

Jealousy, Intimacy, and Couple Satisfaction: A Romantic Attachment Perspective

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Dedicated to our friend and colleague, Melody Matte, who will forever be missed

Summary

Romantic relationships are considered to be the most important bonds established in adulthood (Mikulincer & Shaver, 2007). Accordingly, extensive empirical efforts have been expended on delineating factors linked with couple satisfaction. Given the intricacies of these relational bonds, a plethora of studies have likewise focused on exploring the elaborate and explicit processes of close relationships. What emerged was one of the most prolific theories of close relationships: attachment theory. Despite the recognized and confirmed role of attachment processes in couple satisfaction (Feeney, Noller, & Hanrahan, 1994), studies have seldom examined how the relation between explicit relationship factors and couple satisfaction may differ as a function of an individual's romantic attachment.

The understanding of the link between variables is often enhanced by understanding what limits or improves this relation, for instance, for whom or under which circumstances (Hayes & Matthes, 2009). Such theoretical accounts of an effect are frequently tested and strengthened by the examination of a moderator effect (a variable that impacts the strength or direction of a predictor and outcome variable; Baron & Kenny, 1986). Accordingly, the overarching aim of the thesis was to explore original moderation models examining whether the established relation between jealousy (article 1) or intimacy (article 2) and couple satisfaction, respectively, differs for individuals with distinct romantic attachment patterns (i.e., attachment anxiety versus avoidance). In this way, the goal was to not only implement novel explorations extending current knowledge of the aforementioned link between jealousy or intimacy and couple satisfaction, but moreover, highlight for whom such relations may differ.

Explicitly, the main objective of the first article was to implement a unique model exploring the moderating role of romantic attachment on the relation between emotional,

cognitive, and behavioural jealousy and couple satisfaction. The study comprised of a large university sample of individuals ($N = 502$) involved in a heterosexual relationship of at least 12 months duration. Given the view of emotional, cognitive, and behavioural jealousy as an interrelated process (Pheiffer & Wong, 1989), and the corresponding absence of a model examining all facets concurrently, a comprehensive model simultaneously incorporating all of the abovementioned facets of jealousy within one model was implemented. Additionally, provided the unexamined stipulation of jealousy as impacting the relationship satisfaction of both partners of a couple (De Silva & Marks, 1994), this study sought to incorporate a new line of research investigating both one's jealousy and one's perception of their partner's jealousy (emotional, cognitive, and behavioural) and the potentially differential relation with one's couple satisfaction. The exploration of hierarchical models revealed that cognitive jealousy was negatively associated with one's couple satisfaction, whereas emotional jealousy demonstrated a positive association; behavioural jealousy was not shown to add incremental value in one's couple satisfaction. All aforementioned results were applicable to both one's own and one's perception of their partner's jealousy for each respective facet. Results also revealed that romantic attachment influenced the strength of the relation between several facets of jealousy and couple satisfaction, with attachment anxiety mostly increasing and attachment avoidance either decreasing or not influencing this relation. As such, findings suggested that jealousy experiences (one's own or one's perception of their partner's) may have a more detrimental relation with one's couple satisfaction amongst individuals exhibiting higher attachment anxiety.

The aim of the second study was to explore an original model examining the moderating role of romantic attachment on the relation between intimacy and couple satisfaction using a community sample of couples ($N = 117$) involved in a heterosexual relationship of at least 12

months duration. Given that intimacy is viewed as a multifaceted process (Schaefer & Olson, 1981), the current study concurrently investigated both emotional and sexual facets of intimacy within one model. Additionally, given the view of intimacy as a dyadic process that must accommodate both partners (Reis & Shaver, 1981), an actor-partner interdependence model (APIM: Kenny, Kashy, & Cook, 2006) using Linear Mixed Models (LML) was implemented in order to examine the relation between a participant's and their partner's emotional and sexual intimacy and one's couple satisfaction. Findings revealed that only actor and partner emotional intimacy were significantly and positively linked with actor couple satisfaction when examined concurrently with sexual intimacy; a larger amount of variance was revealed for actor versus partner effects. Results similarly showed that higher actor avoidant attachment moderated the former relation, such that a lessened positive association was demonstrated between actor emotional intimacy and actor couple satisfaction. Hence, findings suggested that the attainment of higher levels of emotional intimacy may be less pertinent for the satisfactory romantic relationship of individuals exhibiting higher attachment avoidance. No additional moderation effects of romantic attachment were found. The applied and clinical implications of both studies are discussed, such as the relevance of considering romantic attachment in ascertaining the link between particular relationship factors and couple satisfaction.

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Content of thesis and contribution of authors

This thesis comprises of a general introduction, two articles, and a general conclusion.

The general introduction presents the topic of the thesis, defines the primary variables, provides a strong theoretical basis for the thesis, and specifies the main objectives based on the theoretical and empirical advances of current research, as well as remaining gaps in the literature. The first article is entitled *Jealousy and Couple Satisfaction: A Romantic Attachment Perspective*. This is followed by the presentation of the second article, entitled *Intimacy and Couple Satisfaction: The Moderating Role of Romantic Attachment*. Finally, the general discussion summarizes the findings of both articles and outlines the clinical implications and future directions for prospective studies.

Both articles were prepared according to the format requested by each respective journal to which the articles are in press or in revision. The author of the thesis appears as a primary author, and the thesis supervisor as a co-author, on both articles. Their respective contribution was as follows: the author of the thesis participated in every step involved in the realization of the thesis including the literature review and conceptualization of the thesis, the conception and implementation of study procedures and methods, the formulation of the ethics approval, the recruitment and testing of participants, data analysis, the validation of an adapted study measure, and the writing of the manuscript; the thesis supervisor's role included the global oversight of the project and acting as a consultant in each step of the thesis.

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General Introduction

Healthy romantic relationships are a central element of general well-being in adulthood (Baumeister & Leary, 1995). Given their importance, a plethora of research has not only aimed to identify factors related to couple satisfaction, but moreover, the mechanisms explicating the establishment of close and satisfactory relational bonds. Attachment theory has provided one of the most exhaustive theories for elucidating the formation, maintenance, and quality of romantic relationships (Hazan & Shaver, 1987). Despite widespread empirical efforts devoted to further understanding relationship quality, attachment patterns, and their link, studies have seldom examined the explicit processes by which the association between relational factors and couple satisfaction may be affected by one's working model of attachment. Accordingly, the present thesis sought to explore how ubiquitously experienced relationship factors (jealousy and intimacy) may be differentially related to one's couple satisfaction based on one's romantic attachment. It was believed that this would not only further extend knowledge of jealousy and intimacy and their relation with couple satisfaction, but moreover, elucidate whether innate and universal relationship dynamics (i.e., attachment) may influence this association.

First, a review of the thesis' variables of interest will be presented, starting with the importance of relationship quality and its diverse conceptualizations. An emphasis will be placed upon the construct of dyadic adjustment from which our measure of couple satisfaction is derived. Subsequently, an overview of the constructs of jealousy and intimacy and their established empirical links with general and couple satisfaction will be reviewed. This will be followed by an elaboration of romantic attachment and its expected moderating role. Finally, based on the theoretical and empirical findings considered, as well as the areas of research that remain to be explored, the general objectives and strengths of each article will be provided.

Relationship Quality

Romantic relationships and marriage bonds are considered to be the most important attachments formed in adulthood (Graham, Liu, & Jeziorski, 2006). Their significance is exemplified by the profound impact that relationship quality can have on the general functioning of individuals comprising a romantic dyad (Davila & Bradbury, 1998; Whiffen & Aube, 1999). First, the presence of a caring and supportive romantic relationship is shown to be related with increased emotional and psychological health, including decreased risk for depression, anxiety, and general psychopathology (Baumeister & Leary, 1995; Prigerson, Maciejewski, & Rosenheck, 1999). Respectively, satisfaction in couple relationships is demonstrated to be linked with enhanced physical and immune health, including decreased cortisol levels, lowered rates of physical illness, and increased recovery from illness (Davila & Bradbury, 1998; Patridge, 2001; Schmaling & Sher, 1997; Whiffen & Aube, 1999). Research has similarly shown that the physical availability and support of one's romantic partner during difficult times can diminish the effects of distressing experiences (Mikulincer & Shaver, 2007). Finally, the pervasive role of romantic relationships on general well-being is further illustrated by findings showing that marital and relationship discord are amongst the most common reasons for which adults seek therapy (Fincham & Bradbury, 1987). Given the significant influence of couple quality on general welfare, psychological well-being, and physical health (Baumeister & Leary, 1995; Prigerson et al., 1999), a thorough understanding of the factors that may decrease or increase couple satisfaction remains an important empirical endeavour. In pursuit of such aims, diverse conceptualizations of couple satisfaction were developed.

Conceptualizations of Relationship Quality

Given that the quality of research on relationship satisfaction is dependent on the reliable and proper assessment of this construct (Graham et al., 2006), a high level of empirical focus has been placed on its conceptualization. The first published study on marriages, carried out by Terman, Bittenweiser, Ferguson, Johnson, and Wilson (1938), used a single-item measure to assess participants' relationship satisfaction. Thereafter, numerous and more elaborate measures began to surface. An early tool that continues to be frequently implemented in research is Locke and Wallace's (1959) Marital Adjustment Test (LMAT). Globally, they defined marital adjustment as the accommodation of a husband and wife at any particular time (Locke & Wallace, 1959). The LMAT assesses multiple components of relationship functioning, including levels of conflict, shared activities, and the ability to problem-solve (Locke & Wallace, 1959). Although shown to be useful in distinguishing between distressed and non-distressed couples (Locke & Wallace, 1959), this measure has been criticized for defining marital satisfaction as the lack of divorce or help-seeking behaviours (Laws, 1971).

This view is consistent with Ward, Lundberg, Zabriskie, and Berret (2009) who have criticized the conceptualization of marital satisfaction as the absence of dissatisfaction. They alternatively defined this as an emotional state of being content with one's experiences, interactions, and expectations of married life (Ward et al., 2009). In parallel with this notion, varied measures have long emerged with the aim of assessing the positive qualities inherent within relationships. For instance, the Marital Satisfaction Inventory (MSI; Synder, 1979) defines marital satisfaction in relation to diverse positive indicators, including expressed affection, understanding, effectiveness in resolving problems, time spent together, agreement over family finances, as well as the frequency and quantity of sexual activities, among other

features (Synder, 1979). Although assessing various facets of relationship quality, the MSI has been criticized for its inability to effectively differentiate between levels of mild distress and areas of particular satisfaction amongst couples (Scheer & Synder, 1984).

An additional measure initially intended for use amongst married couples is the Enriching and Nurturing Relationship Issues, Communication and Happiness (ENRICH) formulated by Olson, Fournier, and Druckman (1983). This scale assesses adaptability and satisfaction with respect to 10 areas of marital functioning, including personal characteristics of the spouse, role responsibility, sexuality, conflict resolution, financial issues, activities within spare time, spiritual beliefs, communication, parental responsibility, and relationships with family and friends. Given that the ENRICH assesses 10 areas that influence and are involved in satisfactory relationships (e.g., sexuality), this tool may inflate relations when attempting to evaluate the link between particular relationship facets (e.g., sexual intimacy) and relationship quality. In this way, although the ENRICH may permit a global and comprehensive evaluation of relationship satisfaction, this measure is confounded by the very 10 factors underlying its assessment and conceptualization.

Given that the initial and primary focus of all aforementioned tools was the assessment of marital quality, additional measures were similarly created to provide a broader application than is possible from a marital satisfaction tool. For instance, Hendrick's (1988) Relationship Assessment Scale (RAS) was formulated to permit an assessment of general relationship satisfaction. The items of the RAS are shown to be specific enough to tap into several relationship dimensions (e.g., love, problems, and expectations) while also being appropriate for diverse couples (e.g., single, married, heterosexual, and same-sex relationships). A supplemental and popular measure of relationship quality that has also been shown to have applicability to

diverse relationship statuses, sexual orientations, and ethnicities is the Dyadic Adjustment Scale (DAS; Spanier, 1976; Graham et al., 2006). Spanier (1976) argued that the preponderance of measures assessing relationship quality only provide snapshots of what is occurring in relationships and do not encompass the developmental processes inherent within dyadic adjustment. By definition, dyadic adjustment is intended to measure a "process of movement along a continuum ranging from maladjusted to well-adjusted" (Spanier, 1976, p. 16). Although factor analyses have revealed a four-factor solution of dyadic adjustment comprising of dyadic satisfaction, dyadic cohesion, dyadic consensus, and affectional expression, the subscales are shown to be inconsistent across varied samples (Graham et al., 2006). As a result, the use of an overall dyadic adjustment score has since been suggested as an improved alternative (Graham et al., 2006).

The reliability and validity of the DAS has been established in a multitude of studies across diverse samples (Graham et al., 2006). The wide-spread incorporation of this measure is illustrated by its use in over 1000 studies to distinguish between couples with better adjustment and those who are dissatisfied in their relationship (Prouty et al., 2000). However, one of the primary critiques of the DAS is the confound of dyadic satisfaction with determinants of satisfaction (Graham et al., 2006). Therefore, in cases where researchers are interested in examining whether or how specific variables are linked with overall relationship quality, misleadingly magnified relations may be demonstrated for some factors when utilizing the total DAS score (Graham et al., 2006).

Consequently, several studies have since emerged to construct a briefer and more consolidated version of the DAS [32-item measure] that specifically assesses relationship satisfaction rather than amalgamated subscales of overall dyadic adjustment. The established

validity and reliability of the shorter versions of the DAS have substantiated the usefulness of such measures (Hunsley, Best, Lefebvre, & Vito, 2001; Hunsley, Pinsent, Lefebvre, Tanner, & Vito, 1995). However, Sabourin, Valois, and Lussier (2005) aimed to rectify issues they believed were nevertheless inherent within some of the shorter forms of the DAS (e.g., the use of small and/or homogeneous samples) by including larger sample sizes, community and clinical couples, and newer and more sophisticated statistical methods. The resulting DAS-4 (Sabourin et al., 2005), a 4-item measure of an individual's satisfaction with their couple relationship (referred to here-on-in and throughout the thesis as couple satisfaction), has been shown to have good reliability, acceptable classification rates of distressed and non-distressed couples, and better predictive validity (i.e., couple dissolution over a 2-year period) than the DAS-32 item measure (Sabourin et al., 2005). Additionally, the DAS-4 has been demonstrated to be significantly less biased by respondent-based social desirability than the original DAS-32. As such, the DAS-4 was selected and utilized across both studies of the thesis. It should be noted that although relationship quality is conceptualized and labelled in diverse ways, whether this is termed marital satisfaction, couple satisfaction, dyadic adjustment, or relationship happiness, many believe that the aforementioned constructs are generally synonymous with one another and measure the same overarching facet (Gottman, 1990).

Provided the profound impact of relationship quality on various facets of life (Davila & Bradbury, 1998; Whiffen & Aube, 1999), one of the oldest and still currently relevant questions in the literature is what differentiates a satisfactory relationship from one that is unsatisfactory (Gottman & Krokoff, 1989). With the aim of ascertaining this, a myriad of studies have emerged to examine factors that may contribute to decreases or increases in couple satisfaction. However, few studies have examined the explicit processes that may influence decreases or increases in the

established association between particular relational factors and couple satisfaction. Accordingly, a primary aim of the current thesis was to examine how important relational processes (i.e., attachment) may impact prevalent relationship factors (i.e., jealousy and intimacy) and their established link with couple satisfaction. Jealousy and intimacy were selected for investigation within each respective study as a result of their universal and central presence in relationships, their extensively established theoretical and empirical link with relationship quality (Pheiffer & Wong, 1989; Schaefer & Olson, 1981), as well as the important and unexplored research avenues regarding such associations. Prior to an elaboration of the expected influence of romantic attachment and the specific objectives of the thesis, conceptualizations of jealousy and intimacy are first presented along with their respective theoretical and empirical relation with couple satisfaction.

