(s) to study participants.

REB members involved in the research project do not participate in the review, discussion or decision.

If the study is to continue beyond the expiry date noted above, a Continuing Review Form must be received by the OHSN-REB on or prior to the full board submission deadline date of the meeting scheduled to occur a minimum of 30 days prior to the study expiry date. If the study has been completed by the expiry noted above, a Study Closure Report must be received by the OHSN-REB.

The OHSN-REB operates in compliance with, and is constituted in accordance with, the requirements of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use; Integrated Addendum to ICH E6 (R1): Guideline for Good Clinical Practice E6 (R2); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. OHSN-REB is qualified through the CTO REB Qualification Program and is registered with the U.S. Department of Health and Human Services (DHHS) Office for Human Research Protection (OHRP).

Please do not hesitate to contact us if you have any questions.

Sincerely,

Jim Robblee, M.D.
Vice Chairperson
Ottawa Health Science Network Research Ethics Board

/dw

04/06/2019

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Lettre d'approbation administrative | Letter of administrative approval

Numéro de dossier / Ethics File Number	H-05-19-2186
Titre du projet / Project Title	Cardiac Couples' Attachment, Relationship Quality and Effective Coping (CARE-2)
Type de projet / Project Type	Recherche de professeur / Professor's research project
CÉR primaire / Primary REB	University of Ottawa Heart Institute (UOHI)
Statut du projet / Project Status	Approuvé / Approved
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	04/06/2019
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	07/12/2019

Équipe de recherche / Research Team

Chercheur / Researcher	Affiliation	Role
Heather TULLOCH	Département de médecine / Department of Medicine	Chercheur Principal / Principal Investigator
Karolina SZTAJEROWSKI	École de psychologie / School of Psychology	Étudiant-chercheur / Student-researcher
Paul GREENMAN	École de psychologie / School of Psychology	Autre / Other

Conditions spéciales ou commentaires / Special conditions or comments:

OHSN REB # 20180793-01H

550, rue Cumberland, pièce 154 550 Cumberland Street, Room 154
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada

613-562-5387 • 613-562-5338 • ethique@uOttawa.ca / ethics@uOttawa.ca
www.recherche.uottawa.ca/deontologie | www.recherche.uottawa.ca/ethics

Appendix I: Sociodemographic Questionnaire for Chapter III

UNIVERSITY OF OTTAWA HEART INSTITUTE
INSTITUT DE CARDIOLOGIE DE L'UNIVERSITÉ D'OTTAWA

Study ID: _____
Date: _____

For each question, please check the appropriate answer or fill in the space provided.

Gender: ☐Male ☐Female ☐Other, specify: _____ **Age :** _____

Which of the following best describes your ethnic, cultural or racial origin?

- ☐ White/Caucasian origin
- ☐ Black/African origin
- ☐ Latin or Hispanic origin
- ☐ Asian origin
- ☐ Pacific Islander origin
- ☐ Middle Eastern origin
- ☐ Aboriginal origin
- ☐ Other, specify: _____

What is your employment status?

- ☐ Employed full-time
- ☐ Employed part-time
- ☐ Self-employed
- ☐ Unemployed
- ☐ Homemaker
- ☐ Retired
- ☐ Disability leave
- ☐ Other, specify: _____

If employed, what is your current occupation? _____

What is the highest educational degree you have received?

- ☐ Elementary school
- ☐ High school
- ☐ Trade certification
- ☐ College degree
- ☐ University degree
- ☐ None

What was the total income of all household members, before taxes, for the last year?

- ☐ Less than $9,999
- ☐ $10,000 - $24,999
- ☐ $25,000 - $34,999
- ☐ $35,000 - $49,999
- ☐ $50,000 - $74,999
- ☐ More than $75,000
- ☐ Prefer not to answer

What is your current marital status?

- ☐ Married
- ☐ Common law
- ☐ Separated
- ☐ Divorced
- ☐ Widowed
- ☐ Single

How many years have you been married to your current partner *(if married)*? _____

How many years have you been in a relationship with your current partner? _____

How many years have you been living in the same household as your current partner? _____

Do you have children with your current partner? ☐Yes ☐No

If **yes**, how many children do you have with your current partner? _____

Do you have children from previous relationships? ☐Yes ☐No

If **yes**, how many children do you have from previous relationships? _____

UNIVERSITY OF OTTAWA HEART INSTITUTE
INSTITUT DE CARDIOLOGIE DE L'UNIVERSITÉ D'OTTAWA

Study ID: _____
Date: _____

Do you have children currently living in your household? ☐Yes, please specify how many: _____ ☐No

Do you currently provide care to an ailing family member or friend (e.g., aging, chronic illness, disability, etc.)?

☐Yes, please specify how many individuals you provide care for: _____ ☐No ☐Prefer not to answer

What is your relationship to the individual(s) that you currently provide care for? Check all that apply.

- ☐ I am providing care to my partner.
- ☐ I am providing care to my child.
- ☐ I am providing care to my older parent.
- ☐ I am providing care to a friend.
- ☐ I am providing care to a family relative.
- ☐ Other, specify: _____

Have you ever been diagnosed with any mental health conditions?

☐Yes ☐No ☐Prefer not to answer

If **yes**, please check and/or specify **all** your mental health conditions (and indicate the year(s) of diagnosis).

Depression

- ☐ Major depressive episode ..... year:_____
- ☐ Persistent depressive disorder ..... year:_____
- ☐ Other, please specify: ..... year:_____

Anxiety

- ☐ Generalized anxiety disorder ..... year:_____
- ☐ Illness anxiety disorder ..... year:_____
- ☐ Other, please specify: ..... year:_____

Trauma- and Stressor-related conditions

- ☐ Adjustment disorder ..... year:_____
- ☐ Post-traumatic stress disorder ..... year:_____
- ☐ Other, please specify: ..... year:_____

Other mental health conditions

- ☐ Please specify: ..... year:_____
- ☐ Please specify: ..... year:_____

If **yes**, are you currently taking medication(s) to manage your mental health condition(s)?

☐Yes, please specify all medication(s) below: ☐No ☐Prefer not to answer

- ☐ _____
- ☐ _____
- ☐ _____

If **yes**, are you currently receiving psychological services to manage your mental health condition(s)?

☐Yes ☐No ☐Prefer not to answer

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INSTITUT DE CARDIOLOGIE DE L'UNIVERSITÉ D'OTTAWA

Study ID: _____
Date: _____

Have you <u>ever</u> been diagnosed with any physical conditions)? ☐Yes ☐No ☐Prefer not to answer

If **yes**, please check and/or specify **<u>all</u>** your physical conditions (and indicate the year(s) of diagnosis):

Cardiovascular conditions
- ☐ Coronary heart disease ..... year:_____
- ☐ Congenital heart disease ..... year:_____
- ☐ Arrhythmia ..... year:_____
- ☐ Heart attack ..... year:_____
- ☐ Cerebrovascular disease (stroke) ..... year:_____
- ☐ Other, please specify: ..... year:_____

Diabetes
- ☐ Diabetes type I ..... year:_____
- ☐ Diabetes type II ..... year:_____

Cancer
- ☐ Lung cancer ..... year:_____
- ☐ Colorectal cancer ..... year:_____
- ☐ Breast cancer ..... year:_____
- ☐ Prostate cancer ..... year:_____
- ☐ Other, please specify: ..... year:_____

Respiratory conditions
- ☐ Chronic obstructive pulmonary disease (COPD) ..... year:_____
- ☐ Asthma ..... year:_____
- ☐ Bronchitis ..... year:_____
- ☐ Other, please specify: ..... year:_____

Musculoskeletal conditions
- ☐ Arthritis ..... year:_____
- ☐ Osteoporosis ..... year:_____
- ☐ Other, please specify: ..... year:_____

Neurological conditions
- ☐ Parkinsonism, including Parkinson's disease ..... year:_____
- ☐ Multiple sclerosis (MS) ..... year:_____
- ☐ Epilepsy ..... year:_____
- ☐ Dementia, including Alzheimer's disease ..... year:_____
- ☐ Other, please specify: ..... year:_____

Chronic pain or injury
- ☐ Back ..... year:_____
- ☐ Knee ..... year:_____
- ☐ Hip(s) ..... year:_____
- ☐ Other, please specify: ..... year:_____

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Study ID: _____
Date: _____

Other physical conditions

- ☐ Please specify: ..... year: _____
- ☐ Please specify: ..... year: _____
- ☐ Please specify: ..... year: _____

If **yes**, are you currently taking medication(s) to manage your physical illness(es)?

☐Yes, please specify all medication(s) below: ☐No ☐Prefer not to answer

1. _____
2. _____
3. _____

If **yes**, are you currently receiving psychological services to manage your physical illness(es)?

☐Yes ☐No ☐Prefer not to answer

Have you ever received psychological services? ☐Yes ☐No ☐Prefer not to answer

If **yes**, what kind of psychological services did you receive?

- ☐ Individual therapy
- ☐ Family therapy
- ☐ Couples therapy
- ☐ Other, specify: _____

If **yes**, what year(s) did you receive the psychological services and what was their duration *(in months)*?

Year: _____ Duration: _____
Year: _____ Duration: _____
Year: _____ Duration: _____

Thank you for completing this questionnaire.

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No de l'étude : _____
Date : _____

Pour chaque question, veuillez cocher la réponse adéquate ou répondre dans l'espace fourni.

Genre : ☐Homme ☐Femme ☐Autre (veuillez préciser) : _____ | **Âge :** _____

Choisissez le qualificatif qui décrit le mieux votre origine ethnique, culturelle ou raciale :

- ☐ Origine caucasienne/blanche
- ☐ Origine africaine/noire
- ☐ Origine latine/hispanique
- ☐ Origine asiatique
- ☐ Origine des îles du Pacifique
- ☐ Origine moyen-orientale
- ☐ Origine autochtone
- ☐ Autre (veuillez préciser) : _____

Quelle est votre situation d'emploi actuelle?

- ☐ Emploi à temps plein
- ☐ Emploi à temps partiel
- ☐ Travail autonome
- ☐ Sans emploi
- ☐ Personne au foyer
- ☐ À la retraite
- ☐ En congé d'invalidité
- ☐ Autre (veuillez préciser) : _____

Si vous avez un emploi, quel est votre poste actuel? _____

Quel est le plus haut niveau de formation scolaire que vous ayez terminé?

- ☐ Études primaires
- ☐ Études secondaires
- ☐ Études professionnelles
- ☐ Études collégiales
- ☐ Études universitaires
- ☐ Aucune de ces réponses

Quel a été le revenu total de l'ensemble de votre ménage, avant impôts, l'an dernier?

- ☐ Moins de 9 999 $
- ☐ 10 000 $ à 24 999 $
- ☐ 25 000 $ à 34 999 $
- ☐ 35 000 $ à 49 999 $
- ☐ 50 000 $ à 74 999 $
- ☐ Plus de 75 000 $
- ☐ Je préfère ne pas répondre

Quel est votre état civil actuel?

- ☐ Marié(e)
- ☐ Conjoint(e) de fait
- ☐ Séparé(e)
- ☐ Divorcé(e)
- ☐ Veuf/veuve
- ☐ Célibataire

Depuis combien d'années êtes-vous marié(e) à votre partenaire actuel *(le cas échéant)*? _____

Depuis combien d'années êtes-vous en relation avec votre partenaire actuel? _____

Depuis combien d'années vivez-vous avec votre partenaire actuel? _____

Avez-vous des enfants avec votre partenaire actuel? ☐Oui ☐Non

Si **oui**, combien d'enfants avez-vous eus avec votre partenaire actuel? _____

Avez-vous des enfants issus d'unions précédentes? ☐Oui ☐Non

Si **oui**, combien? _____

Est-ce que des enfants vivent sous votre toit à l'heure actuelle? ☐Oui (veuillez préciser combien) : _____ ☐Non

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No de l'étude : _____
Date : _____

À l'heure actuelle, vous occupez-vous d'un parent ou d'un ami vieillissant, malade ou invalide?

☐Oui (veuillez indiquer de combien d'individus vous prenez soin) : _____ ☐Non ☐Je préfère ne pas répondre

Quel lien vous unit à cet ou ces individus? Cochez toutes les cases pertinentes.

- ☐ Partenaire
- ☐ Enfant
- ☐ Parent
- ☐ Ami(e)
- ☐ Proche
- ☐ Autre (veuillez préciser) : _____

Avez-vous déjà reçu un diagnostic lié à un problème de santé mentale?

☐Oui ☐Non ☐Je préfère ne pas répondre

Si **oui**, veuillez indiquer lequel ou lesquels en cochant **toutes les cases pertinentes** et en précisant en quelle année le diagnostic a été établi.

Dépression

- ☐ Épisode dépressif majeur ..... Année : _____
- ☐ Trouble dépressif persistant ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

Anxiété

- ☐ Trouble d'anxiété généralisée ..... Année : _____
- ☐ Hypocondrie ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

Problèmes liés à un traumatisme ou à un agent stressant

- ☐ Trouble de l'adaptation ..... Année : _____
- ☐ Trouble de stress post-traumatique ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

Autres troubles de santé mentale

- ☐ Veuillez préciser : ..... Année : _____
- ☐ Veuillez préciser : ..... Année : _____

Si **oui**, prenez-vous <u>présentement</u> des médicaments pour soigner votre ou vos problèmes de santé mentale?

☐Oui (veuillez indiquer lesquels ci-dessous) : ☐Non ☐Je préfère ne pas répondre

- ☐ _____
- ☐ _____
- ☐ _____

Si **oui**, recevez-vous <u>présentement</u> de l'aide psychologique pour soigner votre ou vos problèmes de santé mentale?

☐Oui ☐Non ☐Je préfère ne pas répondre

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No de l'étude : _____
Date : _____

Avez-vous déjà reçu un diagnostic lié à un problème de santé physique?

☐Oui ☐Non ☐Je préfère ne pas répondre

Si **oui**, veuillez indiquer lequel ou lesquels en cochant **toutes les cases pertinentes** et en précisant en quelle année le diagnostic a été établi :

Problèmes cardiovasculaires

- ☐ Maladie coronarienne ..... Année : _____
- ☐ Cardiopathie congénitale ..... Année : _____
- ☐ Arythmie ..... Année : _____
- ☐ Crise cardiaque ..... Année : _____
- ☐ Maladie cérébrovasculaire (AVC) ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

Diabètes

- ☐ Diabètes de type 1 ..... Année : _____
- ☐ Diabètes de type 2 ..... Année : _____

Cancer

- ☐ Cancer du poumon ..... Année : _____
- ☐ Cancer colorectal ..... Année : _____
- ☐ Cancer du sein ..... Année : _____
- ☐ Cancer de la prostate ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

Problèmes respiratoires

- ☐ Maladie pulmonaire obstructive chronique (MPOC) ..... Année : _____
- ☐ Asthme ..... Année : _____
- ☐ Bronchite ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

Problèmes musculo-squelettiques

- ☐ Arthrite ..... Année : _____
- ☐ Ostéoporose ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

Problèmes neurologiques

- ☐ Parkinsonisme, incluant la maladie de Parkinson ..... Année : _____
- ☐ Sclérose en plaques ..... Année : _____
- ☐ Épilepsie ..... Année : _____
- ☐ Démence, incluant la maladie d'Alzheimer ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

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No de l'étude : _____
Date : _____

Blessure ou douleur chronique

- ☐ Dos ..... Année : _____
- ☐ Genoux ..... Année : _____
- ☐ Hanches ..... Année : _____
- ☐ Autre (veuillez préciser) : ..... Année : _____

Autres problèmes physiques

- ☐ Veuillez préciser : ..... Année : _____
- ☐ Veuillez préciser : ..... Année : _____
- ☐ Veuillez préciser : ..... Année : _____

Si **oui**, prenez-vous <u>présentement</u> des médicaments pour soigner votre ou vos problèmes de santé physique?

☐Oui (veuillez indiquer lesquels ci-dessous) : ☐Non ☐Je préfère ne pas répondre

1. _____
2. _____
3. _____

Si **oui**, recevez-vous <u>présentement</u> de l'aide psychologique pour soigner votre ou vos problèmes de santé physique?

☐Oui ☐Non ☐Je préfère ne pas répondre

Avez-vous déjà reçu des services d'aide psychologique? ☐Oui ☐Non ☐Je préfère ne pas répondre

Si **oui**, quel type de services avez-vous reçus?

- ☐ Thérapie individuelle
- ☐ Thérapie de couple
- ☐ Thérapie familiale
- ☐ Autre (veuillez préciser) : _____

Si **oui**, <u>en quelle(s) année(s)</u> avez-vous reçu ces services et <u>pendant combien de temps</u> *(en mois)*?

Année : _____ Durée : _____
Année : _____ Durée : _____
Année : _____ Durée : _____

Merci d'avoir rempli ce questionnaire.

Appendix J: English and French Consent Forms

Consent form

The Ottawa Hospital | L'Hôpital d'Ottawa

uOttawa

UNIVERSITY OF OTTAWA HEART INSTITUTE
INSTITUT DE CARDIOLOGIE DE L'UNIVERSITÉ D'OTTAWA

Minimal Risk Informed Consent Form for Participation in a Research Study- Patient

Study Title: Cardiac Couples' Attachment, Relationship Quality, and Effective Coping (CARE-2)

OHSN-REB Number*:* 20180793-01H

Study Doctor: Dr. Heather Tulloch (613-696-7000, ext 19705).

INTRODUCTION

You are being invited to participate in a research study. You are invited to participate in this study because you are a patient at the University of Ottawa Heart Institute (UOHI) and are in a couple relationship. This consent form provides you with information to help you make an informed choice. Please read this document carefully and ask any questions you may have. All your questions should be answered to your satisfaction before you decide whether to participate in this research study.

Please take your time in making your decision. You may find it helpful to discuss it with your friends and family.

Taking part in this study is voluntary. Deciding not to take part or deciding to leave the study later will not result in any penalty or affect current or future health care.

IS THERE A CONFLICT OF INTEREST?

There are no conflicts of interest to declare related to this study.

WHY IS THIS STUDY BEING DONE?

The purpose of this project is to study the link between coping strategies, emotional health, and quality of life in couple relationships. You and your partner will be asked questions about your relationship, coping strategies, emotional health and quality of life. Your participation will help us better understand the experiences of patients with heart problems. Based on the responses of all participants, we hope to improve cardiac rehabilitation services for patients and their partners.

HOW MANY PEOPLE WILL TAKE PART IN THIS STUDY?

It is anticipated that about 200 participants (and their partners) will take part in this study, from the University of Ottawa Heart Institute.

This study should take approximately 1 year.

WHAT WILL HAPPEN DURING THIS STUDY?

You will be asked to complete questionnaires at one time point. The questionnaires will assess your relationship, coping strategies, emotional health and quality of life. They will take approximately 25 minutes to complete. In addition to these, your partner will be asked to complete similar questionnaires. You will be asked to complete the questionnaires at UOHI or at home. If you choose to complete these questionnaires at home, you will be provided with a self-addressed, stamped return envelope so that you can send the completed questionnaires back to us. For all of the questionnaires, you may skip any questions that make you uncomfortable or that you do not wish to answer.

We will also gather information about your physical health (e.g., cardiac diagnosis), basic sociodemographic information (e.g., age) and scores on certain questionnaires (e.g., PHQ-9, GAD-7, and Quality of Life). This information is taken routinely as part of the cardiac rehabilitation program. By agreeing to participate, you provide us permission to collect this information in a confidential manner.

HOW LONG WILL PARTICIPANTS BE IN THE STUDY?

Your participation on this study will last for about 1 hour.

CAN PARTICIPANTS CHOOSE TO LEAVE THE STUDY?

You can choose to end your participation in this research (called withdrawal) at any time without having to provide a reason. If you choose to withdraw from the study, you are encouraged to contact the research team.

You may withdraw your permission to use information that was collected about you for this study at any time by letting the research team know. However, this would also mean that you withdraw from the study.

If you decide to leave the study, you can ask that the information that was collected about you not be used for the study. Let the research team know if you choose this.

CAN PARTICIPATION IN THIS STUDY END EARLY?

Your participation on the study may be stopped early, and without your consent, for reasons such as:

- You are unable to complete all required study procedures
- The study doctor no longer feels this is the best option for you
- The Ottawa Health Science Network Research Ethics Board withdraw permission for this study to continue

If you are removed from this study, the research team will discuss the reasons with you.

WHAT ARE THE RISKS OR HARMS OF PARTICIPATING IN THIS STUDY?

Participation in this study requires a small portion of your time to complete. A possible risk is emotional discomfort in answering questions concerning your relationship, coping strategies, emotional health and quality of life. You do not have to answer those questions that you find too distressing. No additional commitments or risks are associated with the study.

WHAT ARE THE BENEFITS OF PARTICIPATING IN THIS STUDY?

You will not receive any direct benefit from your participation in this study. Your participation may allow the researchers to better understand the link between coping strategies, emotional health and quality of life among heart patients and their partners. This may benefit future patients and their partners.

HOW WILL PARTICIPANT INFORMATION BE KEPT CONFIDENTIAL?

If you decide to participate in this study, the research team will only collect the information they need for this study.

Records identifying you at this centre will be kept confidential and, to the extent permitted by the applicable laws, will not be disclosed or made publicly available, except as described in this consent document.

All information collected during your participation in this study will be identified with a unique study number, and will not contain information that identifies you, such as your name, address, etc.

The link between your unique study number and your name and contact information will be stored securely and separate from your study records, and will not leave this site

Authorized representatives of the following organizations may look at your original (identifiable) medical records at the site where these records are held, to check that the information collected for the study is correct and follows proper laws and guidelines.

- The Ottawa Health Science Network Research Ethics Board who oversees the ethical conduct of this study in Ontario

- Ottawa Heart Institute Research Corporation, to oversee the conduct of research at this location

Information that is collected about you for the study (called study data) may also be sent to the organizations listed above. Your name, address, or other information that may directly identify you will not be used. The records received by these organizations may contain your unique study number, sex and partial date of birth.

If the results of this study are published, your identity will remain confidential. It is expected that the information collected during this study will be used in analyses and will be published/ presented to the scientific community at meetings and in journals.

Your de-identified data from this study may be used for other research purposes. If your study data is shared with other researchers, information that links your study data directly to you will not be shared.

Even though the likelihood that someone may identify you from the study data is very small, it can never be completely eliminated.

WHAT IS THE COST TO PARTICIPANTS?

Participation in this study will not involve any additional costs to you or your private health care insurance.

ARE STUDY PARTICIPANTS PAID TO BE IN THIS STUDY?

You will not be paid for taking part in this study.

WHAT ARE THE RIGHTS OF PARTICIPANTS IN A RESEARCH STUDY?

You will be told, in a timely manner, about new information that may be relevant to your willingness to stay in this study.

You have the right to be informed of the results of this study once the entire study is complete. If you would like to be informed of the results of this study, please contact the research team.

Your rights to privacy are legally protected by federal and provincial laws that require safeguards to ensure that your privacy is respected.