Jealousy

Romantic jealousy has been defined as “a complex of thoughts, emotions, and actions that follows loss of or threat to self-esteem and/or existence or quality of the romantic relationship” (White and Mullen, p. 9). Jealousy is demonstrated to be an emotion that is universally experienced by all individuals (Bernhard, 1986) and is considered as one of the predominant emotions experienced in couple relationships (Guerrero, 1998). When appropriate to the particular context or occurring in low levels, romantic jealousy can lead to an array of constructive relational outcomes. First, romantic jealousy has been demonstrated to aid in the identification and establishment of relational boundaries required for relationship stability (Guerrero, 1998). In this way, jealousy can assist in mate retention by protecting couples from straying (Buss, 1995; Buss & Shackelford, 1997). Research has also revealed that jealousy in couple relationships can be positively related to romantic love (Mathes, Adams, & Davies, 1985;

Pheiffer & Wong, 1989) and passionate sex between partners (DeLameter, 1991). Finally, jealousy has been shown to be valuable in restoring confidence that one is loved and valued by their partner (Buss, 2000; De Silva & Marks, 1994). Hence, from an adaptive standpoint, jealousy can be regarded as an exemplary and necessary emotion within romantic relationships (DeSteno, Valdesolo, & Bartlett, 2006).

Nevertheless, when occurring frequently, in high levels, or in response to unfounded or imagined situations, jealousy can have a detrimental impact on general and relationship satisfaction (Guerrero & Eloy, 1992; Pheiffer & Wong, 1989; Zusman & Knox, 1998). First, problems related to romantic jealousy are cited as one of the most common reasons for which young adults seek couples therapy (Zusman & Knox, 1998). Jealousy has also been linked with varied psychological difficulties, including the more frequent experience of negative emotions, anger, rage, depression, and anxiety (Bernhard, 1986). Additionally, romantic jealousy is consistently identified as a leading motive for intimate partner violence, with the severity of physical abuse experienced by an individual often proportional to the level of jealousy reported by the perpetrator (Hoehing, 2001; O'Leary, Smith-Slep, & O'Leary, 2007; Puente & Cohen, 2003). Finally, frequent and high levels of jealousy have been shown to be related with increased suicidal and homicidal tendencies within the context of romantic relationships (Bernhard, 1986; Hoehing, 2001; O'Leary et al., 2007). Given the co-occurring negative and positive functions of jealousy on general well-being and relationship quality (Bernhard, 1986; Guerrero et al., 1992; Zusman & Knox, 1998), as well as its omnipresent influence on romantic relationships, a multitude of models of jealousy have surfaced.

Conceptualizations of Jealousy

Numerous formulations have focused on the situational factors that trigger jealousy. To begin, Bringle, Roach, Andler, and Everbeck (1979) conceptualized dispositional jealousy as occurring within four distinct areas: social, sexual, family, and work (Bringle et al., 1979). Their resulting scale, entitled the Self-Report Jealousy Scale (SRJS), assesses the level of upset that an individual may experience when they have been involved, or could be involved, in a jealousy-evoking situation. Although proposed to assess varied areas of jealousy, this measure has been argued to be consistent with a unidimensional construct given the high intercorrelations between its subscales (White, 1981). In pursuit of a multifaceted measure, Mathes and Severa (1981) formulated a versatile conceptualization that permits a measurement of the varied emotions inherent within jealousy, for instance, the level of irritability or anger encountered when exposed to a jealousy-producing event. The result was the creation of the Interpersonal Jealousy Scale (IJS; Mathes, Phillips, Skowran, & Dick, 1982). Despite highlighting the diverse blend of emotions that may encompass jealousy, contemporary researchers believe that jealousy extends beyond emotions to similarly include behavioural facets (Guerrero, Andersen, Jorgensen, Spitzberg, & Eloy, 1995; Pheiffer & Wong, 1989).

Accordingly, Guerrero and colleagues (1995) thereafter constructed a measure of jealousy comprised of both emotional and behavioural features. Their measure, entitled the Communication Responses to Jealousy Scale (CRJ), assesses the types of [emotional and behavioural] communicative responses individuals may use to cope with their jealousy. Guerrero and colleagues' (1995) research and observations led to the conclusion that there were 11 distinct responses emerging from jealousy. The first six comprised of communicative efforts or its active avoidance with one's partner, such as expressing negative affect (e.g., sadness) or actively

distancing oneself from their partner (e.g., ignoring partner). The remaining responses did not necessarily involve the partner and included, among others, surveillance behaviours (e.g., spying) or contacting the rival believed to be involved with the partner (Guerrero et al., 1995). Although the CRJ measures the external (observable) indicators of jealousy, in particular, communicative responses that may arise, this tool is not intended to assess the intricacies of the internal experiences of jealousy that may not be communicated or expressed overtly.

With the aim of understanding both the internal and external components of jealousy, the current thesis focused on White's theory of jealousy (1981) which underlies many current conceptualizations of this construct. White (1981), who advocated for a more inclusive definition of jealousy beyond what was observable, regarded this as a mixture of complex thoughts, feelings, and behaviours resulting from particular threats to the self or the relationship. Based on his theory of jealousy, White (1981) formulated the Relationship Jealousy Scale (RJS); a brief measure evaluating the frequency with which an individual becomes jealous and whether this is perceived to cause problems in their relationship. Given that the RJS is confounded by the inclusion of both jealousy feelings and their consequences, problems may arise (i.e., inflated relations) when attempting to explore the link between jealousy and relationship outcomes (e.g., couple satisfaction). Despite this caveat of the RJS, White's (1981) theory of jealousy led to a highly validated and theoretically supported measure assessing the multifaceted internal and external experiences of jealousy.

Pheiffer and Wong's conceptualization of jealousy. Pheiffer and Wong's (1989) formulation of jealousy emerged from both Lazarus' (1984) model of emotions and White's (1981) theory of jealousy. Lazarus' (1984) model of emotions asserted that when a threat is inferred (primary cognitive appraisal), an individual will search for relevant emotional cues

(secondary emotional appraisal) that will subsequently elicit behavioural coping strategies to deal with the inferred threat (Lazarus, 1984). White (1981) believed that this broad-based model of emotions similarly applied to jealousy. Specifically, he proposed a sequential process of jealousy that is instigated by the cognitive appraisal of a relationship threat, followed by the experience of an emotional reaction (i.e., jealousy), terminating with secondary appraisals (i.e., behavioural coping strategies) to deal with the inferred threat (White, 1981). Given the varied internal experiences of jealousy emphasized by White (1981), he maintained that certain facets may not be observable or known to others, including one's partner (White, 1981).

Pheiffer and Wong (1989) agreed with White's conceptualization of jealousy but believed that, in addition to a sequential process of jealousy (whereby one facet of jealousy leads to the experience of a subsequent facet of jealousy), this could occur as a "parallel interactive model" (whereby the emotions, cognitions, and behaviours that comprise jealousy occur *simultaneously* and influence with one another; Pheiffer & Wong, 1989, p. 185). Efforts by Pheiffer and Wong (1989) to operationalize this model resulted in the Multidimensional Jealousy Scale (MJS) which assesses emotional, cognitive, and behavioural facets of jealousy. Emotional jealousy is defined as anticipated affective and reactive responses to diverse situations that vary in degree of relationship threat from one's "partner working with someone of the opposite sex" to one's "partner having sex with someone of the opposite sex". Cognitive jealousy is defined as suspicions, thoughts, and worries about a partner's extradyadic behaviours or the existence of a [potential] rival, and ranges from suspicions that one's "partner may be attracted to someone else" to worries that "someone of the opposite sex may be seducing their partner". Lastly, behavioural jealousy is defined as checking/snooping behaviours stemming from a [perceived or actual] relationship threat. These behaviours range from "joining in whenever one's partner is

seen talking to someone of the opposite sex" to "looking through one's partner's drawers, handbags, or pockets" (Pheiffer & Wong, 1989). Aligned with this conceptualization, Pheiffer and Wong (1989) advocated for the view of emotional jealousy as reactive in nature given their deduction that such emotions more commonly occur in response to a [genuine or hypothetical] jealousy-evoking situation. This is in contrast to cognitive and behavioural facets of jealousy which they viewed as more likely to occur irrespective of a jealousy-evoking situation, and therefore, more akin to suspicious and pathological forms of jealousy (Pheiffer & Wong, 1989). As a result of Pheiffer and Wong's (1989) comprehensive and validated formulation, the strong theoretical and empirical support of the MJS, and its widely-implemented use in research to assess jealousy, this measure was used in the current thesis to evaluate jealousy experiences.

Jealousy and Couple Satisfaction: Empirical Links

Research studies have generally revealed a negative relation between jealousy and couple satisfaction. Briefly, Barnett and colleagues (1995) found that one's jealousy (as defined by anxious jealousy, sexual jealousy, and general feelings stemming from relationship threats) was negatively linked with one's marital satisfaction. Guerrero and Jorgensen (1991) similarly demonstrated individuals' overall romantic jealousy to be negatively correlated with the stability of their marriage and positively related with discussions pertaining to divorce or separation. Correspondingly, Bringle and Evenbeck's (1979) research showed that husbands' dispositional jealousy (measured as an overall character trait) was negatively associated with their marital outcomes.

Despite the commonly demonstrated negative relation between jealousy and couple satisfaction, studies have also revealed the adaptive functions of jealousy in romantic relationships. First, Hansen's (1983) findings showed that one's affective responses to

hypothetical jealousy-producing events were positively related with one's dyadic adjustment among a sample of married men. Similarly, Rosmarin and LaPointe's (1978) research demonstrated that individuals reporting high or low levels of relationship quality displayed higher levels of anxiety about a hypothesized romantic rival when compared to those indicating moderate satisfaction. In this way, highly valuing the relationship, or feeling insecure about its dissolution, may be related to greater affective responses to potential relationship threats. Finally, Barelds and Barelds-Dijkstra (2007) highlighted the co-occurring detrimental and positive consequences of jealousy by revealing that one's reactive jealousy (i.e., jealousy instigated by a jealousy-evoking event) was positively related with one's relationship quality, whereas one's anxious jealousy (i.e., jealousy occurring irrespective of a jealousy-producing event) was negatively related with this construct.

To our knowledge, only two studies have emerged to evaluate emotional, cognitive, and behavioural jealousy and their relation with couple satisfaction. First, using a sample of married individuals ($N = 66$), Guerrero and Eloy (1992) found that one's emotional, cognitive, and behavioural jealousy, as measured by the MJS (Pheiffer & Wong, 1989), were negatively correlated with one's dyadic adjustment, as measured by the Dyadic Adjustment Scale (DAS; Spanier, 1976). Gender effects were not examined within their study. Anderson, Eloy, Guerrero, and Spitzberg (1995) corroborated the aforementioned study findings amongst a sample of individuals involved in a long-term or married relationship ($N = 346$). Their results demonstrated that one's emotional and cognitive jealousy, as evaluated by the MJS (Pheiffer & Wong, 1989), were negatively associated with one's relationship satisfaction ($r = -.26$, $r = -.41$, respectively), as measured by the Relationship Assessment Scale (RAS; Hendrick, 1988); behavioural jealousy was not assessed within their study. Gender differences were examined for all aforesaid relations

but none were found. The amalgamation of all findings suggests that cognitive jealousy exhibits the strongest negative relation with couple satisfaction, followed by behavioural jealousy, and finally, emotional jealousy.

Additionally, in spite of findings demonstrating that jealousy can have a detrimental effect on both the "target" and "perpetrator" of jealousy (i.e., the person towards whom the jealousy is directed and the person experiencing/expressing jealousy, respectively; Bevan, 2006; De Silva & Marks, 1994), this has yet to be examined with respect to outcomes of couple satisfaction. Given that the preponderance of research on jealousy has focused on the individual experiencing jealousy (Bevan, 2006), authors have advocated for the recognition and implementation of an interdependence view of jealousy as mutually impacting both partners (Bevan, 2006; White & Mullen, 1989; Yoshimara, 2004). As such, verifying how jealousy may be related to the couple satisfaction of both the perpetrator and perceived target remains a valuable and uncharted empirical avenue.

Acknowledging that certain facets of jealousy may not be known to the subsequent partner (i.e., the "target" of jealousy), as emphasized by White (1981), assessing one's perception of their partner's jealousy (i.e., assessing jealousy that is "recognized" by the target), in contrast to direct partner reports, was believed to provide a more informative means by which to begin to investigate the couple satisfaction of both the perpetrator and perceived target of jealousy. Provided that, to our knowledge, there has yet to be an examination of one's perception of their partner's jealousy, there was an absence of a measure permitting such an exploration. Accordingly, an adapted version of the Multidimensional Jealousy Scale (MJS; Pheiffer & Wong, 1989), entitled the Partner Multidimensional Jealousy Scale (PMJS; Dandurand & Lafontaine, 2010) was created and validated with the goal of assessing a respondent's perception

of their partner's emotional, cognitive, and behavioural jealousy. The implementation of an Exploratory Factor Analysis supported the three factor structure and strong internal reliability of each subscale of the PMJS (Dandurand & Lafontaine, 2010), with psychometric properties analogous to the MJS. Further elaboration of the PMJS is provided within the first article of the thesis.

Intimacy

Akin to jealousy, intimacy has been shown to have a central and all-encompassing function in romantic relationships (Hook, Gerstein, Detterich, & Gridely, 2003; Steil, 1997). Due to its varied and significant roles, intimacy has come to be viewed as a universal human need that is imperative for healthy functioning (Ryan & Deci, 2000; Steil, 1997). This outlook is corroborated by a multitude of research demonstrating intimacy in romantic relationships to be one of the strongest predictors of physical and psychological well-being (Steil, 1997). First, higher levels of intimacy have been shown to be related with increased physical health, including improved immune functioning, increased recovery from disease, and decreased mortality rates resulting from illness (Hook et al., 2003). Higher rates of intimacy have also been linked with a reduced risk for loneliness, depression, anxiety, therapy seeking, as well as greater life satisfaction (Hobfoll & Leiberan, 1989; Hook et al., 2003; Horowitz, 1979; Morris, Morris, & Britton, 1988). An abundance of research has likewise consistently revealed a strong positive association between romantic intimacy and couple satisfaction (Greeff & Malherbe, 2001; McCabe, 1999; Schaefer & Olson, 1981). This corresponds with individuals' common assertion that the attainment of intimacy is a primary goal within their romantic relationship (Reis, 1990). Given the benefits provided by intimacy, the creation of meaningful bonds between individuals

has come to be viewed as an imperative means by which to achieve an array of positive outcomes (Erikson, 1950; Rogers, 1972; Sullivan, 1953).

Conceptualizations of Intimacy

With the aim of investigating the functions of intimacy, numerous efforts have been put forth to define this construct. Overall, the prevalence of conceptualizations have centered on the notion of intimacy as a feeling of connectedness with another person (Sternberg, 1997). Early formulations primarily focused on communicative exchanges occurring within the couple, for example, the level of self-disclosure observed (Jourard, 1971; Snell, Miller, & Belk, 1988). The Jouard Self-Disclosure Questionnaire (JSDQ; Jouard & Lasakow, 1958) was one of the first scales constructed to estimate the frequency of self-disclosures within romantic relationships. Thereafter, authors expanded on this conceptualization to assess particular aspects of self-disclosure. For example, Snell, Miller, and Belk's (1988) Emotional Self-Disclosure Scale measures respondents' level of emotional disclosures within their romantic relationship.