By signing this form, you do not give up any of your legal rights against the researcher or involved institutions for compensation, nor does this form relieve the researcher or their agents of their legal and professional responsibilities.

You will be given a copy of this signed and dated consent form prior to participating in this study.

WHOM DO PARTICIPANTS CONTACT FOR QUESTIONS?

If you have questions about taking part in this study, you can talk to your study doctor, or the doctor who oversees the study at this institution. That person is:

Dr. Heather Tulloch	613696-7000 x. 19705
Principal Investigator Name	Telephone

If you have questions about your rights as a participant or about ethical issues related to this study, you can talk to someone who is not involved in the study at all. Please contact The Ottawa Health Science Network Research Ethics Board, Chairperson at 613-798-5555 extension 16719.

Study Title: Cardiac Couples, Attachment, Relationship Quality, and Effective Coping (CARE-2)

OHSN-REB Protocol # 20180793-01H

SIGNATURES

- All my questions have been answered,
- I understand the information within this informed consent form,
- I have read, or someone has read to me, each page of this participant informed consent form,
- I allow access to my medical records as explained in this consent form,
- I do not give up any of my legal rights by signing this consent form,
- I agree to take part in this study.

Signature of Participant	Printed Name	Date

Investigator or Delegate Statement
I have carefully explained the study to the study participant. To the best of my knowledge, the participant understands the nature, demands, risks and benefits involved in taking part in this study.

Signature of Person Conducting the Consent Discussion	Printed Name and Role	Date

Study Title: Cardiac Couples, Attachment, Relationship Quality, and Effective Coping (CARE-2)

OHSN-REB Protocol # 20180793-01H

Participant Assistance

Complete the following declaration only if the participant is unable to read:

- The informed consent form was accurately explained to, and apparently understood by, the participant and
- Informed consent was freely given by the participant

Signature of Impartial Witness	Printed Name	Date

Complete the following declaration only if the participant has limited proficiency in the language in which the consent form is written and interpretation was provided as follows:

- The informed consent discussion was interpreted by an interpreter, and
- A sight translation of this document was provided by the interpreter as directed by the research staff conducting the consent.

Interpreter Declaration and Signature:
By signing the consent form I attest that I provided a faithful interpretation for any discussion that took place in my presence, and provided a sight translation of this document as directed by the research staff conducting the consent.

Signature of Interpreter	Printed Name	Date

Formulaire de consentement éclairé à l'intention du patient concernant la participation à une étude (risque minime)

Titre de l'étude : Attachement, qualité de la relation et efficacité des stratégies d'adaptation chez les couples cardiaques (CARE-2)

Nº de protocole du CER-RSSO : 20180793-01H

Chercheuse principale : Dre Heather Tulloch (613 696-7000, poste 19705).

INTRODUCTION

Nous sollicitons votre participation à un projet de recherche. Vous êtes invité à participer à la présente étude parce que vous êtes un patient de l'Institut de cardiologie de l'Université d'Ottawa (ICUO) et que vous êtes en relation de couple. Le présent formulaire de consentement contient des renseignements qui vous aideront à prendre une décision éclairée. Veuillez le lire attentivement et poser autant de questions que vous le désirez. Vous devriez avoir obtenu toutes les réponses à vos questions et en être satisfait avant de décider de participer ou non à cette étude.

Prenez votre temps avant de prendre votre décision. Nous vous invitons à en discuter avec vos proches.

La participation à cette étude est volontaire. La décision de ne pas participer à l'étude ou de renoncer à y participer plus tard n'entraînera pas de pénalité et n'aura aucune incidence sur les soins de santé que vous recevez ou pourriez recevoir.

Y A-T-IL RISQUE DE CONFLITS D'INTÉRÊTS?

Il n'y a aucun conflit d'intérêts à déclarer en lien avec cette étude.

POURQUOI CETTE ÉTUDE EST-ELLE RÉALISÉE?

Ce projet vise à étudier les liens entre les stratégies d'adaptation, la santé émotionnelle et la qualité de vie chez les couples. On demandera, à vous et à votre partenaire, de répondre à des questions sur votre relation, vos stratégies d'adaptation, votre santé émotionnelle et votre qualité de vie. En participant à cette étude, vous nous aiderez à mieux comprendre le parcours des patients atteints de maladies cardiaques. Grâce aux réponses des participants, nous pourrons améliorer les services de réadaptation cardiaque offerts à nos patients et à leurs partenaires.

COMBIEN DE PERSONNES PARTICIPERONT À CETTE ÉTUDE?

On estime qu'environ deux cents (200) patients de l'ICUO (et leurs partenaires) prendront part à cette étude.

L'étude devrait durer environ un (1) an.

COMMENT SE DÉROULERA CETTE ÉTUDE?

À un certain moment, on vous demandera de remplir des questionnaires permettant d'évaluer votre relation, vos stratégies d'adaptation, votre santé émotionnelle et votre qualité de vie. Il vous faudra environ vingt-cinq (25) minutes pour les remplir. Votre partenaire devra aussi remplir des questionnaires semblables. On vous demandera de remplir ces questionnaires à l'ICUO ou à la maison. Si vous décidez de les remplir à la maison, on vous fournira une enveloppe-réponse préaffranchie, afin que vous puissiez nous les retourner une fois remplis. Dans tous les questionnaires, vous pourrez ignorer les questions qui vous gênent ou celles auxquelles vous ne souhaitez pas répondre.

Nous recueillerons des renseignements sur votre santé physique (p. ex. diagnostic cardiaque), vos données sociodémographiques (p. ex. votre âge) et vos pointages à certains questionnaires (p. ex. PHQ-9, GAD-7 et questionnaire sur la qualité de vie). Ces renseignements sont collectés systématiquement dans le cadre du programme de réadaptation cardiaque. En acceptant de participer à cette étude, vous nous autorisez à recueillir ces renseignements de façon confidentielle.

QUELLE SERA LA DURÉE DE MA PARTICIPATION À L'ÉTUDE?

Votre participation à l'étude durera environ une (1) heure.

LES PARTICIPANTS PEUVENT-ILS CHOISIR DE SE RETIRER DE L'ÉTUDE?

Vous pourrez choisir de mettre fin à votre participation à cette étude (retrait) à tout moment sans devoir vous justifier. Si vous décidez de vous retirer de l'étude, nous vous invitons à communiquer avec l'équipe de recherche.

Vous pourrez aussi retirer en tout temps votre autorisation concernant l'utilisation des renseignements qui auront été recueillis à votre sujet en communiquant avec l'équipe responsable de l'étude. Cela signifiera toutefois que vous vous retirez de l'étude.

Si vous décidez de vous retirer de l'étude, vous pourrez également demander à ce que les renseignements recueillis à votre sujet ne soient pas utilisés dans le cadre de l'étude. Vous devrez toutefois en informer l'équipe de recherche.

LA PARTICIPATION À CETTE ÉTUDE PEUT-ELLE PRENDRE FIN PLUS TÔT QUE PRÉVU?

On pourrait mettre fin à votre participation à cette étude à tout moment et sans votre consentement pour diverses raisons, dont les suivantes :

- Vous n'êtes pas en mesure de subir toutes les procédures requises.
- Le médecin responsable estime qu'il en va de votre intérêt de vous retirer de l'étude.
- Le Comité d'éthique de la recherche du Réseau de la santé d'Ottawa annule la poursuite de cette étude.

Si l'on met fin à votre participation, l'équipe de l'étude discutera des raisons avec vous.

QUELS SONT LES RISQUES OU LES DANGERS D'UNE PARTICIPATION À CETTE ÉTUDE?

Pour participer à l'étude, vous devrez prendre le temps qu'il faut pour répondre aux questions qui vous sont posées. Vous pourriez ressentir un malaise émotionnel lorsque vous répondrez aux questions portant sur votre relation, vos stratégies d'adaptation, votre santé émotionnelle et votre qualité de vie. Vous pourrez refuser de répondre aux questions qui vous mettent mal à l'aise. Aucun autre engagement n'est requis de votre part et l'étude ne comporte aucun risque.

QUELS SONT LES AVANTAGES DE PARTICIPER À CETTE ÉTUDE?

La participation à l'étude ne vous apportera aucun avantage direct. Elle aidera toutefois l'équipe de recherche à mieux comprendre les liens entre les stratégies d'adaptation, la santé émotionnelle et la qualité de vie chez les patients cardiaques et leurs partenaires, ce qui pourrait profiter à nos futurs patients et à leurs partenaires.

COMMENT LA CONFIDENTIALITÉ DE L'INFORMATION DES PARTICIPANTS SERA-T-ELLE ASSURÉE?

Si vous décidez de prendre part à ce projet de recherche, le personnel de l'étude recueillera uniquement les renseignements dont il a besoin pour le projet.

Les dossiers permettant de vous identifier dans ce centre seront confidentiels et, dans la mesure permise par les lois applicables, ils ne seront pas divulgués ni mis à la disposition du public, sauf aux conditions décrites dans le présent formulaire de consentement.

Les renseignements recueillis dans le cadre de votre participation à l'étude seront regroupés sous un numéro unique et ne contiendront aucun élément qui permettrait de vous identifier (nom, adresse, etc.).

Le lien entre votre identité, vos coordonnées et votre numéro d'étude unique sera conservé en lieu sûr – séparément de vos données de l'étude – et ne quittera pas l'ICUO.

Des représentants autorisés des organismes suivants pourraient consulter vos dossiers médicaux originaux (identifiables) à l'endroit où ces dossiers sont conservés pour vérifier si les informations recueillies sont correctes et conformes aux lois et directives en vigueur.

- Le Conseil d'éthique de la recherche du Réseau des sciences de la santé d'Ottawa, qui supervise l'éthique de la présente recherche en Ontario
- La Société de recherche de l'Institut de cardiologie d'Ottawa, qui supervise la recherche dans ce centre

Les renseignements recueillis à votre sujet dans le cadre de cette étude (les « données de l'étude ») pourraient être envoyés aux organisations énumérées ci-dessus. Votre nom, votre adresse ou toute autre information qui pourrait permettre de vous identifier directement ne seront pas utilisés. Les dossiers envoyés à ces organisations pourraient contenir votre numéro unique, votre sexe et votre date de naissance partielle.

Si les résultats de cette étude sont publiés, votre identité restera protégée. On s'attend à ce que l'information recueillie au cours de cette étude soit utilisée à des fins d'analyse et qu'elle sera publiée ou soumise pour publication dans des revues ou présentée à la communauté scientifique dans des congrès.

Vos données anonymisées pourraient être utilisées à d'autres fins de recherche. Si vos données de l'étude sont transmises à d'autres chercheurs, les informations qui vous relient directement aux données de l'étude ne seront pas communiquées.

Même si la probabilité que quelqu'un puisse vous identifier à partir des données de l'étude est très faible, cette probabilité n'est jamais totalement nulle.

QUEL EST LE COÛT POUR LES PARTICIPANTS?

Votre participation n'entraînera aucuns frais supplémentaires, ni pour vous ni pour votre régime d'assurances privé.

LES PARTICIPANTS SERONT-ILS RÉMUNÉRÉS?

Vous ne serez pas rémunéré pour votre participation à cette étude.

QUELS SONT LES DROITS DES PARTICIPANTS À UNE TELLE ÉTUDE?

Vous serez informé en temps opportun de toute nouvelle information qui pourrait influencer votre décision de continuer à participer à l'étude.

Vous aurez le droit d'être informé des résultats de l'étude lorsqu'elle sera terminée. Veuillez communiquer avec l'équipe de recherche si vous souhaitez recevoir ces renseignements.

Votre droit à la protection de vos renseignements personnels est garanti par des lois provinciales et fédérales, qui nous obligent à prendre des précautions pour vous assurer cette protection.

En signant ce formulaire de consentement, vous ne renoncez en aucun cas au droit que vous garantit la loi d'être indemnisé par la chercheuse ou les établissements en cause. Le formulaire ne dégage en rien la chercheuse ou ses représentants de leurs responsabilités juridiques et professionnelles.

Vous recevrez une copie de ce formulaire de consentement signé et daté avant de participer à cette étude.

QUI LES PARTICIPANTS DOIVENT-ILS CONTACTER S'ILS ONT DES QUESTIONS?

Si vous avez des questions quant à votre participation à cette étude, vous pouvez vous adresser au médecin responsable de l'étude dans cet établissement, c'est-à-dire :

Dre Heather Tulloch	613 696-7000, poste 19705
Nom de la chercheuse principale	Téléphone

Si vous avez des questions à propos de vos droits en tant que participant ou sur les aspects éthiques de l’étude, vous pouvez vous adresser à une personne qui n’a aucun lien avec l’étude. Veuillez communiquer avec le Comité d'éthique de la recherche du Réseau des sciences de la santé d'Ottawa, au 613 798-5555 poste 16719.

Titre de l'étude : Attachement, qualité de la relation et efficacité des stratégies d'adaptation chez les couples cardiaques (CARE-2)

Nº de protocole du CER-RSSO : 20180793-01H

SIGNATURES

- J'ai obtenu réponse à toutes mes questions.
- Je comprends les renseignements contenus dans ce formulaire de consentement éclairé.
- J'ai pris connaissance de chacune des pages de ce formulaire de consentement éclairé.
- J'autorise la consultation de mes dossiers médicaux conformément à la manière expliquée dans ce formulaire.
- Je ne renonce pas à mes droits en signant ce formulaire de consentement.
- Je consens à prendre part à cette étude.

Signature du participant	Nom en lettres moulées	Date

Déclaration du chercheur ou du délégué
J'ai expliqué en détail au participant en quoi consiste l'étude décrite ci-dessus. À ma connaissance, le participant comprend la nature de l'étude ainsi que les exigences, les risques et les avantages associés à sa participation.

Signature de la personne qui obtient le consentement	Nom et poste en lettres moulées	Date

Titre de l'étude : Attachement, qualité de la relation et efficacité des stratégies d'adaptation chez les couples cardiaques (CARE-2)

Nº de protocole du CER-RSSO : 20180793-01H

Assistance fournie au participant

Ne remplissez la section suivante que <u>si le participant est incapable de lire</u> :

- Le formulaire de consentement éclairé a été expliqué fidèlement au participant, lequel semble avoir compris les explications.
- Le participant a librement donné son consentement éclairé.

Signature du témoin impartial	Nom en lettres moulées	Date

Ne remplissez la section suivante que <u>si le participant a des compétences limitées dans la langue dans laquelle le formulaire de consentement est rédigé et que les services d'un interprète lui ont été fournis</u> comme suit :

- Un interprète a traduit le contenu des discussions entourant le consentement.
- L'interprète a effectué une traduction à vue du document, selon les directives du personnel de recherche qui a recueilli le consentement du participant.

Déclaration et signature de l'interprète :
En signant ce formulaire de consentement, j'atteste que j'ai fidèlement interprété le contenu de toutes les discussions qui ont eu lieu en ma présence, et que j'ai effectué une traduction à vue du présent document, selon les directives du personnel de recherche qui a recueilli le consentement du participant.

Signature de l'interprète	Nom en lettres moulées	Date

Minimal Risk Informed Consent Form for Participation in a Research Study- Partner

Study Title: Cardiac Couples' Attachment, Relationship Quality, and Effective Coping (CARE-2)

OHSN-REB Number*:* 20180793-01H

Study Doctor: Dr. Heather Tulloch (613-696-7000, ext 19705).

INTRODUCTION

You are being invited to participate in a research study. You are invited to participate in this study because your partner is a patient at University of Ottawa Heart Institute (UOHI). This consent form provides you with information to help you make an informed choice. Please read this document carefully and ask any questions you may have. All your questions should be answered to your satisfaction before you decide whether to participate in this research study.

Please take your time in making your decision. You may find it helpful to discuss it with your friends and family.

Taking part in this study is voluntary. Deciding not to take part or deciding to leave the study later will not result in any penalty or affect current or future health care.

IS THERE A CONFLICT OF INTEREST?

There are no conflicts of interest to declare related to this study.

WHY IS THIS STUDY BEING DONE?

The purpose of this project is to study the link between coping strategies, emotional health, and quality of life in couple relationships. You and your partner will be asked questions about your relationship, coping strategies, emotional health and quality of life. Your participation will help us better understand the experiences of patients with heart problems. Based on the responses of all participants, we hope to improve cardiac rehabilitation services for patients and their partners.

HOW MANY PEOPLE WILL TAKE PART IN THIS STUDY?

It is anticipated that about 200 participants (and their partners) will take part in this study, from the University of Ottawa Heart Institute.

This study should take approximately 1 year.

WHAT WILL HAPPEN DURING THIS STUDY?

You will be asked to complete questionnaires at one time point. The questionnaires will assess your relationship, coping strategies, emotional health and quality of life. They will take approximately 25 minutes to complete. In addition to these, your partner will be asked to complete similar questionnaires. You will be asked to complete the questionnaires at UOHI or at home. If you choose to complete these questionnaires at home, you will be provided with a self-addressed, stamped return envelope so that you can send the completed questionnaires back to us. For all of the questionnaires, you may skip any questions that make you uncomfortable or that you do not wish to answer.

We will also gather information about your physical health (e.g., cardiac diagnosis), basic sociodemographic information (e.g., age) and scores on certain questionnaires (e.g., PHQ-9, GAD-7, and Quality of Life). By agreeing to participate, you provide us permission to collect this information in a confidential manner.

HOW LONG WILL PARTICIPANTS BE IN THE STUDY?

Your participation on this study will last for about 1 hour.

CAN PARTICIPANTS CHOOSE TO LEAVE THE STUDY?

You can choose to end your participation in this research (called withdrawal) at any time without having to provide a reason. If you choose to withdraw from the study, you are encouraged to contact the research team.

You may withdraw your permission to use information that was collected about you for this study at any time by letting the research team know. However, this would also mean that you withdraw from the study.

If you decide to leave the study, you can ask that the information that was collected about you not be used for the study. Let the research team know if you choose this.

CAN PARTICIPATION IN THIS STUDY END EARLY?

Your participation on the study may be stopped early, and without your consent, for reasons such as:

- You are unable to complete all required study procedures
- The study doctor no longer feels this is the best option for you
- The Ottawa Health Science Network Research Ethics Board withdraw permission for this study to continue

If you are removed from this study, the research team will discuss the reasons with you.

WHAT ARE THE RISKS OR HARMS OF PARTICIPATING IN THIS STUDY?

Participation in this study requires a small portion of your time to complete. A possible risk is emotional discomfort in answering questions concerning your relationship, coping strategies, emotional health and quality of life. You do not have to answer those questions that you find too distressing. No additional commitments or risks are associated with the study.

WHAT ARE THE BENEFITS OF PARTICIPATING IN THIS STUDY?

You will not receive any direct benefit from your participation in this study. Your participation may allow the researchers to better understand the link between coping strategies, emotional health and quality of life among heart patients and their partners. This may benefit future patients and their partners.

HOW WILL PARTICIPANT INFORMATION BE KEPT CONFIDENTIAL?

If you decide to participate in this study, the research team will only collect the information they need for this study.

Records identifying you at this centre will be kept confidential and, to the extent permitted by the applicable laws, will not be disclosed or made publicly available, except as described in this consent document.

All information collected during your participation in this study will be identified with a unique study number, and will not contain information that identifies you, such as your name, address, etc.

The link between your unique study number and your name and contact information will be stored securely and separate from your study records, and will not leave this site

Authorized representatives of the following organizations may look at your original (identifiable) records at the site where these records are held, to check that the information collected for the study is correct and follows proper laws and guidelines.

- The Ottawa Health Science Network Research Ethics Board who oversees the ethical conduct of this study in Ontario
- Ottawa Heart Institute Research Corporation, to oversee the conduct of research at this location

Information that is collected about you for the study (called study data) may also be sent to the organizations listed above. Your name, address, or other information that may directly identify you will not be used. The records received by these organizations may contain your unique study number, sex and partial date of birth.

If the results of this study are published, your identity will remain confidential. It is expected that the information collected during this study will be used in analyses and will be published/ presented to the scientific community at meetings and in journals.

Your de-identified data from this study may be used for other research purposes. If your study data is shared with other researchers, information that links your study data directly to you will not be shared.

Even though the likelihood that someone may identify you from the study data is very small, it can never be completely eliminated.

WHAT IS THE COST TO PARTICIPANTS?

Participation in this study will not involve any additional costs to you or your private health care insurance.

ARE STUDY PARTICIPANTS PAID TO BE IN THIS STUDY?

You will not be paid for taking part in this study.

WHAT ARE THE RIGHTS OF PARTICIPANTS IN A RESEARCH STUDY?

You will be told, in a timely manner, about new information that may be relevant to your willingness to stay in this study.

You have the right to be informed of the results of this study once the entire study is complete. If you would like to be informed of the results of this study, please contact the research team.

Your rights to privacy are legally protected by federal and provincial laws that require safeguards to ensure that your privacy is respected.

By signing this form, you do not give up any of your legal rights against the researcher or involved institutions for compensation, nor does this form relieve the researcher or their agents of their legal and professional responsibilities.

You will be given a copy of this signed and dated consent form prior to participating in this study.

WHOM DO PARTICIPANTS CONTACT FOR QUESTIONS?

If you have questions about taking part in this study, you can talk to your study doctor, or the doctor who oversees the study at this institution. That person is:

Dr. Heather Tulloch	613-696-7000 x. 19705
Principal Investigator Name	Telephone

If you have questions about your rights as a participant or about ethical issues related to this study, you can talk to someone who is not involved in the study at all. Please contact The Ottawa Health Science Network Research Ethics Board, Chairperson at 613-798-5555 extension 16719.

Study Title: Cardiac Couples, Attachment, Relationship Quality, and Effective Coping (CARE-2)
OHSN-REB: 20180973-01H

SIGNATURES

- All my questions have been answered,
- I understand the information within this informed consent form,
- I have read, or someone has read to me, each page of this participant informed consent form,
- I allow access to my medical records as explained in this consent form,
- I do not give up any of my legal rights by signing this consent form,
- I agree to take part in this study.

Signature of Participant	Printed Name	Date

Investigator or Delegate Statement
I have carefully explained the study to the study participant. To the best of my knowledge, the participant understands the nature, demands, risks and benefits involved in taking part in this study.

Signature of Person Conducting the Consent Discussion	Printed Name and Role	Date

Study Title: Cardiac Couples, Attachment, Relationship Quality, and Effective Coping (CARE-2)

OHSN-REB Protocol : 20180973-01H

Participant Assistance

Complete the following declaration only if the participant is <u>unable to read</u>:

- The informed consent form was accurately explained to, and apparently understood by, the participant and
- Informed consent was freely given by the participant

_____	_____	_____
Signature of Impartial Witness	Printed Name	Date

Complete the following declaration only if the participant has <u>limited proficiency in the language in which the consent form is written and interpretation was provided</u> as follows:

- The informed consent discussion was interpreted by an interpreter, and
- A sight translation of this document was provided by the interpreter as directed by the research staff conducting the consent.

Interpreter Declaration and Signature:
By signing the consent form I attest that I provided a faithful interpretation for any discussion that took place in my presence, and provided a sight translation of this document as directed by the research staff conducting the consent.