Since the earliest conceptualizations, authors have simultaneously focused on delineating additional behavioural indicators of intimacy beyond that of self-disclosure. For instance, Argyle and Dean (1965) defined intimacy in terms of varied affiliative behaviours occurring during interactions with another, such as the level of eye contact, frequency of smiles, and degree of physical proximity. In this case, assessments comprised of quantifiable measurements, such as the physical distance from a specific target (e.g., individual or photograph). Many subsequent conceptualizations identified supplementary but distinct behavioural features of intimacy that included, among others, the degree of physical touch (Patterson, 1984; Schaefer & Olson, 1981), frequency of agreements, number of shared activities, or vocal tone expressed (Talmadge & Dabbs, 1990). Research ascertaining the behavioural features of intimacy similarly went on to

recognize and include the important role of sexual facets. For instance, Tolstedt and Stokes' (1983) Physical Intimacy Questionnaire assesses intimacy in terms of the frequency and pleasure derived from varied physical and sexual behaviours that range from holding hands to sexual intercourse. While self-disclosure and physical facets continue to be considered as fundamental elements of intimacy, theorists moreover acknowledge the importance of both partners' mutual involvement in attaining intimate bonds.

Aligned with this notion, Lipert and Prager (2001) sought to differentiate between intimate interactions and intimate relationships. First, they distinguished intimate interactions from other forms of communication by the inclusion of three conditions: self-revealing behaviour, positive involvement of the other in the interaction, and shared understanding (Lipert & Prager, 2001). With the specific goal of measuring "working definitions" (p. 5) of intimacy (i.e., an individual's subjective view of intimacy), Lipert and Prager (2001) assessed individuals' daily interactions (via questionnaires, interviews, and self-report diaries) to delineate those characteristics respondents regarded as intimate. Their findings revealed that pleasantness, expression of positive feelings, disclosures of private information, emotional expressions, and feeling understood by one's partner all resulted in subjective feelings of intimacy (Lipert & Prager, 2001). Consequently, Lipert and Prager (2001) contended that while interactions can aid in the creation of intimate relationships, this was not their entire structure. Rather, both partners must have a mutual, accumulated, and shared personal knowledge and understanding of the other (Lipert & Prager, 2001).

Both renowned and contemporary theorists continue to agree with the view of intimacy as a bond mutually determined by both partners. For instance, Reis and Shaver (1988) described intimacy as a dyadic and interpersonal process that includes the sharing of personal information

and feelings to another person who in turn responds caringly. Sexton and Sexton (1982) similarly defined intimacy as two individuals who have access to, comprehend, and are cognizant of one another's depth from the inside (Sexton & Sexton, 1982). Correspondingly, Schaefer and Olson (1981) characterized intimacy as a dyadic process that occurs with time but which is never fully attained as this requires constant work and effort by both partners to maintain. Provided agreement of the dyadic features of intimacy, several authors have focused on capturing and measuring the feeling of connectedness experienced within romantic relationships. For instance, the Relationship Closeness Inventory (RCI) developed by Berscheid, Snyder, and Omoto (1989) assesses closeness in relationships in terms of the interdependence experienced between partners. Sanderson and Cantor (1995) similarly constructed the Social Dating Goals Scale to evaluate the degree to which individuals report mutual dependence within their relationship, along with emotional attachment and disclosures of intimate thoughts and feelings.

In addition to a dyadic view of intimacy, researchers have advocated for a multifaceted conceptualization that effectively emphasizes the varied components of intimacy (Schaefer & Olson, 1981). Thus far, only Schaefer and Olson (1981) have successfully defined intimacy in a manner which simultaneously emphasizes its mutual experience and multidimensional facets. Their resulting measure, the Personal Assessment of Intimacy in Relationships (PAIR), broadly defines intimacy as the experience of mutual connectedness with one's partner within emotional, sexual, social, intellectual, and/or recreational domains (Schaefer & Olson, 1981). More explicitly, emotional intimacy is defined as the experience of closeness of feeling and the ability and freedom to share openly in a non-defensive atmosphere where there is supportiveness and genuine understanding (Schaefer & Olson, 1981). Sexual intimacy is described as the experience of showing general affection, touching, physical closeness, and/or sexual activity. Intellectual

intimacy is conceptualized as the experience of sharing ideas, talking about events in one's life, discussing job related issues, or current affairs. Social intimacy is defined as the experience of shared friendships and social activities. Finally, recreational intimacy is viewed as the mutual experience of interest in pastimes or hobbies and joint involvement in general recreational or leisure activities (Schaefer & Olson, 1981). As a result of the demonstrated validity of this measure, its prevalent use, and ability to effectively assess dyadic experiences of both emotional and sexual facets of intimacy, the PAIR was used to assess intimacy within the thesis. Only facets of emotional and sexual intimacy were incorporated given their more strongly established empirical relation with relationship quality.

Intimacy and Couple Satisfaction: Empirical Links

Given their important roles, numerous studies have surfaced with the aim of studying emotional and sexual intimacy in relation to couple satisfaction. First, using a sample of 192 married couples, Schaefer and Olson's (1981) findings revealed a positive association between one's emotional intimacy, as defined by the PAIR (Schaefer & Olson, 1981), and one's marital satisfaction, as measured by the Marital Adjustment Scale (Locke & Wallace, 1959). This corresponds with Greeff and Malherbe (2001) who, using a sample of 57 married couples, similarly demonstrated that higher levels of an individual's emotional intimacy (as measured by the PAIR) were related with higher levels of marital satisfaction (as measured by the Enriching and Nurturing Relationship Issue, Communication and Happiness: ENRICH; Olson et al., 1983). Zimmer-Gembeck and Petherick's (2006) research also illustrated a positive link between one's emotional intimacy motives (as measured by the Intimacy Dating Goals Scale; Sanderson & Cantor, 1995), and one's relationship satisfaction (as measured by a modified version of

Hendrick's (1988) Marital Assessment Questionnaire) using a sample of 242 individuals involved in a current or past dating relationship.

These findings are aligned with Sanderson and Evans' (2001) study which demonstrated that higher levels of one's intimacy goals (as assessed by the Intimacy Dating Goals Scale; Sanderson & Cantor, 1995) were related with higher levels of one's couple satisfaction (as measured by the DAS; Spanier, 1976) amongst a sample of 100 women involved in a heterosexual dating relationship. Conversely, their partner's goals were not shown to be associated with women's dyadic adjustment. The relation between women's intimacy and men's dyadic adjustment was not examined within their study. However, Sanderson and Cantor (2001) subsequently extended the aforementioned results by implementing an inclusive dyadic examination of the relation between intimacy and relationship quality. Their findings showed that women's and men's intimacy goals (as measured by the Intimacy Dating Goals Scale; Sanderson & Cantor, 2001) were linked to both their own and their partner's dyadic adjustment (as measured by the DAS; Spanier, 1976). Despite research focused on the examination of both partners' *intimacy goals* (i.e., one's reported *desire* for intimacy), a dyadic examination of both partners' *experience* of intimacy (i.e., one's *current* level of intimacy) has yet to be implemented in relation to one's relationship quality. Given that one's intimacy goals may differ from one's experience of intimacy, the novel examination and comparison of both partners' *current* experience of emotional intimacy is required for a more thorough understanding of the link between intimacy and couple satisfaction. The higher correlation/regression coefficients revealed for an individual's versus their partner's [emotional] intimacy goals (Sanderson & Cantor, 2001) suggest that one's current level of emotional intimacy may play a more central role in one's relationship quality when contrasted with one's partner's current level of emotional intimacy.

Although research has preponderantly focused on emotional facets of intimacy, physical forms of intimacy (e.g., kissing, hugging, touching, etc.) have also been shown to be an important avenue by which individuals can express and obtain care and validation from their partner (Reis & Patrick, 1996). To illustrate, using a sample of 192 married couples, Schaefer and Olson (1981) found that higher levels of an individual's sexual intimacy, as evaluated by the PAIR (Schaefer & Olson, 1981), were related with higher levels of one's marital satisfaction, as evaluated by the Marital Adjustment Scale (Locke & Wallace, 1959). Greeff and Malherbe's research (2001) similarly demonstrated a positive relation between one's sexual intimacy, as measured by the PAIR (Schaefer & Olson, 1981), and one's marital satisfaction, as measured by the ENRICH (Olson et al., 1983), among a sample of 57 married couples. Such findings correspond with Tolstedt and Stokes (1983) who, using a sample of 43 married couples, also showed a positive association between an individual's physical intimacy, as assessed by Tolstedt and Stokes' Physical Intimacy questionnaire (1983), and one's marital satisfaction, as assessed by the Perceived Marital Satisfaction Index (PMSI; Tolstedt et al., 1983). Moreover, their study revealed that physical intimacy explained variance in marital satisfaction over and above that demonstrated for other facets of intimacy (e.g., verbal and affective intimacy), despite this effect being small (Tolstedt & Stokes, 1983).

Additionally, using a sample of 161 married women, Hurlbert, Apt, and Rabehl (1993) demonstrated that higher levels of one's sexual satisfaction, as evaluated by the Index of Sexual Satisfaction (Hudson, 1982), were linked with higher levels of one's dyadic adjustment. However, closeness in one's romantic relationship, as measured by the Relationship Closeness Inventory (Berscheid et al., 1989), was shown to account for a large proportion of the variance in sexual satisfaction. Such findings led the authors to conclude that sexual satisfaction, and its

relation to dyadic adjustment, was largely explained by feelings of sexual intimacy that accompany sexual behaviours. Finally, by conducting a factor analysis of several items assessing sexual motives, Cooper, Shapiro, and Powers (1998) revealed that individuals reported intimacy as their primary motive for engaging in sexual behaviours when contrasted with other motives such as enhancement, coping, self-affirmation, and partner and peer approval. Although researchers continue to advocate for the notion of intimacy as mutually determined by each partner of a romantic dyad (Schaefer & Olson, 1981), studies have yet to examine both partners' level of sexual intimacy (goals or current experiences) in relation to one's couple satisfaction. Moreover, despite researchers' acknowledgement of the important role of both emotional and sexual experiences of intimacy, studies have yet to simultaneously examine and contrast these facets within one model to examine their potentially differential relation with couple satisfaction. However, higher correlation coefficients revealed for emotional intimacy, when contrasted with sexual intimacy (Greeff & Malherbe, 2001; Schaefer & Olson, 1981), suggest that emotional facets will demonstrate a stronger relation with relationship quality.

Altogether, research supports both intimacy and jealousy as having a pervasive influence on relationship functioning (Anderson et al., 1995; Guerrero, 1992). Given these strongly established links, and the all-encompassing role of couple satisfaction on general well-being (Baumeister & Leary, 1995; Prigerson et al., 1999), further understanding jealousy and intimacy and their relation with couple satisfaction remains a fruitful research avenue. One overarching means by which the studies of the current thesis aimed to further elucidate this understanding was the incorporation of an original attachment perspective investigating for whom such relations may be exacerbated or lessened.

Attachment

Attachment theory offers one of the most comprehensive theories and thorough explanations of close relationships. The usefulness of attachment theory is demonstrated by its omnipresent use across a multitude of studies to understand the complexities of relationship functioning. Attachment research first emerged in an attempt to explain the significant role that early relationships with primary caregivers can have on later development (Mikulincer & Shaver, 2007). It has since been expanded as a framework by which to comprehend attachment bonds and experiences in adult relationships, including romantic love (Mikulincer & Goodman, 2006). Broadly, the varied and intense experiences within romantic relationships, including joy and affection, self-protective anxiety and avoidance, anger, passion, sorrow, as well as jealousy and intimacy, are all reflections of the central role of the attachment system in early and adult life (Mikulincer & Goodman, 2006; Sharpsteen & Kirkpatrick, 1997).

Early Attachment

Drawing on etiological theories, Bowlby (1969/1982) originally developed attachment theory on the premise of human beings as social creatures who possess a natural inclination to increase physical and psychological proximity towards their primary caregivers. Both Bowlby (1969) and Ainsworth (1973) described attachment as an adaptive, innate, and complex goal-oriented system used to seek care, support, and protection during times of danger or need. However, considering that attachment bonds are not created equally, the quality of early relationships plays a pivotal role in the development, organization, and regulation of an individual's distinct attachment patterns (Ainsworth, 1973; Bowlby, 1969/1982). Based on the accessibility and responsiveness of caregivers (or lack thereof), the attachment system can

become modified in an attempt to achieve desired outcomes of nurturance and security (Bowlby, 1969/1982; Hazan & Shaver, 1994).

Conceptualizations of early attachment. With the endeavour of identifying the distinctive attachment strategies resulting from particular experiences with caregivers, Ainsworth, Blehar, Water, and Wall (1978) differentiated between secure, anxious-ambivalent, and anxious-avoidant attachment styles. They proposed that secure attachments develop when a child has access to caregivers who are consistent and receptive to one's needs. Such attachment figures are demonstrated to be emotionally and physically available, competent at appraising signs of distress, effective in providing appropriate comfort and soothing, and are neither intrusive nor disruptive when the child is not demonstrating signs of grief or need. Hence, in healthy child-caregiver environments, a child learns that it is useful to seek support from close others when experiencing a threat or sufferance as this results in the attainment of reassurance and comfort. Likewise, the individual determines that when a threat has subsided it becomes beneficial to again engage in other activities in order to focus one's attention to other important matters (Bowlby, 1969/1982). Accordingly, one discovers that interpersonal closeness can occur simultaneously, and is not mutually exclusive, with autonomous functioning (Mukilincer & Shaver, 2007). This results in the development of a general sense of being loved and valued, of the world as generally safe, and the view of proximity seeking as a reliable and effective emotion regulation strategy (Bowlby, 1969/1982).

Conversely, when primary attachment behaviours (e.g., proximity seeking) continuously fail to accomplish their intended goals of receiving support and care from early caregivers, one can begin to modify and veer away from more typical proximity seeking behaviours. Ainsworth and colleagues (1978) defined two forms of insecure attachment that could ensue from such

experiences. Individuals who develop anxious-ambivalent attachment are described as desiring closeness but concurrently hesitant in this approach due to inconsistent love and care provided by one's attachment figure(s). Conversely, those who develop anxious-avoidant attachment are described as devising attachment strategies that are emotionally disengaged due to caregiver neglect and/or unavailability in times of need (Ainsworth et al., 1978).

Based on the conceptualization of early attachment defined by Ainsworth and colleagues (1978), Mikulincer and Shaver (2003/2007) went on to identify two explicit attachment strategies generally utilized by individuals with insecure attachment: the hyperactivation and deactivation of attachment needs. Their formulization further highlighted and expanded upon the mechanisms by which early social experiences with caregivers may influence the development of distinct attachment processes. The hyperactivation of attachment needs is believed to develop as a result of early experiences with sporadically available attachment figures that were at times available and other times not. Under such circumstances, the individual learns that persistent and intensified proximity seeking behaviours can occasionally succeed in attaining responsiveness from one's attachment figure(s) (Mikulincer & Shaver, 2007). Hence, the primary objective of this approach is to promote increased protection and support from one's attachment figure (Cassidy & Kobak, 1988). While initially adaptive to early experiences with inconsistent caregivers, this can subsequently lead to an individual becoming incessantly vigilant to cues of threat, developing fears of abandonment, and continuously hyperactivating the attachment system in situations or successive relationships where this may not be warranted or helpful (Mikulincer & Shaver, 2007).

Conversely, the deactivation of attachment needs is believed to develop as a result of early experiences with unavailable attachment figures who disapproved of closeness or the

expression of need (Cassidy & Kobak, 1988). In such cases, the individual learns to deactivate the attachment system (e.g., proximity seeking) and conceal their needs and vulnerabilities from others (Cassidy & Kobak, 1988). Despite felt security not being achieved, the individual adapts to their environment by dealing with threats and danger independently and autonomously. Thus, the primary aim of this approach is to keep attachment needs deactivated as to not become continually frustrated by the unavailability of attachment figures (Cannon, 1932/1939). Once more, while this strategy may have been fitting to their early circumstances of being raised by unavailable caregivers, it may cause unwanted consequences in later relationships by the continual and concurrent downplaying of one's needs and those of others (Mikulincer & Shaver, 2007).