_____	_____	_____
Signature of Interpreter	Printed Name	Date

Formulaire de consentement éclairé à l'intention du partenaire concernant la participation à une étude (risque minime)

Titre de l'étude : Attachement, qualité de la relation et efficacité des stratégies d'adaptation chez les couples cardiaques (CARE-2)

No de protocole du CER-RSSO : 20180793-01H

Chercheuse principale : Dre Heather Tulloch (613 696-7000, poste 19705)

INTRODUCTION

Nous sollicitons votre participation à un projet de recherche. Vous êtes invité à participer à la présente étude parce que votre partenaire est un patient de l'Institut de cardiologie de l'Université d'Ottawa (ICUO). Le présent formulaire de consentement contient des renseignements qui vous aideront à prendre une décision éclairée. Veuillez le lire attentivement et poser autant de questions que vous le désirez. Vous devriez avoir obtenu toutes les réponses à vos questions et en être satisfait avant de décider de participer ou non à cette étude.

Prenez votre temps avant de prendre votre décision. Nous vous invitons à en discuter avec vos proches.

La participation à cette étude est volontaire. La décision de ne pas participer à l'étude ou de renoncer à y participer plus tard n'entraînera pas de pénalité et n'aura aucune incidence sur les soins de santé que vous recevez ou pourriez recevoir.

Y A-T-IL RISQUE DE CONFLITS D'INTÉRÊTS?

Il n'y a aucun conflit d'intérêts à déclarer en lien avec cette étude.

POURQUOI CETTE ÉTUDE EST-ELLE RÉALISÉE?

Ce projet vise à étudier les liens entre les stratégies d'adaptation, la santé émotionnelle et la qualité de vie chez les couples. On demandera, à vous et à votre partenaire, de répondre à des questions sur votre relation, vos stratégies d'adaptation, votre santé émotionnelle et votre qualité de vie. En participant à cette étude, vous nous aiderez à mieux comprendre le parcours des patients atteints de maladies cardiaques. Grâce aux réponses des participants, nous pourrons améliorer les services de réadaptation cardiaque offerts à nos patients et à leurs partenaires.

COMBIEN DE PERSONNES PARTICIPERONT À CETTE ÉTUDE?

On estime qu'environ deux cents (200) patients de l'ICUO (et leurs partenaires) prendront part à cette étude.

L’étude devrait durer environ un (1) an.

COMMENT SE DÉROULERA CETTE ÉTUDE?

À un certain moment, on vous demandera de remplir des questionnaires permettant d’évaluer votre relation, vos stratégies d’adaptation, votre santé émotionnelle et votre qualité de vie. Il vous faudra environ vingt-cinq (25) minutes pour les remplir. Votre partenaire devra aussi remplir des questionnaires semblables. On vous demandera de remplir ces questionnaires à l’ICUO ou à la maison. Si vous décidez de les remplir à la maison, on vous fournira une enveloppe-réponse préaffranchie, afin que vous puissiez nous les retourner une fois remplis. Dans tous les questionnaires, vous pourrez ignorer les questions qui vous gênent ou celles auxquelles vous ne souhaitez pas répondre.

Nous recueillerons des renseignements sur votre santé physique (p. ex. diagnostic cardiaque), vos données sociodémographiques (p. ex. votre âge) et vos pointages à certains questionnaires (p. ex. PHQ-9, GAD-7 et questionnaire sur la qualité de vie). En acceptant de participer à cette étude, vous nous autorisez à recueillir ces renseignements de façon confidentielle.

QUELLE SERA LA DURÉE DE MA PARTICIPATION À L’ÉTUDE?

Votre participation à l'étude durera environ une (1) heure.

LES PARTICIPANTS PEUVENT-ILS CHOISIR DE SE RETIRER DE L'ÉTUDE?

Vous pourrez choisir de mettre fin à votre participation à cette étude (retrait) à tout moment sans devoir vous justifier. Si vous décidez de vous retirer de l’étude, nous vous invitons à communiquer avec l'équipe de recherche.

Vous pourrez aussi retirer en tout temps votre autorisation concernant l’utilisation des renseignements qui auront été recueillis à votre sujet en communiquant avec l'équipe responsable de l’étude. Cela signifiera toutefois que vous vous retirez de l’étude.

Si vous décidez de vous retirer de l’étude, vous pourrez également demander à ce que les renseignements recueillis à votre sujet ne soient pas utilisés dans le cadre de l’étude. Vous devrez toutefois en informer l'équipe de recherche.

LA PARTICIPATION À CETTE ÉTUDE PEUT-ELLE PRENDRE FIN PLUS TÔT QUE PRÉVU?

On pourrait mettre fin à votre participation à cette étude à tout moment et sans votre consentement pour diverses raisons, dont les suivantes :

- Vous n’êtes pas en mesure de subir toutes les procédures requises.
- Le médecin responsable estime qu’il en va de votre intérêt de vous retirer de l’étude.
- Le Comité d'éthique de la recherche du Réseau de la santé d'Ottawa annule la poursuite de cette étude.

Si l'on met fin à votre participation, l'équipe de l'étude discutera des raisons avec vous.

QUELS SONT LES RISQUES OU LES DANGERS D'UNE PARTICIPATION À CETTE ÉTUDE?

Pour participer à l'étude, vous devrez prendre le temps qu'il faut pour répondre aux questions qui vous sont posées. Vous pourriez ressentir un malaise émotionnel lorsque vous répondrez aux questions portant sur votre relation, vos stratégies d'adaptation, votre santé émotionnelle et votre qualité de vie. Vous pourrez refuser de répondre aux questions qui vous mettent mal à l'aise. Aucun autre engagement n'est requis de votre part et l'étude ne comporte aucun risque.

QUELS SONT LES AVANTAGES DE PARTICIPER À CETTE ÉTUDE?

La participation à l'étude ne vous apportera aucun avantage direct. Elle aidera toutefois l'équipe de recherche à mieux comprendre les liens entre les stratégies d'adaptation, la santé émotionnelle et la qualité de vie chez les patients cardiaques et leurs partenaires, ce qui pourrait profiter à nos futurs patients et à leurs partenaires.

COMMENT LA CONFIDENTIALITÉ DE L'INFORMATION DES PARTICIPANTS SERA-T-ELLE ASSURÉE?

Si vous décidez de prendre part à ce projet de recherche, le personnel de l'étude recueillera uniquement les renseignements dont il a besoin pour le projet.

Les dossiers permettant de vous identifier dans ce centre demeureront confidentiels et, dans la mesure permise par les lois applicables, ils ne seront pas divulgués ni mis à la disposition du public, sauf aux conditions décrites dans le présent formulaire de consentement.

Les renseignements recueillis dans le cadre de votre participation à l'étude seront regroupés sous un numéro unique et ne contiendront aucun élément qui permettrait de vous identifier (nom, adresse, etc.).

Le lien entre votre identité, vos coordonnées et votre numéro d'étude unique sera conservé en lieu sûr – séparément de vos données de l'étude – et ne quittera pas l'ICUO.

Des représentants autorisés des organismes suivants pourraient consulter vos dossiers originaux (identifiables) à l'endroit où ces dossiers sont conservés pour vérifier si les informations recueillies sont correctes et conformes aux lois et directives en vigueur.

- Le Conseil d'éthique de la recherche du Réseau des sciences de la santé d'Ottawa, qui supervise l'éthique de la présente recherche en Ontario
- La Société de recherche de l'Institut de cardiologie d'Ottawa, qui supervise la recherche dans ce centre

Les renseignements recueillis à votre sujet dans le cadre de cette étude (les « données de l'étude ») pourraient être envoyés aux organisations ci-dessus. Votre nom, votre adresse ou toute autre information qui pourrait permettre de vous identifier directement ne seront pas utilisés. Les dossiers envoyés à ces organisations pourraient contenir votre numéro unique, votre sexe et votre date de naissance partielle.

Si les résultats de cette étude sont publiés, votre identité restera protégée. On s'attend à ce que l'information recueillie au cours de cette étude soit utilisée à des fins d'analyse et qu'elle sera publiée ou soumise pour publication dans des revues ou présentée à la communauté scientifique dans des congrès.

Vos données anonymisées pourraient être utilisées à d'autres fins de recherche. Si vos données de l'étude sont transmises à d'autres chercheurs, les informations qui vous relient directement aux données de l'étude ne seront pas communiquées.

Même si la probabilité que quelqu'un puisse vous identifier à partir des données de l'étude est très faible, cette probabilité n'est jamais totalement nulle.

QUEL EST LE COÛT POUR LES PARTICIPANTS?

Votre participation n'entraînera aucuns frais supplémentaires, ni pour vous ni pour votre régime d'assurances privé.

LES PARTICIPANTS SERONT-ILS RÉMUNÉRÉS?

Vous ne serez pas rémunéré pour votre participation à cette étude.

QUELS SONT LES DROITS DES PARTICIPANTS À UNE TELLE ÉTUDE?

Vous serez informé en temps opportun de toute nouvelle information qui pourrait influencer votre décision de continuer de participer à l'étude.

Vous aurez le droit d'être informé des résultats de l'étude lorsqu'elle sera terminée. Veuillez communiquer avec l'équipe de recherche si vous souhaitez recevoir ces renseignements.

Votre droit à la protection de vos renseignements personnels est garanti par des lois provinciales et fédérales, qui nous obligent à prendre des précautions pour vous assurer cette protection.

En signant ce formulaire de consentement, vous ne renoncez en aucun cas au droit que vous garantit la loi d'être indemnisé par la chercheuse ou les établissements en cause. Le formulaire ne dégage en rien la chercheuse ou ses représentants de leurs responsabilités juridiques et professionnelles.

Vous recevrez une copie de ce formulaire de consentement signé et daté avant de participer à cette étude.

QUI LES PARTICIPANTS DOIVENT-ILS CONTACTER S'ILS ONT DES QUESTIONS?

Si vous avez des questions quant à votre participation à cette étude, vous pouvez vous adresser au médecin responsable de l'étude dans cet établissement, c'est-à-dire :

Dre Heather Tulloch	613 696-7000, poste 19705
_____	_____
Nom de la chercheuse principale	Téléphone

Si vous avez des questions à propos de vos droits en tant que participant ou sur les aspects éthiques de l'étude, vous pouvez vous adresser à une personne qui n'a aucun lien avec l'étude. Veuillez communiquer avec le Comité d'éthique de la recherche du Réseau des sciences de la santé d'Ottawa, au 613 798-5555 poste 16719.

Titre de l'étude : Attachement, qualité de la relation et efficacité des stratégies d'adaptation chez les couples cardiaques (CARE-2)

N^{o} de protocole du CER-RSSO : 20180973-01H

SIGNATURES

- J'ai obtenu réponse à toutes mes questions.
- Je comprends les renseignements contenus dans ce formulaire de consentement éclairé.
- J'ai pris connaissance de chacune des pages de ce formulaire de consentement éclairé.
- J'autorise la consultation de mes dossiers médicaux conformément à la manière expliquée dans ce formulaire.
- Je ne renonce pas à mes droits en signant ce formulaire de consentement.
- Je consens à prendre part à cette étude.

Signature du participant	Nom en lettres moulées	Date

Déclaration du chercheur ou du délégué
J'ai expliqué en détail au participant en quoi consiste l'étude décrite ci-dessus. À ma connaissance, le participant comprend la nature de l'étude ainsi que les exigences, les risques et les avantages associés à sa participation.