Overtime, the utility of different attachment strategies is stored within working models of attachment (Bowlby, 1969/1982) that become automatic and unconscious and continue to exert their influence on succeeding relationships (Mikulincer & Shaver, 2007). The most prototypical aspects of interactions with early caregivers become part of the individual's knowledge and continue to operate in later relationships, biasing the manner by which one encodes memories and interacts with later attachment figures (Mikulincer & Shaver, 2007). Bowlby (1969) stipulated that early emotional bonds with caregivers not only go on to affect internal representations of others (e.g., as accessible or unavailable in times of need), but additionally, internal representations of the self (e.g., as worthy or unworthy of love). Therefore, despite the shift in key attachment figures throughout the lifespan from parents in childhood, to peers in adolescence, and romantic partners during adulthood, early attachment strategies and experiences continue to influence ensuing relationships (Hazan & Shaver, 1987).

Adult Attachment

Provided the continued and functional role of attachment in later life, the influential work of Bowlby (1969/1982) and Ainsworth (1973) was extended to include models of adult attachment. Broadly, the preponderance of current conceptualizations distinguish between general adult attachment predispositions in *most relationships* and general adult attachment predispositions in *romantic relationships*. This differentiation remains important given that research has revealed how attachment bonds may differ across distinct attachment figures (Caron, Lafontaine, Bureau, Levesque, & Johnson, 2012). Thus, a measure of romantic attachment was used throughout the thesis provided that one's general attachment may diverge from one's romantic attachment, that romantic attachment is demonstrated to be the most important attachment bond in adulthood (Mikulincer & Shaver, 2007), and that this study will focus on relational factors that influence romantic relationships.

Conceptualizations of romantic attachment. Hazan and Shaver (1987) were the first to conceptualize attachment styles within the context of romantic relationships. Based on the parent-child relationships identified by Ainsworth (1967), they initially proposed a three-category framework that distinguished between anxious, avoidant, and secure romantic attachment patterns. This resulted in Hazan and Shaver's (1987) simplistic questionnaire that is comprised of three brief descriptions of each attachment style and requires that respondents indicate which narrative best characterizes them (Hazan & Shaver, 1987; Mikulincer & Shaver, 2007). Bartholomew (1990) subsequently provided an interpretation of the dimensions of attachment avoidance and anxiety using Bowlby's (1969/1982) conceptualization of internal working models of the self and others. Bartholomew contended that the combination of the aforesaid factors resulted in four, rather than three, attachment patterns. The outcome was the

construction of the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), a brief measure containing descriptions of four attachment types consisting of: secure (positive model of self and others), preoccupied (positive model of others and negative model of self) dismissive avoidant (positive model of self and negative model of others) and fearful avoidant attachment (negative model of self and others). Although comprising of continuous rating scales, the RQ is intended to measure four [general or romantic] attachment types. However, it has since been shown that a categorical formulation of attachment has limitations (including reduced reliability) resulting from the measurement error of classification artifacts (Fraley & Waller, 1998). To in part address these issues, attachment researchers concurrently developed continuous measures of adult attachment.

Simpson (1990) was one of the initial researchers to convert Hazan and Shaver's (1987) prototypes of attachment into two continuous dimensions: anxiety and avoidance. The result was the construction of the Adult Attachment Questionnaire (AAQ) which assesses general attachment patterns in romantic relationships. During this period, Collins and Read (1990) likewise converted Hazan and Shaver's (1987) attachment categories into dimensional components, but furthermore added supplementary items that assess a participant's perception of their partner's responsiveness, as well as reactions to separations from their partner. The result was the Adult Attachment Scale (AAS) which was later shown to measure three dimensions: discomfort with closeness, discomfort depending on others, and anxious concern about being abandoned or unloved.

Thereafter, Feeney and colleagues (1994) endeavoured to build a new measure of romantic attachment "from the ground up" to ensure that there were no important aspects neglected from Bowlby's (1969/1982) or Ainsworth's (1967) models of attachment. Furthermore,

they were interested in rewording items to be less "romantic" for use amongst individuals (e.g., adolescents) who may have less experience with romantic relationships. Their work resulted in the development of the Attachment Style Questionnaire (ASQ; Feeney et al., 1994) which comprises of five factors: discomfort with closeness, lack of confidence (in self and others), need for approval and confirmation, preoccupation within relationships, and the view of relationships as secondary.

Subsequently, Brennan, Clark, and Shaver (1998) formulated the Experiences in Close Relationships (ECR) by incorporating and analyzing the non-redundant items found in all attachment measures devised until the late 1990s. They found that two higher order factors were common to each assessment tool. The first dimension, anxiety, is defined as worries or fears about being rejected or abandoned by one's romantic partner (Brennan et al., 1998). The second dimension, avoidance, is defined as discomfort with closeness and emotional intimacy in romantic relationships (Brennan et al., 1998). Akin to previous conceptualizations, those with higher levels of anxiety or avoidance are described as having insecure forms of romantic attachment. The validity of the ECR has been repeatedly demonstrated, both within behavioural and experimental manipulation studies, and is considered as a benchmark with which to compare new measures of attachment (Mikulincer & Shaver, 2007). As such, the ECR was used throughout the thesis to assess romantic attachment.

Attachment and Couple Satisfaction

Attachment theory has been a valuable paradigm for explicating how adaptations to specific social and relational circumstances (both early and subsequent interpersonal relationships) can shape the emotions, thoughts, and behaviours in romantic relationships (Hazan & Shaver, 1987). In this way, attachment frameworks have been informative in revealing how

healthy and unhealthy forms of romantic love may develop (Hazan & Shaver, 1987). More explicitly, individuals with higher attachment anxiety are shown to doubt their ability to sustain romantic relationships, exhibit vigilance to cues of threat and abandonment (including higher jealousy), demonstrate an increased sensitivity to rejection, and recurrently commit prematurely in their relationship, placing them in a position of vulnerability (Mikulincer & Shaver, 2007). Moreover, the hyperactivation of attachment needs can lead them to intrusively and incessantly seek out greater intimacy from their romantic partner while exhibiting constricted levels of healthy autonomy (Collins & Read, 1990; Feeney & Noller, 1991). Conversely, avoidantly attached individuals' deactivation of attachment needs typically results in their expectation of relationship failure, the anticipation of being disappointed by others, a reduced interest in romantic relationships, and lower levels of commitment (Mikulincer & Shaver, 2007; Pistole, Clark & Tubbs, 1995). Additionally, avoidant individuals' discomfort with closeness often leads them to place limits on intimacy while correspondingly seeking out excessive levels of autonomy (Collins & Read, 1990; Feeney & Noller, 1991). Although once adaptive to their earlier caregiver circumstances, the idiosyncratic attachment strategies employed by insecurely attached individuals often generate problematic regulation methods in their romantic relationships that lead to lower couple satisfaction (Treboux, Crowell, & Waters, 2004).

Moderating Role of Attachment

Despite a multitude of research substantiating the negative relation established between insecure attachment (anxiety and avoidance) and couple satisfaction (see Mikulincer & Shaver (2007) for a thorough review), few studies have assessed the processes by which attachment may influence relationship quality. Therefore, despite important advances in understanding *whether* attachment patterns are related to couple satisfaction, there remains a gap in the current literature

regarding the circumstances by which such processes may influence relationship quality. As previously alluded to, the examination of moderation effects can permit a greater comprehension of the relation between variables by revealing for whom or when such relations may occur. Consequently, the identification of moderators has come to be regarded as an integral component of social science theory (Cohen, Cohen, West, & Aiken, 2003) and as an indication of the maturity and sophistication of a field of investigation (Aguinis, Boik, & Pierce, 2001; Judd, McClelland, & Culhane, 1995). Corresponding with such aims, the overarching objective of the current thesis was to examine whether anxious versus avoidant attachment processes may influence (i.e., moderate) the strongly established association between relationship indicators shown to be negatively correlated (e.g., emotional, cognitive, and behavioural jealousy; article 1) and positively correlated (e.g., emotional and sexual intimacy; article 2) with relationship quality.

Specific inquiries of interest included whether anxiously attached individuals' hypervigilance to attachment threats, in contrast to avoidantly attached individuals' deactivation of attachment threats, would increase or decrease, respectively, the strength of the established negative relation between jealousy (emotional, cognitive, and behavioural) and couple satisfaction. Correspondingly and secondly, an additional area of interest was whether anxiously attached individuals' incessant need to attain higher levels of intimacy, and avoidantly attached individuals' discomfort with intimacy, would increase or decrease, respectively, the strength of the established positive relation between intimacy (emotional and sexual) and couple satisfaction. In this way, using a novel moderating approach of romantic attachment, the thesis studies sought to elucidate for whom the relation between jealousy or intimacy and couple satisfaction may be differentially impacted. This was expected to provide a valuable

understanding of how universally experienced relational processes (i.e., attachment) may influence important relationship factors (i.e., jealousy and intimacy) and their association with couple satisfaction.

Extending Previous Research and Objectives of Thesis

Article 1: Jealousy

This study aimed to further broaden knowledge regarding jealousy and its relation with couple satisfaction (Bernhard, 1986; Pheiffer & Wong, 1989) in a variety of ways. First, given biased accounts that may arise from the preponderantly measured retrospective accounts of jealousy, this study endeavoured to examine reports of jealousy as experienced by individuals currently involved in a romantic relationship of at least 12 months. Second, given the intricate and complex nature of jealousy and the multifaceted components of this construct (Pheiffer & Wong, 1989; Rydell & Bringle, 2007; White, 1981; White & Mullen, 1989), this study sought to implement a novel and broad-based assessment simultaneously examining and comparing emotional, cognitive, and behavioural facets of jealousy in relation to one's couple satisfaction. Third, in an attempt to examine the unexplored stipulation that jealousy is more detrimental to the partner who perceives themselves to be the target rather than the perpetrator of jealousy, an additional aim was to compare one's perception of their partner's jealousy with one's own jealousy, respectively. Fourth and lastly, given that the experience of relationship threats may vary based on one's attachment patterns (Sharpsteen & Kirkpatrick, 1997), a primary objective of the study was to implement a novel model examining romantic attachment as a moderator of the relation between jealousy and one's couple satisfaction.

Article 2: Intimacy

This study aimed to further contribute to the understanding of intimacy and its association with relationship quality (Reis, 1990; Steil, 1997) in diverse ways. First, given current research' focus on examining unidimensional constructs of intimacy (predominantly emotional facets), this study aimed to implement a broader examination of intimacy contrasting emotional versus sexual facets of intimacy. Second, given the highly accepted view of intimacy as a dyadic process (Schaefer & Olson, 1981), this study endeavoured to examine both partners' levels of emotional and sexual intimacy in relation to one's couple satisfaction. Third, given attachment research demonstrating that one's interpersonal history can shape one's motives and preferences, a primary aim was to investigate how one's romantic attachment may differentially impact the link between both partners' emotional and sexual intimacy and one's couple satisfaction.

In summary, the two studies that follow are expected to broaden knowledge regarding four prolific and important fields of couple research: jealousy, intimacy, romantic attachment, and couple satisfaction. Each study is anticipated to contribute to a more thorough understanding of central relationship facets (jealousy and intimacy) and their relation with couple satisfaction using a solid theoretical framework of attachment. More generally, this is expected to extend current knowledge regarding the overarching role of romantic attachment processes on couple satisfaction. The implications of each study are discussed in detail throughout the articles, as well as the general discussion and conclusion of the thesis.

Article 1

Jealousy and Couple Satisfaction: A Romantic Attachment Perspective

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Abstract

The overarching objective of this study was to examine a novel model investigating romantic attachment as a moderator of the relation between an individual's jealousy, or their perception of their partner's jealousy, and one's couple satisfaction. The sample comprised of 502 university students currently involved in a relationship of at least 12 months. An original and comprehensive model concurrently investigating emotional, cognitive, and behavioural facets of jealousy was employed. The implementation of hierarchical models revealed that cognitive jealousy was negatively associated with couple satisfaction, whereas emotional jealousy demonstrated a positive association; behavioural jealousy did not add incremental value in one's couple satisfaction when assessed alongside the aforementioned facets of jealousy. Results were applicable to both one's own and one's perception of their partner's jealousy for each respective facet. Cognitive jealousy was demonstrated to explain the greatest variance in one's couple satisfaction when contrasted with emotional and behavioural jealousy. Findings also revealed romantic attachment as a moderator of the relation between certain facets of jealousy and couple satisfaction, with attachment anxiety and avoidance leading to a strengthened or weakened relation, respectively. As such, results suggest that the negative and positive consequences of jealousy on couple satisfaction may be exacerbated amongst those exhibiting higher attachment anxiety. Gender effects were not demonstrated amongst any relations examined. The applied and clinical implications of all findings are discussed.

Keywords: jealousy, attachment, relationship satisfaction, couple relationship

Jealousy and Couple Satisfaction: A Romantic Attachment Perspective

Romantic relationships are considered to be the most important bond established in adulthood (Mikulincer & Shaver, 2007). Their significance is demonstrated by the profound impact these relationships can have on the general, mental, and physical well-being of individuals comprising the romantic dyad (Davila & Bradbury, 1998; Whiffen & Aube, 1999). Provided the myriad of functions of romantic relationships, the existence of an innate process aimed at establishing and maintaining relationship bonds is not only beneficial but necessary; such is the function of working models of attachment. An additional aspect of relationships for which attachment is directly relevant pertains to the potential loss of an important relationship (Sharpsteen & Kirkpatrick, 1997). Responses to such threats are known as jealousy (Sharpsteen & Kirkpatrick, 1997). Given the competition that can arise for romantic relationships (Salovey, 1991), and the corresponding protective function of jealousy for relationship maintenance (Guerrero, 1998), this is likewise regarded as an adaptive relational phenomenon (De Steno, Valdesolo, & Bartlett, 2006). Both jealousy and attachment, which can be viewed as processes aimed at minimizing attachment threats and maintaining relationship bonds (Sharpsteen & Kirkpatrick, 1997), are shown to have a profound impact on couple satisfaction (Feeney, 1999; Pheiffer & Wong, 1989). Despite their corresponding and central roles, little is known about how jealousy and attachment may interact to influence couple satisfaction.

Knowledge on the link between variables is often enhanced by understanding what limits or improves this relation, for instance, for whom or under which circumstances (Hayes & Matthes, 2009). Theoretical accounts of an effect are often tested and strengthened by the examination of a moderator effect (a variable that impacts the strength or direction of the relation between a predictor and outcome variable; Baron & Kenny, 1986). Given the important role of

attachment on both the experience of jealousy and the attainment of couple satisfaction (Feeney, 1999; Sharpsteen & Kirkpatrick, 1997), we sought to examine a novel model examining romantic attachment as a moderator of the relation between jealousy and couple satisfaction. Thus, the goal was to not only investigate novel aspects of the important link between ubiquitously experienced relational processes (i.e., jealousy reactions) and couple satisfaction, but moreover, examine whether universal relationship dynamics (i.e., one's attachment) may elucidate for whom this relation may differ. Provided that the effective management of jealousy is regarded as a necessary component of satisfactory relationships (Rusbult & Buunk, 1993), knowing for whom jealousy may be differentially related to one's couple satisfaction may reveal important theoretical, empirical, and clinical implications regarding the establishment of satisfactory relationships. In support of the proposed moderator model, a theoretical and empirical overview of jealousy, attachment, couple satisfaction, and their interrelations follows.

Jealousy

Jealousy, which can arise in response to an imagined or genuine relationship threat (Pheiffer & Wong, 1989), is considered to be one of the predominant emotions experienced in couple relationships (Guerrero, 1998). Notwithstanding idiosyncratic levels and frequencies of jealousy, this is universally experienced by all individuals regardless of sexual orientation, social class, culture, age, and relationship status (Bernhard, 1986). When occurring in low levels, romantic jealousy can lead to positive relational outcomes, such as enabling the identification and establishment of relational boundaries required for relationship stability (Guerrero, 1998). In this way, jealousy can aid in partner retention by protecting couples from straying (Buss, 1995; Buss & Shackelford, 1997). Jealousy has similarly been shown to be used as an indicator of whether one is loved, cared, and valued by their romantic partner (Buss, 2000; De Silva &

Marks, 1994). Hence, from an adaptive standpoint, jealousy can be regarded as an exemplary and essential social emotion required for stability and the expression of love in romantic relationships (De Steno et al., 2006).