Signature de la personne qui obtient le consentement	Nom et poste en lettres moulées	Date

Titre de l'étude : Attachement, qualité de la relation et efficacité des stratégies d'adaptation chez les couples cardiaques (CARE-2)

Nº de protocole du CER-RSSO : 20180973-01H

Assistance fournie au participant

Ne remplissez la section suivante que <u>si le participant est incapable de lire</u> :

- Le formulaire de consentement éclairé a été expliqué fidèlement au participant, lequel semble avoir compris les explications.
- Le participant a librement donné son consentement éclairé.

Signature du témoin impartial	Nom en lettres moulées	Date

Ne remplissez la section suivante que <u>si le participant a des compétences limitées dans la langue dans laquelle le formulaire de consentement est rédigé et que les services d'un interprète lui ont été fournis</u> comme suit :

- Un interprète a traduit le contenu des discussions entourant le consentement.
- L'interprète a effectué une traduction à vue du document, selon les directives du personnel de recherche qui a recueilli le consentement du participant.

Déclaration et signature de l'interprète :
En signant ce formulaire de consentement, j'atteste que j'ai fidèlement interprété le contenu de toutes les discussions qui ont eu lieu en ma présence, et que j'ai effectué une traduction à vue du présent document, selon les directives du personnel de recherche qui a recueilli le consentement du participant.

Signature de l'interprète	Nom en lettres moulées	Date

Appendix K: English and French Pre-Screener Questionnaire for Chapter III

CARE-2 PRE-SCREENER

Date: _____/_____/_____ (DD/MM/YYYY)

Screening ID: _____ DOB: _____(mm/yy)

INCLUSION CRITERIA

❑ Yes	❑ No	1. Have you been involved in a romantic relationship for at least 1 year?
❑ Yes	❑ No	2. Have you been living in the same household with your romantic partner for at least 6 months?
❑ Yes	❑ No	**3.** Have you experienced directly or indirectly (i.e. spouse) a cardiovascular event in the last 6 months?
❑ Yes	❑ No	**4.** Are you able to read and/or speak in English or French?
❑ Yes	❑ No	**5.** Are you 18 years of age or older?

***If NO to any question (1-7), participant is ineligible.**

EXCLUSION CRITERIA

❑ Yes	❑ No	**6.** Have you had a substance-related disorder in the last 6 months (e.g., alcohol, recreational drugs)?
❑ Yes	❑ No	**7.** Have you experienced delusions or hallucinations or active suicidal ideations in the last 6 months? (If yes, ask question #8)
❑ Yes	❑ No	**8.** Is it currently being managed either by psychological or pharmaceutical treatment? (If unmanaged, check NO)

***If YES to questions 6-7 and NO to question 8, participant is ineligible.**

NOTES:

_____

_____

Is the patient eligible for the study?

❑ **Yes** _____(signature of PI)

Study ID: _____

❑ **No** _____ (signature of staff who completed screening form)

_____

_____

CARE-2 – PRÉ-SÉLECTION

Date: _____/_____/_____ **(JJ/MM/AAAA)**

Code d'identification: _____ DDN: _____(mm/aa)

CRITÈRE D'INCLUSION

❑ **Oui**	❑ **Non**	9. Êtes-vous dans une relation amoureuse depuis au moins 1 an?
❑ **Oui**	❑ **Non**	10. Vivez-vous dans le même foyer que votre partenaire amoureux/amoureuse depuis au moins 6 mois?
❑ **Oui**	❑ **Non**	**11. Avez-vous vécu directement ou indirectement (ex: conjoint/conjointe) un événement cardiovasculaire dans les derniers 6 mois?**
❑ **Oui**	❑ **Non**	**12. Êtes-vous capable de lire et/ou parler en Anglais et/ou en Français?**
❑ **Oui**	❑ **Non**	**13. Êtes-vous âgé de 18 ans ou plus?**

***Si NON à n'importe quelle question (1-7), le participant n'est pas admissible.**

CRITÈRE D'EXCLUSION

❑ **Oui**	❑ **Non**	**14. Avez-vous eu un trouble de substance dans les derniers 6 mois (ex: alcool, drogues illicites)?**
❑ **Oui**	❑ **Non**	**15. Avez-vous vécu des délusions, des hallucinations, ou idéations suicidaires actives dans les derniers 6 mois?? (Si oui, demandez la question #10)**
❑ **Oui**	❑ **Non**	**16. Est-ce présentement gérer par un traitement psychologique ou pharmacologique? (Si non, cochez NON)**

***Si OUI aux questions 6-7 et NON à la question 8, le participant n'est pas admissible.**

NOTES:

_____

_____

Est-ce que le participant est admissible à l'étude?

❑ **Oui** _____(signature de l'IP)

Code d'identification de l'étude: _____

❑ **Non** _____ (signature du personnel ayant complété le formulaire de présélection)

_____

_____

CARE-2 – Participant Recruitment Script (PATIENT)

"Hello, my name is _____ and I am _____ (affiliation), I work with Dr. Tulloch. I am contacting you because you have shown an interest in participating in research studies at the University of Ottawa Heart Institute (UOHI). We have a project that is interested in patients who have some type of heart condition and who are also in a romantic relationship. Do you have a couple of minutes for me to tell you more about it?

□Yes □No

(Circle the participant's answer.)

If No: "Thank you for your time. Have a great day."

If Yes: "Great! The purpose of this project is to study the link between coping strategies, emotional health, and quality of life in couple relationships. You and your partner will be asked questions about your relationship, coping strategies, emotional health and quality of life. Your participation will help us better understand the experiences of patients with heart problems. Based on the responses of all participants, we hope to improve cardiac rehabilitation services for patients and their partners. All that is asked of you and your partner is to fill out a one-time set of questionnaires that takes approximately 30-45 minutes. Is this something you would be interested in?

□Yes □No

(Circle the participant's answer.)

If No: "Thank you for your time. Have a great day."

If Yes: "Great! I will now ask you a set of questions to determine your eligibility

---

GO TO PRE-SCREENER FORM

Section A (non-eligible): "I regret to inform you that you are not eligible for this study. Thank you for your time. Have a great day."

Section B (eligible): "I am pleased to inform that you are eligible for this study. Are you still interested in participating in this study?"

□Yes □No

(Circle the participant's answer.)

If No: "Thank you for your time. Have a great day."

If Yes: "Thank you for your continued interest in this study. I will now proceed to schedule a time for us to meet to complete the consent form and give you the questionnaire package."

CARE-2 – Script de recrutement des participants (PATIENT)

« Bonjour, je m'appelle _____ et je suis _____ (affiliation), je travaille avec Dre Tulloch. Je vous contacte parce que vous avez manifesté de l'intérêt à participer à des études de recherche à l'Institut de cardiologie de l'Université d'Ottawa et a indiqué que vous pourriez également être intéressé. Veuillez noter que votre participation à cette conversation (conversation téléphonique OU rencontre en personne) est entièrement volontaire. Vous êtes également libre de refuser de participer ou d'interrompre votre participation à tout moment. Acceptez-vous de prendre part à cette conversation qui prendra environ 10 minutes? »

☐Oui ☐Non

(Encerclez la réponse du participant.)

Si non: « Merci pour votre temps. Passez une belle journée. »

Si oui: « Merci d'avoir accepté de participer à cette conversation. Avant d'être inscrit à cette étude, je vous informerai rapidement du but de l'étude. Si vous êtes intéressé à poursuivre l'étude, je passerai ensuite à une série de questions pour déterminer votre admissibilité. Si vous êtes admissible à cette étude, les prochaines étapes seront expliquées plus en détails. » Le but de ce projet est d'étudier le lien entre les stratégies d'adaptation, la santé émotionnelle, et la qualité de vie au sein des couples. Vous et votre partenaire serez demandé des questions sur votre relation amoureuse, vos stratégies d'adaptation, votre santé émotionnelle et votre qualité de vie. Votre participation nous aidera à mieux comprendre les expériences des patients souffrant de problèmes cardiaques. Sur la base des réponses de tous les participants, nous espérons améliorer les services de programmes cardiaques pour les patients et leurs partenaires. Êtes-vous intéressé à poursuivre cette étude?

☐Oui ☐Non

(Encerclez la réponse du participant.)

Si non: « Merci pour votre temps. Passez une belle journée. »

Si oui: « Merci de l'intérêt que vous portez à cette étude. Je vais maintenant vous poser une série de questions pour déterminer votre admissibilité. »

ALLEZ AU FORMULAIRE DE PRÉSÉLECTION

Section A (non-admissible): « Je regrette de vous informer que vous n'êtes pas admissible pour cette étude. Merci pour votre temps. Passez une belle journée. »

Section B (admissible): « Je suis heureux de vous informer que vous êtes admissible pour cette étude. Êtes-vous toujours intéressé à participer à cette étude? »

☐Oui ☐Non

(Encerclez la réponse du participant.)

Si non: « Merci pour votre temps. Passez une belle journée. »

Si oui: « Merci pour votre intérêt continu pour cette étude. Je vais maintenant planifier une heure de rencontre pour remplir le formulaire de consentement et la trousse de questionnaire. »

CARE-2 – Participant Recruitment Script (PARTNER)

"Hello, my name is _____ and I am _____ (affiliation), I work with Dr. Tulloch. I am contacting you because your partner has shown an interest in participating in research studies at the University of Ottawa Heart Institute (UOHI) and indicated that you might be interested as well. Please note, that your participation in this (phone conversation OR in person meeting) is entirely voluntary. You are also free to refuse to take part or to stop your participation at any time. Do you accept to take part in this conversation which will take approximately 10 minutes?"

□Yes □No

(Circle the participant's answer.)

If No: "Thank you for your time. Have a great day."

If Yes: "Thank you for accepting to take part in this conversation. Before being enrolled in this study, I will quickly inform you of the purpose of the study. If you are interested in pursuing the study, I will then proceed with a set of questions to determine your eligibility. If you are eligible for this study, the next steps will be further explained. The purpose of this project is to study the link between coping strategies, emotional health, and quality of life in couple relationships. You and your partner will be asked questions about your relationship, coping strategies, emotional health and quality of life. Your participation will help us better understand the experiences of patients with heart problems. Based on the responses of all participants, we hope to improve cardiac rehabilitation services for patients and their partners. Are you interested in pursuing in this study?"

□Yes □No

(Circle the participant's answer.)

If No: "Thank you for your time. Have a great day."

If Yes: "Thank you for your interest in pursuing this study. I will now ask you a set of questions to determine your eligibility.

GO TO PRE-SCREENER FORM

Section A (non-eligible): "I regret to inform you that you are not eligible for this study. Thank you for your time. Have a great day."

Section B (eligible): "I am pleased to inform that you are eligible for this study. Are you still interested in participating in this study?"

□Yes □No

(Circle the participant's answer.)

If No: "Thank you for your time. Have a great day."

If Yes: "Thank you for your continued interest in this study. I will now proceed to schedule a time for us to meet to complete the consent form and questionnaire package."

CARE-2 – Script de recrutement des participants (PARTENAIRE)

« Bonjour, je m'appelle _____ et je suis _____ (affiliation), je travaille avec Dre Tulloch. Je vous contacte parce que votre partenaire a manifesté de l'intérêt à participer à des études de recherche à l'Institut de cardiologie de l'Université d'Ottawa et a indiqué que vous pourriez également être intéressé. Veuillez noter que votre participation à cette conversation (conversation téléphonique OU rencontre en personne) est entièrement volontaire. Vous êtes également libre de refuser de participer ou d'interrompre votre participation à tout moment. Acceptez-vous de prendre part à cette conversation qui prendra environ 10 minutes? »

□Oui □Non

(Encerclez la réponse du participant.)

Si non: « Merci pour votre temps. Passez une belle journée. »

Si oui: « Merci d'avoir accepté de participer à cette conversation. Avant d'être inscrit à cette étude, je vous informerai rapidement du but de l'étude. Si vous êtes intéressé à poursuivre l'étude, je passerai ensuite à une série de questions pour déterminer votre admissibilité. Si vous êtes admissible à cette étude, les prochaines étapes seront expliquées plus en détails. » Le but de ce projet est d'étudier le lien entre les stratégies d'adaptation, la santé émotionnelle, et la qualité de vie au sein des couples. Vous et votre partenaire serez demandé des questions sur votre relation amoureuse, vos stratégies d'adaptation, votre santé émotionnelle et votre qualité de vie. Votre participation nous aidera à mieux comprendre les expériences des patients souffrant de problèmes cardiaques. Sur la base des réponses de tous les participants, nous espérons améliorer les services de programmes cardiaques pour les patients et leurs partenaires. Êtes-vous intéressé à poursuivre cette étude?

□Oui □Non

(Encerclez la réponse du participant.)

Si non: « Merci pour votre temps. Passez une belle journée. »

Si oui: « Merci de l'intérêt que vous portez à cette étude. Je vais maintenant vous poser une série de questions pour déterminer votre admissibilité. »

ALLEZ AU FORMULAIRE DE PRÉSÉLECTION

Section A (non-admissible): « Je regrette de vous informer que vous n'êtes pas admissible pour cette étude. Merci pour votre temps. Passez une belle journée. »

Section B (admissible): « Je suis heureux de vous informer que vous êtes admissible pour cette étude. Êtes-vous toujours intéressé à participer à cette étude? »

□Oui □Non

(Encerclez la réponse du participant.)

Si non: « Merci pour votre temps. Passez une belle journée. »

Si oui: « Merci pour votre intérêt continu pour cette étude. Je vais maintenant planifier une heure de rencontre pour remplir le formulaire de consentement et la trousse de questionnaire. »

Appendix L: English and French Dyadic Coping Inventory (DCI) for Chapter III

This scale is designed to measure how you and your partner cope with stress. Please respond spontaneously and as honestly as you can. Please respond to any item by circling the appropriate number, which is fitting to your personal situation. There are no wrong answers.

Very rarely	Rarely	Sometimes	Often	Very often
1	2	3	4	5

This section is about how you communicate your stress to your partner.						
DC1.	I let my partner know that I appreciate his/her practical support, advice, or help.	1	2	3	4	5
DC2.	I ask my partner to do things for me when I have too much to do.	1	2	3	4	5
DC3.	I show my partner through my behavior that I am not doing well or when I have problems.	1	2	3	4	5
DC4.	I tell my partner openly how I feel and that I would appreciate his/her support.	1	2	3	4	5
This section is about what your partner does when you are feeling stressed.						
DC5.	My partner shows empathy and understanding to me.	1	2	3	4	5
DC6.	My partner expresses that he/she is on my side.	1	2	3	4	5
DC7.	My partner blames me for not coping well enough with stress.	1	2	3	4	5
DC8.	My partner helps me to see stressful situations in a different light.	1	2	3	4	5
DC9.	My partner listens to me and gives me the opportunity to communicate what really bothers me.	1	2	3	4	5
DC10.	My partner does not take my stress seriously.	1	2	3	4	5
DC11.	My partner provides support, but does so unwillingly and is unmotivated.	1	2	3	4	5
DC12.	My partner takes on things that I normally do in order to help me out.	1	2	3	4	5
DC13.	My partner helps me analyze the situation so that I can better face the problem.	1	2	3	4	5
DC14.	When I am too busy, my partner helps me out.	1	2	3	4	5
DC15.	When I'm stressed, my partner tends to withdraw.	1	2	3	4	5
This section is about how your partner communicates when he/she is feeling stressed.						
DC16.	My partner lets me know that he/she appreciates my practical support, advice, or help.	1	2	3	4	5
DC17.	My partner asks me to do things for him/her when he/she has too much to do.	1	2	3	4	5

DC18.	My partner shows me through his/her behaviour that he/she is not doing well or when he/she has problems.	1	2	3	4	5
DC19.	My partner tells me openly how he/she feels and that he/she would appreciate my support.	1	2	3	4	5

This section is about what you do when your partner makes known his/her stress.						
DC20.	I show empathy and understanding to my partner.	1	2	3	4	5
DC21.	I express to my partner that I am on his/her side.	1	2	3	4	5
DC22.	I blame my partner for not coping well with stress.	1	2	3	4	5
DC23.	I tell my partner that his/her stress is not that bad and help him/her to see the situation in a different light.	1	2	3	4	5
DC24.	I listen to my partner and give him/her space and time to communicate what really bothers him/her.	1	2	3	4	5
DC25.	I do not take my partner's stress seriously.	1	2	3	4	5
DC26.	When my partner is stressed, I tend to withdraw.	1	2	3	4	5
DC27.	I provide support, but do so unwillingly and am unmotivated because I think that he/she should cope with his/her problems on his/her own.	1	2	3	4	5
DC28.	I take on things that my partner would normally do in order to help him/her out.	1	2	3	4	5
DC29.	I try to analyze the situation together with my partner in an objective manner and help him/her to understand and change the problem.	1	2	3	4	5
DC30.	When my partner feels he/she has too much to do, I help him/her out.	1	2	3	4	5

This section is about what you and your partner do when you are both feeling stressed.						
DC31.	We try to cope with the problem together and search for ascertained solutions.	1	2	3	4	5
DC32.	We engage in a serious discussion about the problem and think through what has to be done.	1	2	3	4	5
DC33.	We help one another to put the problem in perspective and see it in a new light.	1	2	3	4	5
DC34.	We help each other relax with such things like massage, taking a bath together, or listening to music together.	1	2	3	4	5
DC35.	We are affectionate to each other, make love and try that way to cope with stress.	1	2	3	4	5

This section is about how you evaluate your coping as a couple.

DC36.	I am satisfied with the support I receive from my partner and the way we deal with stress together.	1	2	3	4	5
DC37.	I am satisfied with the support I receive from my partner and I find as a couple, the way we deal with stress together is effective.	1	2	3	4	5

Used with the permission of G. Bodenmann (2008).

STRATÉGIE D'ADAPTATION DYADIQUE (DC_F)

Dans ce questionnaire, il est question de savoir comment vous et votre partenaire gérez le stress. Répondez aux questions le plus spontanément possible et sans réfléchir trop longtemps, et cochez la réponse qui vous convient le mieux.

Très rarement	Rarement	Parfois	Souvent	Très souvent
1	2	3	4	5

Que faites-vous lorsque vous vous sentez stressé(e)?						
DC1_F.	Je dis à mon/ma partenaire que je serais content(e) d'obtenir de sa part du soutien pratique ou des conseils concrets.	1	2	3	4	5
DC2_F.	Quand je me sens surchargé(e), je demande à mon/ma partenaire de prendre en charge certaines de mes tâches.	1	2	3	4	5
DC3_F.	Je montre à mon/ma partenaire, par mon comportement, que je suis dépassé(e) et que je ne me sens pas bien.	1	2	3	4	5
DC4_F.	J'exprime clairement à mon/ma partenaire comment je me sens et que j'ai besoin de son soutien émotionnel.	1	2	3	4	5
Que fais votre partenaire lorsque vous vous sentez stressé(e)?						
DC5_F.	Il/elle me donne le sentiment qu'elle me comprend et qu'il/elle s'intéresse à mon stress.	1	2	3	4	5
DC6_F.	Il/elle est solidaire envers moi, me dit qu'il/elle connaît aussi ce sentiment et qu'elle est à mes côtés.	1	2	3	4	5
DC7_F.	Il/elle me reproche de ne pas pouvoir assez bien réagir face au stress.	1	2	3	4	5
DC8_F.	Il/elle m'aide à voir la situation sous un autre angle et à relativiser le problème.	1	2	3	4	5
DC9_F.	Il/elle m'écoute, me donne l'occasion de m'exprimer, me console et m'encourage.	1	2	3	4	5
DC10_F.	Il/elle ne prend pas mon stress au sérieux.	1	2	3	4	5
DC11_F.	Il/elle m'aide, mais le fait à contrecœur et sans motivation.	1	2	3	4	5
DC12_F.	Afin de me décharger, il/elle assume des tâches dont je m'occupe habituellement.	1	2	3	4	5
DC13_F.	Il/elle m'aide à analyser la situation pour pouvoir mieux la prendre en main.	1	2	3	4	5
DC14_F.	Il/elle me donne un coup de main, quand j'ai trop à faire, afin de me décharger.	1	2	3	4	5
DC15_F.	Lorsque je suis stressé(e), mon/ma partenaire m'évite.	1	2	3	4	5
Que fait votre partenaire lorsque vous vous sentez stressé(e)?						
DC16_F.	Il/elle me dit qu'il/elle serait content(e) d'obtenir de ma part du soutien pratique ou des conseils concrets.	1	2	3	4	5

DC17_F.	Il/elle me demande de prendre en charge certaines de ses tâches.	1	2	3	4	5
DC18_F.	Il/elle me montre, par son comportement, qu'il/elle est dépassé(e) et qu'il/elle ne se sent pas bien.	1	2	3	4	5
DC19_F.	Il/elle m'exprime clairement comment il/elle se sent et qu'il/elle a besoin de mon soutien émotionnel.	1	2	3	4	5
Que faites-vous lorsque votre partenaire est stressé(e)?						
DC20_F.	J'induis chez mon/ma partenaire le sentiment que je le/la comprends et que je m'intéresse à son stress.	1	2	3	4	5
DC21_F.	Je suis solidaire envers lui/elle, je lui dis que je connais aussi ce sentiment et que je suis à ses côtés.	1	2	3	4	5
DC22_F.	Je lui reproche de ne pas pouvoir assez bien réagir face au stress.	1	2	3	4	5
DC23_F.	Je dis à mon/ma partenaire que ce n'est pas si grave et l'aide à voir la situation sous un autre angle.	1	2	3	4	5
DC24_F.	Je l'écoute, lui offre un espace pour s'exprimer, je le/la console et l'encourage.	1	2	3	4	5
DC25_F.	Je ne prends pas son stress au sérieux.	1	2	3	4	5
DC26_F.	Lorsque mon/ma partenaire est stressé(e), je l'évite.	1	2	3	4	5
DC27_F.	Je l'aide, mais sans motivation, et pense qu'il/elle devrait pouvoir mieux gérer soi-même ses problèmes.	1	2	3	4	5
DC28_F.	Afin de le/la décharger, j'assume des tâches dont il/elle s'occupe habituellement.	1	2	3	4	5
DC29_F.	J'essaie d'analyser la situation avec mon/ma partenaire et de l'aider à comprendre le problème.	1	2	3	4	5
DC30_F.	Je lui donne un coup de main quand il/elle a trop à faire, afin de le/la décharger.	1	2	3	4	5
Comment parvenez-vous, vous et votre partenaire, à gérer le stress qui vous concerne les deux?						
DC31_F.	Nous essayons résoudre le problème ensemble et de chercher des solutions concrètes.	1	2	3	4	5
DC32_F.	Nous réfléchissons sérieusement au problème et discutons de ce que nous pourrions faire.	1	2	3	4	5
DC33_F.	Nous nous aidons mutuellement à relativiser le problème et à le regarder sous un autre angle.	1	2	3	4	5
DC34_F.	Lorsque nous sommes tous les deux stressés, nous nous retirons et nous nous évitons.	1	2	3	4	5
DC35_F.	Nous sommes tendres et affectueux l'un envers l'autre; nous faisons l'amour et essayons de gérer le stress de cette façon.	1	2	3	4	5

Comment évaluez-vous votre façon de gérer le stress en tant que couple?						
DC36_F.	Je suis satisfait(e) du soutien de mon/ma partenaire et de notre gestion commune du stress.	1	2	3	4	5
DC37_F.	Le soutien de ma partenaire et notre gestion commune du stress me semble efficace.	1	2	3	4	5

Utilisé avec la permission de G. Bodenmann (2018).