However, when jealousy occurs frequently, in high levels, or in response to imagined situations, this can be associated with varied negative outcomes (Mullen & Martin, 1994; Pheiffer & Wong, 1989). First, high levels of jealousy are shown to be related with increased relationship conflict, insecurity, and relationship dissolution (Barelds, 2007; Pheiffer & Wong, 1989). Additionally, romantic jealousy has been linked with a host of negative emotions, including higher levels of anger, rage, depression, and anxiety, as well as increased intimate violence, suicide, and homicide (Bernhard, 1986; Hoehing, 2001; O'Leary, Smith-Slep, & O'Leary, 2007; Puente & Cohen, 2003). Finally, the negative consequences that can arise from jealousy are shown to be a pervasive and common area of difficulty in romantic relationships, with university students rating jealousy as one of the top three most frequently reported reasons attributed to seeking couples therapy (Zusman & Knox, 1998). Given its significant role, the literature has focused on delineating the multifaceted features of jealousy.

Models and conceptualizations of jealousy. Lazarus' (1984) model of emotions asserted that when a threat is inferred (primary cognitive appraisal) an individual will search for relevant emotional cues (secondary appraisal) that will subsequently elicit behavioural coping strategies to deal with the inferred threat. White (1981) applied an analogous model to jealousy which he contended was similarly instigated by cognitive appraisals, followed by emotional reactions, and terminating with behavioural manifestations. Given the varied internal experiences of jealousy emphasized by White (1981), he maintained that certain facets may not be observable or known to others, including one's partner. Pheiffer and Wong (1989) agreed with White's formulization

but argued that jealousy could likewise occur as a "parallel interactive model" whereby the emotions, cognitions, and behaviours that comprise jealousy occur simultaneously and interact with one another (Pfeiffer & Wong, 1989, p. 185). Efforts by Pfeiffer and Wong (1989) to operationalize this model resulted in a broad-based conceptualization empirically supporting a differentiation between emotional jealousy (anticipated affective responses to diverse situations varying in degree of relationship threat), cognitive jealousy (suspicions, thoughts, and worries about a partner's extradyadic behaviours or the existence of a potential rival) and behavioural jealousy (checking/snooping behaviours resulting from [the inferred or actual threat of] a relationship rival; Pfeiffer & Wong, 1989). Using this highly validated and accepted conceptualization of jealousy (Knobloch, Solomon, & Cruz, 2001; Pfeiffer & Wong, 1989; White, 2008; White & Mullen, 1989), the current study sought to implement a comprehensive and original model simultaneously examining emotional, cognitive, and behavioural jealousy and their incremental relation with couple satisfaction. The incorporation of an attachment perspective was expected to further broaden this analysis.

Jealousy, Attachment, and Couple Satisfaction: Theoretical Links

Attachment theory is considered to be one of the most exhaustive frameworks for understanding how early attachment bonds shape the perceptions, emotions, and behaviours experienced in subsequent adult relationships (Mikulincer & Shaver, 2007). More explicitly, based on the quality of early relationships, and as a means to acclimate to their environment, an individual will broadly develop secure or insecure attachment patterns (Bowlby, 1969/1982). In romantic relationships, insecure forms of attachment are typically manifested in terms of anxiety over abandonment (defined as worries or fears about being rejected or abandoned by one's partner) and avoidance of intimacy (defined as discomfort with closeness and emotional

intimacy); more commonly referred to as attachment anxiety and avoidance, respectively (Brennan, Clark, & Shaver, 1998).

Generally, individuals who develop attachment patterns characterized by anxiety were most prototypically exposed to sporadically responsive attachment figures in early life that were at times available and other times not (Bowlby, 1969/1982). To cope, anxiously attached individuals learned that exaggerated and intensified proximity seeking behaviours, known as the hyperactivation of attachment needs, occasionally succeeded in attaining responsiveness and support from caregivers (Cassidy & Berlin, 1994; Cassidy & Kobak, 1988). In romantic relationships, hyperactivation strategies are commonly exhibited as unremitting feelings of vulnerability, vigilance to cues of abandonment, the intensification of emotions, dependency (Fraley & Shaver, 2000; Mikulincer & Shaver, 2007), and incessant and overbearing desires to provide and obtain greater care and love to and from their romantic partner (Collins & Read, 1990; Ognibene & Collins, 1998).

Conversely, individuals exhibiting avoidant attachment were typically exposed to early attachment experiences characterized by unavailable caregivers who disapproved of closeness and the expression of need (Cassidy & Kobak, 1988). To cope, avoidantly attached individuals learned to conceal their needs, emotions, and vulnerabilities by deactivating the attachment system in order to not become continuously frustrated by the unavailability of caregivers (Fraley & Shaver, 2000). In romantic relationships, deactivation strategies are commonly displayed by the minimization of the importance of their relationship, the continual downplaying of relationship-based desires and emotions (Hazan & Shaver, 1994), the view of such desires as needy and dependent, and the experience of negative affect upon their romantic partner's proximity seeking behaviours (Bartholomew & Horowitz, 1991; Feeney & Collins, 2003).

Although formerly adaptive to an individual's earlier circumstances of being raised in the care of an unresponsive caregiver(s), the use of insecure attachment strategies is typically shown to lead to lower satisfaction in couple relationships (Feeney, 1999).

Despite these negative consequences, early attachment bonds continue to unconsciously serve as a cognitive filter by which relationship experiences are processed, including threats to close relationships (Collins & Read, 1990; Hazan & Shaver, 1987; Sharpsteen & Kirkpatrick, 1997). For those who experienced ineffective attachment interactions with early caregivers, threat appraisal will more likely activate thoughts or memories of separation, hurt, loss, or rejection, and consequently, the use of hyperactivation or deactivation strategies as a means to cope (Mikulincer & Shaver, 2003). Given the presence of discrepant attachment strategies and reactions for dealing with relationship threats, the current study sought to explore whether the occurrence of jealousy (one's own or one's perception of their partner's jealousy) may be differentially related to one's couple satisfaction based on one's romantic attachment.

First, given anxiously attached individuals' hypervigilance to attachment threats, hyperactivation of emotions, fears of abandonment, and dependency in relationships (Fraley & Shaver, 2000; Mikulincer & Shaver, 2007), they may demonstrate *greater* decreases in their couple satisfaction when experiencing a relationship threat or perceiving their partner as experiencing a relationship threat (i.e., jealousy). In contrast, given avoidantly attached individuals' use of deactivation strategies, the suppression of emotions, and minimization of the importance of their relationship (Fraley & Shaver, 2000; Mikulincer & Shaver, 2007), they may exhibit *lessened* decreases in their couple satisfaction when experiencing jealousy or perceiving their partner as experiencing jealousy. Hence, even when jealousy threats are experienced by avoidantly attached individuals, their importance may be minimized or denied. Accordingly, a

novel moderation effect of romantic attachment is proposed whereby the strength of the relation between jealousy and couple satisfaction is expected to be altered based on one's romantic attachment, with attachment anxiety increasing and attachment avoidance decreasing this association. The implications of knowing for whom the relation between jealousy and couple satisfaction may differ could potentially include an improved understanding of the relational (i.e., attachment) processes underlying jealousy, its varied impact on couple satisfaction, as well as treatment models for this pervasive relationship feature. The established links between attachment, jealousy, and couple satisfaction provide strong theoretical and empirical support for the proposed moderator models, however, subsequent elaborations will emphasize the relation between jealousy and couple satisfaction upon which the present study is focused.

Jealousy, Attachment, and Couple Satisfaction: Empirical Links

A multitude of research has revealed the important influence of jealousy on relationship quality. Although a negative relation has generally been demonstrated between jealousy and couple satisfaction (Barelds & Barelds-Dijkstra, 2007; Barnett, Martinez, & Bluestein, 1995; Bringle & Evenback, 1979; Guerrero & Jorgenson, 1991), positive relations have likewise been shown (Hansen, 1983; Romarin & Lapointe, 1978). However, to our knowledge, only two studies have assessed emotional, cognitive, and behavioural facets of jealousy and their association with relationship quality. First, using a sample of married individuals from the community ($N = 66$), Guerrero and Eloy (1992) found that one's emotional, cognitive, and behavioural jealousy were all negatively correlated with one's dyadic adjustment, with cognitive jealousy explaining the greatest amount of variance ($r = -.64$, accounting for 41 percent of the variance in dyadic adjustment scores), followed by behavioural jealousy ($r = -.43$, $r^2 = .018$), and lastly, emotional jealousy ($r = -.31$, $r^2 = .010$). Gender effects were not examined within their

study. Notwithstanding Guerrero and Eloy's (1992) examination of emotional, cognitive, and behavioural jealousy, an investigation concurrently exploring all of the aforementioned facets and their incremental relation with couple satisfaction has yet to be implemented within the existing literature.

Anderson, Eloy, Guerrero, and Spitzberg (1995) corroborated Guerrero and Eloy's (1992) findings by demonstrating a negative association between one's cognitive and emotional jealousy and one's relationship satisfaction ($r = -.41$; $r = -.26$, respectively) among a sample of individuals ($N = 346$) involved in a long-term or married relationship; behavioural jealousy was not assessed within their study. Gender differences were examined for each relation but none were found. It should be noted that their study included a modified version of emotional jealousy assessing the *frequency* of jealousy-evoking emotions in contrast to *anticipated* emotional reactions (i.e., level of upset) to hypothetical jealousy-evoking situations. Such a distinction is important given Pheiffer and Wong's (1989) assertion that emotional jealousy may have negative or positive consequences for relationship quality depending both on its frequency and whether or not such jealousy is reactive to a relationship threat. As such, the assessment of emotional jealousy, as defined by Pheiffer and Wong's (1989) Multidimensional Jealousy Scale (MJS) and as used within the current study, can be regarded as more akin to reactive forms of jealousy when contrasted with the assessment of its frequency provided that the latter may not necessarily correspond with the presence of a relationship threat (actual or hypothetical). Irrespective of this distinction, the correlation coefficients reported within the abovementioned studies suggest that cognitive jealousy will explain the greatest amount of variance in one's couple satisfaction, followed by behavioural jealousy, and finally, emotional jealousy.

Despite findings revealing that jealousy can have a detrimental effect on both the "target" and "perpetrator" of jealousy (i.e., the person towards whom the jealousy is directed and the person experiencing/expressing jealousy, respectively; Bevan, 2006), this has yet to be specifically explored in relation to outcomes of couple satisfaction. Given stipulations that jealousy may have the gravest consequences for the partner who is the target of jealousy (De Silva & Marks, 1994), and the highly accepted interdependence view of jealousy as mutually affecting both partners (Bevan, 2006; White & Mullen, 1989; Yoshimara, 2004), examining the relation between jealousy and both the target and perpetrator's couple satisfaction remains a valuable and unexplored area of research.

As a final point, although there is strong empirical support established for the association between romantic attachment and couple satisfaction, as well as between romantic attachment and jealousy, such links (i.e., between moderator and outcome variables or moderator and predictor variables, respectively) are not stipulated requirements for establishing a moderation effect (Baron & Kenny, 1986). Therefore, for brevity, interested readers are invited to refer to Mikulincer and Shaver (2007) for a thorough review of the preponderantly demonstrated negative relation between attachment insecurity and couple satisfaction. Correspondingly, for an overview of the positive association typically revealed between attachment anxiety and jealousy, and the discrepant findings pertaining to avoidant attachment and jealousy (with some studies demonstrating the absence of a relation, and others revealing a negative or positive relation depending on the explicit facet investigated), the reader is referred to Sharpsteen and Kirkpatrick (1997), as well as Rydell and Bringle (2007), respectively.

Current Study Objectives

Given remaining gaps in the literature, and the scarcity of research examining emotional, cognitive, and behavioural jealousy and their link with couple satisfaction, the present study aimed to replicate and extend existing findings in a number of unique ways. First, provided the view of emotional, cognitive, and behavioural jealousy as factors that mutually influence one another (Pheiffer & Wong, 1989), this study sought to be the first to incorporate a comprehensive assessment simultaneously examining all facets within one model and their incremental relation with couple satisfaction.

Second, given the unexplored stipulation that jealousy may impact the couple satisfaction of both the perpetrator and target of jealousy, we aimed to implement an original contrasting of one's jealousy versus one's perception of their partner's jealousy and their respective relation with one's couple satisfaction. Given that the "target" of jealousy may not be fully cognizant of the extent of their partner's jealousy (e.g., snooping behaviours; White, 1981), assessing one's perception of their partner's jealousy (i.e., assessing jealousy that is "recognized" by the target), in contrast to direct partner reports, was believed to offer a more informative and innovative means by which to conduct this exploration. To our knowledge, one's perception of their partner's jealousy has yet to be investigated with any construct of jealousy.

Third, given the central role of attachment processes in regulating emotions, coping with relationship threats, and couple satisfaction (Mikulincer & Shaver, 2007), we sought to extend knowledge on the relation between jealousy and couple satisfaction by the original exploration of the moderating role of romantic attachment. As previously alluded to, this was expected to elucidate for whom the relation between jealousy and couple satisfaction may differ. Finally, for comprehensiveness, the moderating role of gender was examined for all relations in order to

ascertain whether the association between jealousy and couple satisfaction (as well as the potential moderating role of romantic attachment) differs for men versus women. Despite studies demonstrating the absence of significant gender differences across our relations of interest (e.g., the link between jealousy and couple satisfaction or attachment and couple satisfaction; Anderson et al., 1995; Feeney, 1999); the moderating role of gender was examined for all links to ensure the integrity of the aforementioned results amongst our models.

Hypotheses

First, it was hypothesized that a negative linear relation would be demonstrated between one's cognitive, behavioural, and emotional jealousy (hypotheses 1-3, respectively), or one's perception of their partner's cognitive, behavioural, and emotional jealousy (hypotheses 4-6, respectively), and one's couple satisfaction. Second, it was hypothesized that individuals with higher anxiety over abandonment would demonstrate a stronger negative linear relation between one's cognitive, behavioural, and emotional jealousy (hypotheses 7-9, respectively), or one's perception of their partner's cognitive, behavioural, and emotional jealousy (hypotheses 10-12, respectively), and one's couple satisfaction. Third, it was hypothesized that individuals with higher avoidance of intimacy would demonstrate a weaker negative linear relation between one's cognitive, behavioural, and emotional jealousy (hypotheses 13-15, respectively), or one's perception of their partner's cognitive, behavioural, and emotional jealousy (hypotheses 16-18, respectively), and one's couple satisfaction. Fourth, it was hypothesized that cognitive jealousy would explain the greatest amount of variance in one's couple satisfaction, followed by behavioural jealousy, and finally, emotional jealousy; this was anticipated for both one's own and one's perception of their partner's jealousy for each respective facet (hypothesis 19). Fifth, it was hypothesized that one's perception of their partner's jealousy would explain a greater amount of

variance in one's couple satisfaction when compared with one's own jealousy; this was expected for all facets of jealousy (hypothesis 20). Lastly, gender effects were not expected amongst relations investigated within the current study.

Method

Participants

The sample was comprised of 502 undergraduate students ($n = 106$ men, $n = 396$ women) enrolled in an introductory psychology course. Eligibility criteria for the study included: a) being 17 years of age or older, b) being in a heterosexual relationship, and c) being involved with the same partner for at least 12 months. The mean age of participants was 21.42 years ($SD = 6.17$) and the average duration of the romantic relationship was 3.16 years ($SD = 4.16$). The ethnicity of participants was 84.9% Caucasian, 4.7% Black, 3.5% Asian, 3.5% Hispanic, 1.2% Middle Eastern, 1.2% First Nation, and 1.0% of other racial background. The majority of participants were not married (91.52%), not cohabitating with their partner (68.64%), and did not have children (93.69%). Participants had an average annual income of \$11,300 (Canadian dollars).

Procedure

Participants voluntarily enrolled in the study and were provided access to a secure and encrypted internet link (Survey Monkey) allowing the completion of an on-line questionnaire package. The questionnaire package informed participants of the voluntary and confidential nature of the study, and that they were free to withdraw at any time without consequence. Participants were requested not to consult with their romantic partner when responding to the questionnaires. Recruitment occurred over a four year period. Participants were provided one or two credits awarded to their final course grade as compensation for their participation. All procedures were approved by a university research ethics board.

Measures

Sociodemographic questionnaire. This questionnaire was administered to gather relevant personal (e.g., age, gender, educational level, salary, ethnicity, etc.) and relationship demographics (e.g., relationship/marital status, relationship length, etc.).

Multidimensional Jealousy Scale (MJS; Pheiffer & Wong, 1989). This 24-item measure assesses three subscales of jealousy: emotional, cognitive, and behavioural jealousy. Emotional jealousy measures anticipated affective reactions to relationship threats (e.g., "My partner is flirting with someone of the opposite sex") on a scale ranging from *1 = not at all upset* to *7 = very upset* (note that this was modified from the original scale which ranges from *1 = very pleased* to *7 = very upset* in order to better reflect the construct intended to be evaluated within the current study). Cognitive jealousy measures the degree to which an individual experiences suspicions, thoughts, and worries about a partner's infidelity or the existence of a potential rival (e.g., "I suspect that my partner may be attracted to someone else") on a scale ranging from *1 = all the time* to *7 = never*. Behavioural jealousy measures the frequency of checking/snooping behaviours occurring from the [actual or perceived] threat of a relationship rival (e.g., "I look through my partner's drawers, handbag, or pockets") on a scale ranging from *1 = never* to *7 = all the time*. The items for each subscale were modified from the original MJS by including the term "my partner" rather than "X" to refer to one's romantic partner. The response scale for the cognitive jealousy subscale is reversed to control for response-acquiescence bias. Each subscale comprises of 8-items. Item scores are summed for each subscale, with higher scores indicative of higher jealousy (score range: 8-56). High internal consistency (alphas of .85, .89, and 0.92), test-retest score correlations (.82, .34, and .74), and convergent validity with a well-known measure of jealousy (the Self Report Jealousy Scale (SRJ-S); Bringle, Roach, Andler, & Eveneck, 1979)

were demonstrated for emotional, behavioural, and cognitive jealousy, respectively (Pheiffer & Wong, 1989). The alphas of the present study were .88, .87, and .91 for emotional, behavioural, and cognitive jealousy, respectively.

Partner Multidimensional Jealousy Scale (PMJS; Dandurand & Lafontaine, 2010).

This is an adapted version of the Multidimensional Jealousy Scale (MJS; Pheiffer & Wong, 1989). The PMJS measures a participant's perception of their partner's jealousy. Akin to the MJS, the PMJS is a 24-item tool assessing three subscales: the participant's perception of their partner's emotional, cognitive, and behavioural jealousy. Item scores are summed for each subscale (score range: 8-56), with higher scores indicative of higher perceived partner jealousy. Scales and items of the PMJS are identical to the MJS described above with the exception of "I" being replaced with "My partner" and vice versa, where applicable. High internal consistency was demonstrated for each subscale with alphas of .88, .93, and .90 for emotional, behavioural, and cognitive jealousy, respectively (Dandurand & Lafontaine, 2010). Each item of the PMJS was demonstrated to only load highly on each of its respective dimensions, supporting the three factor structure demonstrated by the MJS (Dandurand & Lafontaine, 2010). The dimensions of jealousy (emotional, cognitive, and behavioural) were found to modestly correlate with one another (range = .13 to .61; Dandurand & Lafontaine, 2010). The alphas of the present study were .89, .90, and .93 for emotional, behavioural, and cognitive jealousy, respectively.

Experiences in Close Relationships (ECR; Brennan et al., 1998). This 36-item scale is a widely used measure of adult romantic attachment and is comprised of two subscales: anxiety over abandonment (e.g., "I worry about being rejected and abandoned") and avoidance of intimacy (e.g., "Just when my partner starts to get close to me I find myself pulling away"). Responses are indicated on a 7-point Likert scale ranging from 1 = *Disagree Strongly* to 7 =

Agree Strongly, with a midpoint of 4 = *Neutral/mixed*. Item scores are summed for each subscale, with higher scores indicative of higher anxiety or avoidance (score range: 18-126). General attachment patterns in romantic relationships, rather than relationship-specific attachment, were assessed. The ECR demonstrates excellent reliability coefficients and has been shown to be psychometrically superior when contrasted with three well-known attachment measures (Fraley, Waller, & Brennan, 2000). The ECR has similarly revealed good convergent validity and test-retest reliability scores (*range* = .50 and .75; Mikulincer & Shaver, 2007). In the present study, the internal reliability indices were .92 for anxiety over abandonment and .93 for avoidance of intimacy, as compared to .91 and .94, respectively, that were originally reported by Brennan and colleagues (1998).

Dyadic Adjustment Scale- 4 items (DAS-4; Sabourin, Valois, & Lussier, 2005). The DAS-4 is a briefer version of the original 32-item DAS (Spanier, 1976), a widely used and psychometrically validated self-report measure of dyadic adjustment for individuals involved in a romantic relationship. The DAS-4 includes questions such as: "How often do you discuss or have you considered divorce, separation, or terminating your relationship?" Varying Likert-type scales are used and items are summed to obtain a global score, with higher scores reflecting higher couple satisfaction (score range: 0-21). The scale has demonstrated good reliability ($\alpha = .84$), acceptable classification rates of distressed and non-distressed couples (.84 and .92, respectively), and better predictive validity (i.e., couple dissolution over a 2-year period) than the DAS-32 (Sabourin et al., 2005). In the present study, the internal reliability of the scale was .73.

Results

Preliminary Analyses

All statistical analyses were conducted with SPSS (Statistical Package for the Social Sciences) version 20.0. Prior to conducting the main analyses, data were verified for problematic missing values, multivariate normality, and univariate and multivariate outliers. Single imputations (using the expectation-maximization algorithm) were used to replace missing data (less than 5% of the dataset, missing at random) due to its ability to maximize power and its advantage over other available methods (e.g., case deletion, mean substitution, and regression; Widaman, 2006). Normality assumptions and the presence of outliers were examined by means of histograms and boxplots, respectively. To correct for violations of normality across variables (three negatively skewed, five positively skewed), square root transformations [for emotional jealousy, 2 facets] and logarithmic transformations [for attachment avoidance, behavioural jealousy-2 facets, cognitive jealousy-2 facets, and dyadic adjustment] were performed. Following transformations, no univariate outliers were identified. A test of Mahalanobis distance revealed that the data set contained six multivariate outliers; data from these participants were excluded from subsequent analyses (Tabachnick & Fidell, 2007). Finally, linearity and the absence of multicollinearity were demonstrated by means of bivariate scatterplots and the variance inflation factor (VIF), respectively, across all variables.

Inferential Statistics

Bivariate correlations were computed in order to verify preliminary relations amongst variables (see Table 1). Generally, higher levels of insecure attachment (attachment anxiety and avoidance) were positively linked with jealousy (one's own and one's perception of their partner's) and negatively linked with one's couple satisfaction. The only exceptions were the

absence of relations between attachment anxiety and one's perception of their partner's emotional jealousy and between attachment avoidance and emotional jealousy (one's own and one's perception of their partner's) and behavioural jealousy (one's own). Results also revealed that all facets of behavioural and cognitive jealousy were negatively related with one's couple satisfaction. Contrarily, emotional jealousy (one's own or one's perception of their partner's) was not shown to be related with one's couple satisfaction. Finally, all facets of jealousy (one's own and one's perception of their partner's emotional, cognitive, and behavioural jealousy) were demonstrated to be positively related with one another, with the exception of the absence of a significant relation between one's cognitive jealousy and one's perception of their partner's emotional jealousy, as well as one's emotional jealousy and one's perception of their partner's cognitive jealousy.

Principal Analyses

To test our hypotheses, hierarchical multiple regressions were implemented. Hierarchical regressions hold several advantages, including: the simultaneous examination of several predictors and their interaction(s) on the outcome variable(s), control over the entry of predictors based on the theoretical and empirical importance of each variable, and the assessment of the incremental value of predictors on the outcome variable(s) (Fields, 2005; Tabachnick & Fidell, 2007). All significant moderation effects were examined by means of simple slope tests using the range of both predictor variables (i.e., attachment and jealousy) from one standard deviation below and above the mean as outlined by Aiken and West (1991). To gain unbiased estimates of the hypothesized relationships, all independent variables were grand-mean centered (Kenny, Kashy, & Cook, 2006). A significance level of .05 was used throughout. Using regression coefficients as the unit of analysis, it was determined that our sample size ($N = 502$) afforded a

power level of more than .95 to detect a medium effect ($r = .3$) at an alpha level of .05 with models including 14 predictor variables (interactions included; G*Power; Faul, Erdfelder, Lang, & Buchner, 2007).

For all hierarchical regressions, each facet of jealousy and the corresponding interactions were entered on separate steps in order to assess their respective incremental value in couple satisfaction (outcome variable) over and above variables entered earlier in the model. The sequence of entry of jealousy (and the interactions) was consistent throughout each model and based on previous theoretical and empirical findings such that facets of jealousy demonstrating the strongest relation with couple satisfaction were entered first. Separate regression models were conducted for one's jealousy versus one's perception of their partner's jealousy, as well as for attachment avoidance versus anxiety, in order to determine their unique variance with couple satisfaction. This resulted in the testing of four hierarchical regression models. For each model tested, the sequence of entry was as follows: cognitive jealousy, behavioural jealousy, and emotional jealousy (one's own or one's perception of their partner's jealousy; steps 1-3); romantic attachment (anxiety or avoidance; step 4), gender (step 5), jealousy x attachment (steps 6-8); jealousy x gender (steps 9-11), and finally, jealousy x attachment x gender (steps 12-14). The explicit facets of jealousy and attachment entered within the analyses are described in each respective model that follows.

Given previous research showing that a small subset of individuals concurrently display high levels of attachment anxiety and avoidance (and the corresponding use of both hyperactivation and deactivation strategies; Bartholomew & Horowitz, 1991), we examined the potential interaction of attachment anxiety and avoidance in predicting the relation between jealousy and couple satisfaction. This was aimed at ensuring a comprehensive assessment of the

moderating role of romantic attachment. Two separate models were tested (model A included one's jealousy; model B included one's perception of their partner's jealousy). The interactions of attachment (anxiety x avoidance x jealousy; anxiety x avoidance x jealousy x gender) were entered within a hierarchical model similar to that previously described. Provided that (1) no significant interaction effect of attachment anxiety and avoidance was found for men or women, (2) that our primary objective was to differentiate between the dimensions of attachment anxiety and avoidance in isolation, and finally, (3) that such dimensions are intended to be assessed and examined as distinct and orthogonal constructs (Brennan et al., 1998), the aforesaid attachment interactions will not be presented in succeeding analyses or discussed further. As a final note, all study models that are subsequently presented were initially examined by controlling for relationship length and marital status due to their potential confounding nature on attachment, couple satisfaction, and their interrelations (Creasey & Hesson-McInnus, 2001; Hazan & Shaver, 1984). Given that the implementation of analyses including or excluding this potential confound produced similar results, only models excluding this variable are presented in order to allow an improved and simplified interpretation of findings.

Model 1: One's Jealousy x Attachment Anxiety

This model examined whether attachment anxiety moderated the relation between one's cognitive, behavioural, and emotional jealousy and one's couple satisfaction (hypotheses 1-3). Cognitive jealousy entered in step 1 of the equation was shown to be statistically and negatively related with couple satisfaction, $R^2 = .08$ (adjusted $R^2 = .08$), $F_{inc}(1, 500) = 41.90$, $p < .001$, (hypothesis 1)¹. The addition of behavioural jealousy in step 2 did not further contribute to the

¹ Irrespective of the sequence of entry of each facet of jealousy, cognitive jealousy was consistently found to explain the largest amount of variance in couple satisfaction.

model (hypothesis 2)². Emotional jealousy entered in step 3 was shown to further add to the model by demonstrating a statistically significant positive relation with couple satisfaction over and above variables entered in previous steps, $R^2 = .10$ (adjusted $R^2 = .10$), $F_{\text{inc}}(1, 498) = 12.37$, $p < .001$, (hypothesis 3)³. With respect to subsequent predictors entered into the model, only interaction effects of behavioural jealousy and anxious attachment, and that of emotional jealousy and anxious attachment, demonstrated a statistically significant incremental link with couple satisfaction, $R^2 = .15$ (adjusted $R^2 = .13$), $F_{\text{inc}}(1, 494) = 5.41$, $p < .05$; $R^2 = .15$ (adjusted $R^2 = .14$), $F_{\text{inc}}(1, 493) = 5.04$, $p < .05$ (hypotheses 8 and 9, respectively). Simple slope effects revealed that individuals who reported higher attachment anxiety demonstrated a negative or positive relation between one's behavioural or emotional jealousy and one's couple satisfaction ($b = -.18$, $t = -2.21$, $p < .05$; $b = .06$, $t = 4.70$, $p < .001$, respectively). The aforementioned relations were not found to be significant amongst those reporting lower attachment anxiety ($b = .06$, $t = .77$, $p > .05$; $b = .02$, $t = 1.77$, $p > .05$, respectively). No significant gender effects were found. Please refer to Table 2 for all regression effects pertinent to this model.

Model 2: Perception of Partner's Jealousy x Attachment Anxiety

This model examined whether attachment anxiety moderated the relation between one's perception of their partner's jealousy and one's couple satisfaction (hypotheses 4-6). One's perception of their partner's cognitive jealousy entered in step 1 of the equation was shown to be statistically and negatively related with couple satisfaction, $R^2 = .15$ (adjusted $R^2 = .15$), $F_{\text{inc}}(1, 500) = 90.43$, $p < .001$ (hypothesis 4). The addition of one's perception of their partner's behavioural jealousy in step 2 did not further contribute to the model (hypothesis 5). One's

² When examined in isolation from other facets of jealousy, using a linear regression, behavioural jealousy was found to be negatively related with couple satisfaction.

³ When examined in isolation from other facets of jealousy, using a linear regression, emotional jealousy was not found to be significantly related with couple satisfaction.

perception of their partner's emotional jealousy entered in step 3 was shown to further add to the model by demonstrating a statistically significant positive relation with couple satisfaction over and above variables entered in previous steps, $R^2 = .16$ (adjusted $R^2 = .16$), $F_{\text{inc}}(1, 498) = 6.51$, $p < .01$, (hypothesis 6)⁴. With respect to subsequent predictors entered into the model, an interaction effect of one's perception of their partner's cognitive jealousy and one's anxious attachment demonstrated a statistically significant incremental link with one's couple satisfaction, $R^2 = .20$ (adjusted $R^2 = .20$), $F_{\text{inc}}(1, 495) = 10.50$, $p < .001$ (hypothesis 10). Simple slope effects revealed a stronger negative relation between one's perception of their partner's cognitive jealousy and one's couple satisfaction amongst those reporting higher attachment anxiety ($b = -.48$, $t = -7.68$, $p < .001$) when contrasted with lower attachment anxiety ($b = -.24$, $t = -4.03$, $p < .001$). Additionally, an interaction effect of one's perception of their partner's behavioural jealousy and one's anxious attachment demonstrated a statistically significant incremental link with one's couple satisfaction, $R^2 = .21$ (adjusted $R^2 = .20$), $F_{\text{inc}}(1, 494) = 4.43$, $p < .05$ (hypothesis 11). Simple slope effects revealed that individuals who reported higher attachment anxiety demonstrated a non-significant negative relation between one's perception of their partner's behavioural jealousy and one's couple satisfaction ($b = -.12$, $t = -1.68$, $p = .09$) whereas a non-significant positive relation was demonstrated amongst those reporting lower attachment anxiety ($b = .09$, $t = 1.17$, $p = .24$). In this way, despite a statistically significant *difference* between the aforementioned negative and positive relations (i.e., between the slopes; as revealed by a significant interaction effect), neither relation was found to be statistically significant (as revealed by non-significant simple slope effects). No significant gender effects were found. Please refer to Table 3 for all regression effects pertinent to this model.