Appendix M: English and French Experiences in Close Relationship-12 Questionnaire for Chapter III

Experiences in Close Relationships (ECR-12)

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience romantic relationships, not just in what is happening in a current relationship. You can answer this questionnaire even if you're not currently in a romantic relationship. Respond to each statement by indicating how much you agree or disagree with it. Circle the number appropriate to your answer, using the following rating scale:

Strongly Disagree			Neutral/ mixed			Strongly Agree
1	2	3	4	5	6	7

ECR2.	I worry about being abandoned.	1	2	3	4	5	6	7
ECR6.	I worry that romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6	7
ECR8.	I worry a fair amount about losing my partner.	1	2	3	4	5	6	7
ECR9.	I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
ECR14.	I worry about being alone.	1	2	3	4	5	6	7
ECR15.	I feel comfortable sharing my private thoughts and feelings with my partner.	1	2	3	4	5	6	7
ECR18.	I need a lot of reassurance that I am loved by my partner.	1	2	3	4	5	6	7
ECR24.	If I can't get my partner to show interest in me, I get upset or angry.	1	2	3	4	5	6	7
ECR25.	I tell my partner just about everything.	1	2	3	4	5	6	7
ECR27.	I usually discuss my problems and concerns with my partner.	1	2	3	4	5	6	7
ECR29.	I feel comfortable depending on romantic partners.	1	2	3	4	5	6	7
ECR31.	I don't mind asking romantic partners to comfort, advice, or help.	1	2	3	4	5	6	7

Developed by Lafontaine, Brassard, Lussier, Valois, Shaver, & Johnson (2016)

Questionnaire sur les expériences amoureuses (ECR-12)

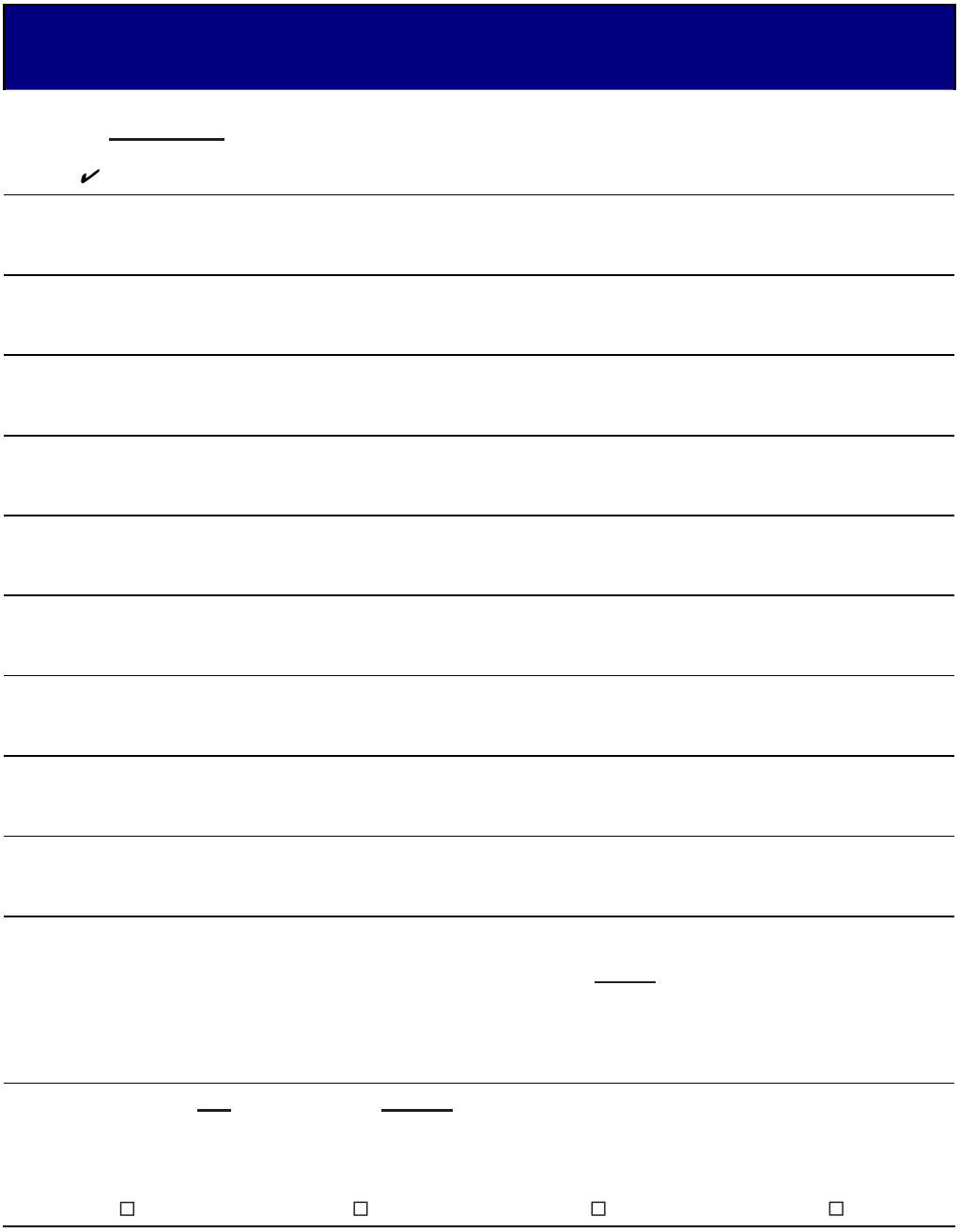
Les énoncés suivants se rapportent à ce que vous ressentez à l'intérieur de vos relations amoureuses. Nous nous intéressons à la manière dont vous vivez généralement ces relations et non seulement à ce que vous vivez dans votre relation actuelle. Vous pouvez donc répondre au questionnaire même si vous n'êtes pas dans une relation amoureuse présentement. Répondez à chacun des énoncés en indiquant jusqu'à quel point vous êtes en accord ou en désaccord. Encerclez le chiffre correspondant à votre choix en utilisant l'échelle de mesure suivante :

Fortement en désaccord			Neutre/ Partagé(e)			Fortement en accord
1	2	3	4	5	6	7

ECR2.	Je m'inquiète à l'idée d'être abandonné(e).	1	2	3	4	5	6	7
ECR6.	J'ai peur que mes partenaires amoureux/amoureuses ne soient pas autant attaché(e)s à moi que je le suis à eux/elles.	1	2	3	4	5	6	7
ECR8.	Je m'inquiète pas mal à l'idée de perdre mon/ma partenaire.	1	2	3	4	5	6	7
ECR9.	Je ne me sens pas à l'aise de m'ouvrir à mon/ma partenaire.	1	2	3	4	5	6	7
ECR14.	Je m'inquiète à l'idée d'être abandonné(e).	1	2	3	4	5	6	7
ECR15.	Je me sens à l'aise de partager mes pensées intimes et mes sentiments avec mon/ma partenaire.	1	2	3	4	5	6	7
ECR18.	J'ai un grand besoin d'être rassuré(e) de l'amour de mon/ma partenaire.	1	2	3	4	5	6	7
ECR24.	Lorsque je n'arrive pas à faire en sorte que mon/ma partenaire s'intéresse à moi, je deviens peiné(e) ou fâché(e).	1	2	3	4	5	6	7
ECR25.	Je dis à peu près tout à mon/ma partenaire.	1	2	3	4	5	6	7
ECR27.	Habituellement, je discute de mes préoccupations et de mes problèmes avec mon/ma partenaire.	1	2	3	4	5	6	7
ECR29.	Je me sens à l'aise de dépendre de mes partenaires amoureux/amoureuses.	1	2	3	4	5	6	7
ECR31.	Cela ne me dérange pas de demander du réconfort, des conseils ou de l'aide à mes partenaires amoureux/amoureuses.	1	2	3	4	5	6	7

Développée par Lafontaine, Brassard, Lussier, Valois, Shaver, & Johnson (2016)

Appendix N: English and French Patient Health Questionnaire-9 (PHQ-9) for Chapter III



January 26, 2018

QUESTIONNAIRE SUR LA SANTÉ DU PATIENT – 9 (PHQ-9)

Au cours des 2 dernières semaines, selon quelle fréquence avez-vous été gêné(e) par les problèmes suivants ? *(Veuillez cocher (▯) votre réponse)*	**Jamais**	**Plusieurs jours**	**Plus de la moitié du temps**	**Presque tous les jours**
1. Peu d'intérêt ou de plaisir à faire les choses	0	1	2	3
2. Être triste, déprimé(e) ou désespéré(e)	0	1	2	3
3. Difficultés à s'endormir ou à rester endormi(e), ou dormir trop	0	1	2	3
4. Se sentir fatigué(e) ou manquer d'énergie	0	1	2	3
5. Avoir peu d'appétit ou manger trop	0	1	2	3
6. Avoir une mauvaise opinion de soi-même, ou avoir le sentiment d'être nul(le), ou d'avoir déçu sa famille ou s'être déçu(e) soi-même	0	1	2	3
7. Avoir du mal à se concentrer, par exemple, pour lire le journal ou regarder la télévision	0	1	2	3
8. Bouger ou parler si lentement que les autres auraient pu le remarquer. Ou au contraire, être si agité(e) que vous avez eu du mal à tenir en place par rapport à d'habitude	0	1	2	3
9. Penser qu'il vaudrait mieux mourir ou envisager de vous faire du mal d'une manière ou d'une autre	0	1	2	3

FOR OFFICE CODING 0 + _____ + _____ + _____

=Total Score: _____

Si vous avez coché au moins un des problèmes évoqués, à quel point ce(s) problème(s) a-t-il (ont-ils) rendu votre travail, vos tâches à la maison ou votre capacité à vous entendre avec les autres difficile(s) ?

Pas du tout difficile(s)	**Assez difficile(s)**	**Très difficile(s)**	**Extrêmement difficile(s)**
▯	▯	▯	▯

Développé par les Dr Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke et leurs collègues grâce à une allocation d'études de Pfizer Inc.

March 12, 2018

Appendix O: English and French Generalized Anxiety Disorder-7 (GAD-7) for Chapter III

GAD-7

Over the last 2 weeks, how often have you been bothered by the following problems? *(Use " " to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

(*For office coding: Total Score T*____ = ____ + ____ + ____)

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January 26, 2018

GAD-7

Au cours des 14 derniers jours, à quelle fréquence avez-vous été dérangé(e) par les problèmes suivants? *(Utilisez un « 🗹 » pour indiquer votre réponse)*	**Jamais**	**Plusieurs jours**	**Plus de la moitié des jours**	**Presque tous les jours**
1. Sentiment de nervosité, d'anxiété ou de tension	0	1	2	3
2. Incapable d'arrêter de vous inquiéter ou de contrôler vos inquiétudes	0	1	2	3
3. Inquiétudes excessives à propos de tout et de rien	0	1	2	3
4. Difficulté à se détendre	0	1	2	3
5. Agitation telle qu'il est difficile de rester tranquille	0	1	2	3
6. Devenir facilement contrarié(e) ou irritable	0	1	2	3
7. Avoir peur que quelque chose d'épouvantable puisse arriver	0	1	2	3

(*For office coding: Total Score T*____ = ____ + ____ + ____)

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March 12, 2018