⁴ Akin to endnotes 1-3, equivalent results were demonstrated for one's perception of their partner's jealousy.

Model 3: One's Jealousy x Attachment Avoidance

This model examined whether attachment avoidance moderated the relation between one's cognitive, behavioural, and emotional jealousy and one's couple satisfaction (hypotheses 13-15). The entry of steps within this hierarchical model was identical to that outlined in model 1, with the only modification being the inclusion of attachment avoidance rather than attachment anxiety. Therefore, results for steps 1-3 (one's cognitive, behavioural, and emotional jealousy) are similar to that reported in model 1. The analysis of subsequent steps revealed no significant two-way or three-way interaction effects between jealousy, attachment avoidance, and gender. Please refer to Table 4 for all regression effects pertinent to this model.

Model 4: Perception of Partner's Jealousy x Attachment Avoidance

This model examined whether attachment avoidance moderated the relation between one's perception of their partner's jealousy and one's couple satisfaction (hypotheses 16-18). The entry of steps within this hierarchical model was identical to that outlined in model 2, with the only modification being the inclusion of attachment avoidance rather than attachment anxiety. Therefore, results for steps 1-3 (one's perception of their partner's cognitive, behavioural, and emotional jealousy) are similar to that reported in model 2. With respect to subsequent predictors entered into the model, only an interaction effect of one's perception of their partner's behavioural jealousy and one's attachment avoidance demonstrated a significant incremental link with one's couple satisfaction, $R^2 = .34$ (adjusted $R^2 = .33$), $F_{inc}(1, 494) = 4.24$, $p < .05$ (hypothesis 17). Simple slope effects revealed that individuals reporting higher attachment avoidance demonstrated a non-significant positive relation between one's perception of their partner's behavioural jealousy and one's couple satisfaction ($b = .06$, $t = .99$, $p = .32$), whereas a non-significant negative relation was demonstrated amongst those reporting lower attachment

avoidance ($b = -.13, t = -1.84, p = .07$). Once more, despite a statistically significant *difference* between the aforementioned negative and positive relations (i.e., an interaction effect), neither relation was found to be statistically significant (i.e., non-significant simple slope effects). No significant gender effects were found. Please refer to Table 5 for all regression effects pertinent to this model.

Discussion

A myriad of research has demonstrated the important link between jealousy (i.e., reactions to relationship threats) and couple satisfaction (Bevan, 2008). The literature has similarly long-attested to the central role of attachment processes in regulating emotions, coping with relationship threats, and couple satisfaction (Mikulincer & Shaver, 2007). Accordingly, the primary aim of the current study was to examine a novel model investigating romantic attachment as a moderator of the relation between jealousy and couple satisfaction. Innovative explorations of the study similarly included the simultaneous examination and incremental contrasting of cognitive, behavioural, and emotional facets of jealousy within one model, the assessment and comparison of a participant's jealousy with their perception of their partner's jealousy, and finally, the investigation of the moderating role of gender amongst all study relations. An elaboration of all findings follows.

Jealousy and Couple Satisfaction

Pheiffer and Wong (1981) contended that jealousy occurred as a "parallel interactive model" (p. 185) whereby the emotions, cognitions, and behaviours that comprise jealousy arise simultaneously and influence with one another. Their view was in correspondence with our findings (i.e., bivariate correlations) generally revealing a significant relation between each component of jealousy. Consequently, a hierarchical approach concurrently investigating all

facets of emotional, cognitive, and behavioural jealousy (one's own or one's perception of their partner's jealousy) within one model was implemented in order to examine their incremental relation with one's couple satisfaction. Results confirmed that both an individual's cognitive jealousy and their perception of their partner's cognitive jealousy explained the greatest amount of variance in one's couple satisfaction; this occurred irrespective of the sequential order with which each facet of jealousy was entered into the hierarchical models. The greater amount of variance explained by cognitive jealousy relative to behavioural and emotional jealousy is consistent with Anderson and colleagues' (1995) research, as well as Guerrero and Eloy's (1992) findings. However, it should be noted that their studies solely examined an individual's jealousy in contrast to similarly examining an individual's perception of their partner's jealousy.

The current study also revealed that, after accounting for cognitive jealousy, the addition of behavioural jealousy (an individual's or their perception of their partner's) did not significantly add incremental value in one's couple satisfaction; as such, contrary to expectation, a non-significant finding was demonstrated. This is in contrast to the examination of behavioural jealousy in isolation from other facets of jealousy, wherein analogous to Guerrero and Eloy's (1992) results, one's behavioural jealousy was shown to be significantly and negatively related with one's couple satisfaction. Our study also revealed such findings for one's perception of their partner's behavioural jealousy. Finally, the addition of emotional jealousy within our hierarchical models (both an individual's and their perception of their partner's) was shown to add incremental value in one's couple satisfaction over and above that explained by cognitive and behavioural jealousy. However, contrary to our hypotheses stipulating that emotional jealousy would be related to decreases in couple satisfaction, higher levels of emotional jealousy (one's own and one's perception of their partner's) were shown to be related with higher levels of one's

couple satisfaction. The divergent results from those of Guerrero and Eloy (1992), who found a negative relation between emotional jealousy and relationship quality, may be explained by their utilization of a discrepant response scale for this facet of jealousy which ranged from "very pleased" to "very upset" in contrast to our response scale ranging from "not at all upset" to "very upset". As such, the current study's scaling for emotional jealousy, which is believed to be more representative of normative reactions to jealousy-evoking situations, may explicate the abovementioned conflicting findings.

Irrespectively, our results pertaining to emotional jealousy are aligned with research which has demonstrated that higher levels of one's anticipated affective reactions to jealousy (as assessed by distinct jealousy measures) are associated with higher levels of one's relationship quality (Barelds & Barelds-Dijkstra, 2007; Hansen, 1983). The current study findings are likewise consistent with Pheiffer and Wong's (1989) assertion that when emotional jealousy is reactive in nature, this can have positive consequences for couple satisfaction. Conversely, they viewed cognitive and behavioural jealousy as less likely to necessitate a jealousy-evoking situation, and consequently, more likely to be related to decreases in couple satisfaction (Pheiffer & Wong, 1981). This outlook corresponds with Barelds and Barelds-Dijkstra's (2007) study which revealed a positive association between reactive jealousy (i.e., jealousy in response to a genuine relationship threat) and relationship quality, and a negative relation between anxious jealousy (i.e., jealousy occurring regardless of a threat) and relationship quality. Based on their results, they inferred that reactive forms of jealousy may be an indication that one loves and values their relationship. However, it should be noted that the latter study did not specifically consist of Pheiffer and Wong's (1989) formulation of emotional, cognitive, and behavioural jealousy.

The amalgamation of all aforementioned results highlights how the ascertainment of the relation between emotional jealousy and couple satisfaction requires a clear distinction between *anticipated reactions* to jealousy-evoking situations and *actual occurrences* of jealousy-evoking situations, with the current study focused on the former. In this way, although it may be accurate to regard *anticipated reactions* to jealousy-evoking situations as having beneficial outcomes, frequent reactions stemming from recurrent *occurrences* of jealousy-evoking situations are not likely to be conducive to increased couple satisfaction. Such a stipulation is aligned with Anderson and colleagues' (1995) research which showed that higher *frequencies* of emotional jealousy (i.e., higher [perceived or actual] *occurrences* of jealousy-evoking situations) were related with decreased couple satisfaction.

Furthermore, given that our findings demonstrated a positive relation between emotional jealousy and couple satisfaction, further inquiry into the directionality of this relation may be required. Specifically, despite studies conducted thus far inferring that emotional jealousy leads to (increased or decreased) couple satisfaction, it is similarly plausible that the reverse holds true. For instance, it could be stipulated that being involved in a satisfactory couple relationship may lead one to anticipate greater emotional upset to a jealousy-evoking situation (i.e., to a relationship threat) by both oneself and one's partner. In this way, emotional jealousy may be an indication, rather than a cause, of one's couple satisfaction. As highlighted by Hansen (1983), the more an individual values their relationship, the greater their protective reactions may be to potential relationship threats. This is also consistent with Pheiffer and Wong's (1989) results which demonstrated that higher experiences of love in one's romantic relationship were linked with higher levels of one's emotional jealousy.

Finally, it should also be noted that while emotional jealousy (both one's own and one's perception of their partner's jealousy) was positively related to one's couple satisfaction within our hierarchical models, this was no longer significant when examined in isolation from other facets of jealousy. The gain in significance of emotional jealousy within the hierarchical models suggests that cognitive and behavioural jealousy worked as suppressor variables — a variable which increases the predictive validity of another variable on the outcome variable when included within regression analyses (Conger, 1974; Tabachnick & Fidell, 2007)⁵. Explicitly, suppressor variables work to enhance the ability of a predictor variable (in this case, emotional jealousy) to explain true variance in the outcome variable (i.e., couple satisfaction) by the suppression of irrelevant variance created by measurement artifacts (Woolley, 1997). Although further elaboration of the important role of suppressor variables is beyond the scope of this article, noting this effect remains crucial for the accurate reporting and interpretation of research findings despite this often being unrecognized or neglected within research (Woolley, 1997). As exemplified within the current study, what may have appeared to be a negligible relation between emotional jealousy and couple satisfaction when examined in isolation from other facets of jealousy was significant once studied together with other predictors (i.e., cognitive and behavioural jealousy). Given support for a parallel model of jealousy (i.e., the co-occurring presence of different facets of jealousy; Pheiffer & Wong, 1989), the examination of emotional, cognitive, and behavioural jealousy in combination is believed to be most representative of the nature of jealousy within couple relationships.

⁵ Whether cognitive and/or behavioural jealousy were entered within the hierarchical models, emotional jealousy demonstrated a significant relation with couple satisfaction. As such, both demonstrated a suppressor effect.

Participant Jealousy versus Perceived Partner Jealousy

In order to examine the hypothesis that the consequences of jealousy would be more detrimental to the self-perceived target of jealousy (i.e., individual perceiving their partner as jealous) rather than the perpetrator of jealousy (i.e., an individual's own experience/levels of jealousy) (De Silva & Marks, 1994), we examined the variance accounted for by a participant's perception of their partner's jealousy with the participant's own reported jealousy, respectively. Results confirmed our inference by demonstrating that an individual perceiving their partner as exhibiting higher levels of cognitive jealousy accounted for twice the variance (decrease) in one's couple satisfaction (15.3%) when compared with one's own level of cognitive jealousy (7.7%). As it pertains to emotional jealousy, the unexpected demonstration of a positive relation with couple satisfaction nullified the applicability of stipulations regarding a more detrimental outcome on the perceived target, rather than the perpetrator, of jealousy. Rather, results revealed comparable levels in the incremental value accounted for by an individual's emotional jealousy versus their perception of their partner's emotional jealousy and the relation with one's couple satisfaction (approximately 2% versus 1% of the variance, respectively). Accordingly, if one is to view cognitive jealousy as a suspicious form of jealousy and emotional jealousy as anticipated reactions [to hypothesized events], our findings suggest that suspicious (cognitive) forms of jealousy may be related to greater decreases in the couple satisfaction of the partner who is the [perceived] target of jealousy, whereas reactive (emotional) jealousy may have analogous increases in one's couple satisfaction irrespective of whether one is the [perceived] target or perpetrator of this facet of jealousy. Given the absence of a significant relation between one's own or one's perception of their partner's behavioural jealousy and one's couple satisfaction

within our primary (hierarchical) models, the aforesaid comparison in variances was not examined for this facet of jealousy.

Moderating Role of Attachment

Lastly, in order to further clarify the relation between jealousy and couple satisfaction, a novel attachment framework was incorporated. As expected, findings revealed that romantic attachment moderated the relation between particular facets of jealousy and couple satisfaction. First, consistent with our hypothesis, individuals exhibiting higher, compared to lower, attachment anxiety demonstrated a stronger negative relation between perceiving their partner as exhibiting higher levels of cognitive jealousy and one's couple satisfaction. Contrary to expectation, this moderating effect was not found for the relation between *one's* cognitive jealousy and one's couple satisfaction. As such, results suggest that perceiving oneself as the target of one's partner's suspicious thoughts and worries related to relationship threats (i.e., one's perception of their partner's cognitive jealousy) is linked with stronger decreases in one's couple satisfaction amongst individuals with higher, compared to lower, attachment anxiety. Conversely, experiencing these similar thoughts and worries (i.e., one's cognitive jealousy) demonstrates an analogous relation with one's couple satisfaction irrespective of one's level of attachment anxiety.

The absence of a moderator effect of attachment anxiety for one's cognitive jealousy may perhaps be explained by anxiously attached individuals' already high propensity for persistent thoughts and worries regarding relationship threats and their partner's potential abandonment of the relationship. Provided that such worries are comparable to cognitive jealousy, which represents worries concerning relationship threats and their partner's continued loyalty to the relationship (Pfeiffer & Wong, 1989), it may be that this form of jealousy is simply another

variation of, rather than an addition to, already existing thoughts and suspicions (i.e., schemas) regarding relationship threats and partner abandonment. In this way, individuals with higher attachment anxiety may be more likely to have jealousy-related thoughts regardless of the presence or absence of [perceived or actual] relationship threats. This may explain the absence of exacerbated increases in one's couple satisfaction as a function of higher levels of one's cognitive jealousy amongst such individuals. This notion corresponds with research demonstrating that the negative emotionality and threat-related cognitions of anxiously attached individuals are typically consistently exaggerated and chronic (Cassidy, 1994; Mikulincer & Shaver, 2007). Moreover, their ruminative thoughts are shown to persist even when a perceived relationship threat has subsided (Mikulincer & Shaver, 2007). Contrarily, provided that perceiving one's partner as having suspicious thoughts and worries (i.e., one's perception of their partner's cognitive jealousy) is not likely part of the usual schematic repertoire of anxiously attached individuals, this more atypical experience may have an additive effect in further decreasing the couple satisfaction of individuals exhibiting higher fears of abandonment. Prospective studies are required to further clarify and examine all inferences made.

Second, consistent with our hypothesis, individuals exhibiting *higher* attachment anxiety demonstrated a stronger negative relation between their behavioural jealousy and couple satisfaction when compared to individuals with lower attachment anxiety. However, contrary to our hypothesis stipulating that individuals with *lower* attachment anxiety would demonstrate a negative but weaker relation between one's behavioural jealousy and one's couple satisfaction, no significant relation was shown. Accordingly, the exploration of the moderating role of attachment anxiety revealed that what appeared to be an overall absent relation between one's behavioural jealousy and one's couple satisfaction was significantly and negatively related

amongst those reporting *higher* attachment anxiety only. This suggests that one's behavioural jealousy may be more likely to have a detrimental impact on one's couple satisfaction amongst individuals with higher fears of abandonment but may have little consequence amongst those exhibiting lower fears of abandonment. In this way, the degree to which one fears losing their partner may determine whether (and the processes by which) this relation occurs. For instance, one might speculate that, amongst individuals with lower fears of abandonment, checking or snooping behaviours may be more likely to alleviate suspicions that one's partner will abandon the relationship (assuming no relationship rival/threat exists). Conversely, the lessening of suspicions may only occur temporarily (or not transpire altogether) amongst those with an already vigilant concern of losing their partner (i.e., higher attachment anxiety). Hence, in this case, checking/snooping behaviours may persist regardless of a suspected threat and perhaps even serve to reinforce continued checking and hypervigilance to cues of threat/abandonment, in turn leading to lower couple satisfaction.

As it pertains to one's perception of their partner's behavioural jealousy, a significant interaction effect was similarly demonstrated with one's attachment anxiety. Further examination of this interaction effect revealed that individuals with *higher* attachment anxiety demonstrated a negative relation between one's perception of their partner's behavioural jealousy and one's couple satisfaction, whereas a positive relation was revealed amongst those reporting *lower* attachment anxiety. However, despite a statistically significant *difference* between the aforementioned negative and positive relations (i.e., a significant interaction), neither relation (i.e., simple slope effect) was shown to be statistically significant. Nevertheless, it should be noted that there was a trend towards a statistically significant negative relation between one's perception of their partner's behavioural jealousy and one's couple satisfaction amongst those

reporting higher attachment anxiety (i.e., $p = .09$). The small effect size revealed for this interaction may explicate the absence of a significant negative relation. Conversely, no trend towards significance was found for the positive relation between one's perception of their partner's behavioural jealousy and one's couple satisfaction amongst individuals reporting lower attachment anxiety (i.e., $p = .24$). As such, the trend towards a significant negative relation is consistent with our hypothesis stipulating that one's perception of their partner's behavioural jealousy would be more strongly and negatively related with one's couple satisfaction amongst individuals with higher, compared to lower, attachment anxiety. Future research may seek to further examine such findings amongst studies incorporating procedural methods that may increase the power to find and explore interaction effects (e.g., experimental studies), and thereby, correspondingly reduce the potential for type II errors. Such research may more clearly ascertain whether perceiving oneself as the target of one's partner's behavioural jealousy is more likely to have consequences for one's relationship satisfaction amongst individuals exhibiting higher, rather than lower, fears of abandonment. If substantiated, this may assist in ascertaining whether, akin to our stipulations regarding one's behavioural jealousy, a hypervigilant fear of losing one's partner determines whether or not one's perception of their partner's checking or snooping behaviours will negatively impact one's couple satisfaction.

Third and finally, an interaction effect between one's emotional jealousy and one's attachment anxiety was also found in relation to one's couple satisfaction. Specifically, results revealed a positive relation between one's emotional jealousy (i.e., anticipated reactions to relationship threats) and one's couple satisfaction amongst individuals reporting higher levels of attachment anxiety, whereas no significant relation was found amongst those with lower attachment anxiety. Contrarily, no moderation effect was demonstrated for the relation between

one's perception of their partner's emotional jealousy and one's couple satisfaction. As such, in this latter case, the strength of the positive link between perceiving one's partner as being emotionally reactive to a hypothesized relationship threat and one's couple satisfaction did not vary as a function of one's level of attachment anxiety. Given anxiously attached individuals' incessantly present fears of abandonment, experiencing higher levels of emotional jealousy (i.e., anticipated emotional upset to a threat) is not only consistent with their prototypical reactions (i.e., hyperactivation of emotions) when exposed to a relationship threat (Cassidy & Berlin, 1994), but moreover, may be more likely to be viewed as a necessary and protective means by which to maintain their relationship, perhaps in turn relating to higher levels of one's couple satisfaction. Conversely, one's emotional reactivity may be less likely to be viewed as necessary or adaptive amongst those with lower anxiety over abandonment. While perceiving one's partner as experiencing emotional jealousy (i.e., anticipated upset to a threat) may also be related to increases in one's couple satisfaction, at particularly high levels this may not have an additive effect for one's couple satisfaction irrespective of one's attachment anxiety, thus potentially explaining the absence of a moderating effect of attachment anxiety on this relation.

Nevertheless, as previously discussed, despite inferring that emotional jealousy may impact couple satisfaction, the directionality of this relation is open to interpretation given the correlational nature of the current study. For instance, it is alternatively plausible that being involved in a satisfactory relationship may lead anxiously attached individuals to anticipate greater emotional upset to a jealousy evoking situation (i.e., emotional jealousy). Contrarily, individuals exhibiting lower fears of abandonment may not anticipate greater emotional upset to a hypothesized relationship threat as a function of higher levels of couple satisfaction.

As it pertains to the moderating role of attachment avoidance, contrary to expectations, individuals exhibiting higher attachment avoidance did not demonstrate lessened decreases in their couple satisfaction when experiencing higher levels of cognitive jealousy or when perceiving their partner as experiencing higher levels of cognitive jealousy. Given that cognitive jealousy explained the greatest amount of variance in one's couple satisfaction, it may be inferred that deactivation strategies, which were expected to lessen the strength of this relation, may have limits with respect to facets of jealousy that are most strongly related with decreases in one's couple satisfaction. Further elaboration of research illustrating the limits of deactivation strategies soon follows. Alternatively, given that deactivating strategies can be described as an attempt to lessen attachment related thoughts and emotions, and that reporting cognitive jealousy implies an awareness and acknowledgment of suspicious thoughts and worries related to [potential] relationship threats, investigating the inferred role of deactivation strategies may be counter-indicated with assessments (or facets) of jealousy that require a direct acknowledgement.

Second, with respect to behavioural jealousy, a significant interaction effect was demonstrated between one's perception of their partner's behavioural jealousy and one's attachment avoidance in relation to one's couple satisfaction. Further examination of this interaction revealed a positive relation between one's perception of their partner's behavioural jealousy and one's couple satisfaction amongst individuals with higher attachment avoidance. Conversely, a negative relation was revealed amongst individuals reporting lower attachment avoidance. However, neither of these relations was found to be statistically significant. Therefore, once more, despite a statistically significant *difference* between the above-mentioned positive and negative relations (i.e., a significant interaction), neither relation (i.e., simple slope effect) was shown to be statistically significant. Nevertheless, it should be noted that there was a

trend towards a statistically significant negative relation between one's perception of their partner's behavioural jealousy and one's couple satisfaction amongst those reporting lower attachment avoidance ($p = .07$). No such trend was found for the non-significant positive relation revealed amongst individuals reporting higher attachment avoidance ($p = .32$). Once again, the small effect size for the latter interaction may account for the non-significant negative relation. The trend towards a negative relation between one's perception of their partner's behavioural jealousy and one's couple satisfaction amongst individuals with lower attachment avoidance (and an absent relation amongst those with higher attachment avoidance) is partially consistent with our hypothesis stipulating that individuals with higher attachment avoidance would demonstrate a weaker negative relation between such constructs. As such, future research may seek to further examine this trend in order to verify whether one's perception of their partner's behavioural jealousy has little consequence for one's couple satisfaction amongst individuals with higher, compared to lower, attachment avoidance.

Contrary to expectation, a moderating effect of attachment avoidance was not demonstrated for the relation between one's behavioural jealousy and one's couple satisfaction. As such, enacting behaviours aimed at detecting and snooping for [potential] relationship threats was not related to lessened increases in one's couple satisfaction amongst individuals with higher, compared to lower, attachment avoidance. Once more, given that reporting behavioural jealousy requires an acknowledgement of behaviours enacted towards relationship threats, it is feasible that deactivation strategies may have limits for one's behaviours, particularly those which are acknowledged. Irrespectively, the comparison of findings for one's behavioural jealousy (which demonstrated a negative relation with one's couple satisfaction) versus one's perception of their partner's jealousy (which demonstrated no significant relation with one's

couple satisfaction) amongst individuals with higher attachment avoidance may suggest that their ability to minimize or suppress the impact of jealousy may be facilitated for one's partner's behaviours when contrasted with one's own behaviours stemming from a relationship threat. In this way, deactivation strategies may be primarily at play when the jealousy behaviours of one's partner (rather than oneself) are considered.

Overall then, the absence of moderation effects of attachment avoidance on the relation between cognitive jealousy (one's own and one's perception of their partner's) or behavioural jealousy (one's own) and one's couple satisfaction may illustrate the fragile nature of avoidant defences/deactivation strategies. Research has shown that although avoidant individuals tend to deny the importance of a threatening episode related to a partner's betrayal of trust, thus implying an attempt at deactivation, their activation of worry is nevertheless demonstrated [within lexical decision tasks] when primed with a story containing a partner's trust violation (Mikulincer, 1998). Such findings highlight the discrepancy between avoidantly attached individuals' self-reports of not being bothered and their implicit signs of worry. Hence, the overall preponderant lack of moderation effects of attachment avoidance on the relation between jealousy and couple satisfaction may support the fragility and limits of deactivation strategies upon the experience (or perception) of relationship threats. The direct exploration of such inferences may provide an interesting research avenue.

Finally, an individual's level of attachment avoidance was not shown to influence (i.e., moderate) the relation between emotional jealousy (one's own or one's perception of their partner's) and one's couple satisfaction. Provided the unexpected positive relation demonstrated between emotional (i.e., reactive) jealousy and couple satisfaction, and avoidantly attached individuals' attempts to downplay and suppress emotions (Cassidy & Kobak, 1988), it is not

surprising to find that anticipated levels of emotional reactivity to a jealousy-evoking situation (i.e., one's own or one's perception of their partner's emotional jealousy) was not related to greater increases in their couple satisfaction. Once more, the absence of a moderation effect (whether a strengthened or weakened relation) may highlight how individuals with higher attachment avoidance might generally experience jealousy (including its positive impact) in a way that is analogous to individuals exhibiting lower attachment avoidance.

Gender Effects for Main and Indirect Links

Lastly, our results demonstrated no significant gender effects across direct and indirect links examined. First, consistent with Anderson and colleagues' (1995) research, the association between different facets of jealousy and couple satisfaction was not shown to differ between men and women. Our study further extended such findings by revealing that the moderating effects of one's romantic attachment on these relations similarly did not differ between men and women. As such, the ways in which attachment anxiety or avoidance may increase or decrease, respectively, the strength of the relation between particular facets of jealousy (one's own or one's perception of their partner's) and one's couple satisfaction appears to occur in similar ways amongst both genders.

Limitations and Future Research

Prior to providing an overview of existing limitations, several strengths and innovative explorations of the current study must be noted, including the incorporation of individuals within a long-term relationship of at least 12 months, the simultaneous examination and comparison of the incremental value of three facets of jealousy (emotional, cognitive, and behavioural), the exploration and contrasting of an individual's jealousy versus their perception of their partner's jealousy, and finally, the investigation of the moderating role of romantic attachment and gender

on the relation between jealousy and couple satisfaction. Notwithstanding, the limitations of our study must also be highlighted. First, the correlational nature of our data limits casual inferences that can be drawn from the study. Although it was generally inferred that jealousy led to increases or decreases in couple satisfaction, it is similarly plausible that the reverse holds true or that a reciprocal relation exists. This may be particularly applicable to emotional facets of jealousy. The determination of causality would necessitate the implementation of experimental studies within future research.

Second, our sample tended to be preponderantly comprised of a university sample of young adults involved in a long-term heterosexual relationship who were largely not cohabitating or married with their partner. Although a university sample was deemed to be appropriate for the purposes of our study given research showing that a high proportion of university students rate jealousy as one of their top three most frequently reported reasons attributed to seeking couples therapy (Zusman & Knox, 1998), inferences drawn from our data must be interpreted within the context of the particular sample used. Accordingly, replication of our models amongst diverse samples (varied ages, married or common-law couples, same-sex couples, etc.) is needed to verify the generalizability of results. Moreover, provided that our sample tended to be primarily composed of individuals in satisfactory relationships, prospective studies may also seek to replicate our models amongst distressed couples who may demonstrate higher levels of jealousy and attachment insecurity and/or lower levels of couple satisfaction.

Third, given the use of self-report measures, it is also feasible that participants may have been biased towards reporting lower levels of jealousy and attachment insecurity and/or higher couple satisfaction. The incorporation of observational methods and/or experimental studies to assess jealousy and attachment behaviours as it occurs (e.g., De Steno, Valdesolo, & Bartlett,

2006; Fraley & Shaver, 1998, respectively) may minimize potential biases (e.g., social desirability biases) within future studies, as well as permit assessments of jealousy that do not require a direct acknowledgement of its presence by the participant. Notwithstanding, it should be noted that our average scores were mostly akin to those reported by the original authors validating the constructs implemented within our study.

Fourth, whereas findings pertaining to the moderating role of attachment anxiety mostly confirmed our hypotheses, several stipulations regarding the moderating role of attachment avoidance were not supported. Although, as previously alluded to, the preponderant absence of such moderating effects may highlight the limits of deactivation strategies upon the experience of a relationships threat (i.e., jealousy), it is similarly plausible that factors not examined within the current study may explicate non-significant results. For instance, research has shown that the influence of an individual's attachment anxiety and avoidance can have diverse effects on one's emotions, cognitions, and behaviours depending on one's partner's attachment (Shaver & Hazan, 1993). Consequently, whether or not hyperactivating or deactivating strategies are employed by anxiously or avoidantly attached individuals, respectively, to a jealousy-evoking situation may not only depend on one's attachment patterns, but similarly, one's partner's attachment and general responsiveness. Hence, future research may seek to explore whether one's partner's attachment and/or whether being involved in particular attachment dyad types (e.g., avoidant/anxious couple, secure/avoidant couple, etc.) influences one's deactivation or hyperactivation strategies amongst insecurely attached individuals when jealousy arises within their romantic relationship. Correspondingly, as previously mentioned, future studies may also aim to implement procedural methods that may increase the power to find moderation effects in order to assess the replicability of non-significant moderation and simple slope effects.

Our study, which aimed to be a preliminary and necessary first step in examining whether further extensions of our models may prove beneficial, revealed additional areas of inquiry that may be valuable. First, given the reciprocal role of both partners in attaining couple satisfaction, a dyadic investigation examining both an individual's and their partner's jealousy could further extend knowledge derived from our models. For instance, dyadic explorations could permit the contrasting of one's perception of their partner's jealousy with one's partner's actual reports of jealousy given our acknowledgement of their potential discordance and differential relation with one's couple satisfaction. Additionally, future studies may seek to examine the broader applicability of our findings to other facets of jealousy, including further differentiation between hypothetical reactions to jealousy-evoking situations versus actual occurrences of jealousy-evoking situations and their relation with couple satisfaction. Finally, future research may endeavour to examine the precise mechanisms inferred to underlie our findings by investigating whether hyperactivation and deactivation strategies utilized by individuals with attachment anxiety versus attachment avoidance, respectively, account for the moderating effects (or lack thereof) of romantic attachment.

Clinical Implications and Conclusions

Given the complexity of jealousy, it has been suggested that treatments targeting this be directed towards explicit aspects of the presenting problem (De Silva & Marks, 1994). Our findings highlighted several areas that may require consideration. First, our results revealed the necessity of determining the exact nature (or facet) of jealousy provided its presumably co-occurring adaptive and negative consequences for couple satisfaction. Specifically, findings suggest that anticipated jealousy (both one's own and one's perception of their partner's) that is reactive to a jealousy-evoking situation (i.e., emotional jealousy) may serve varied positive

functions (e.g., increased couple satisfaction, protecting one's relationship, showing care; Barelds & Barelds-Dijkstra, 2007; De Steno et al., 2006). Conversely, suspicious forms of jealousy (i.e., cognitive and behavioural jealousy), which may be less likely to necessitate a jealousy-evoking situation (Pheiffer and Wong, 1981), could have more adverse outcomes within romantic relationships (e.g., reduced couple satisfaction).

Second, the present study's results correspondingly underlined the importance of delineating the relative contribution of different subtypes of jealousy in determining couple satisfaction given the greater importance of particular facets. More specifically, the amalgamation of current and previous research findings revealed that an emphasis on eradicating or minimizing the presence and impact of cognitive jealousy may be particularly indicated within couple relationships given its ability to explain the greatest amount of variance in one's couple satisfaction. Third and correspondingly, our results underscored the potential implications of differentiating between the perpetrator and target of cognitive jealousy given its seemingly more detrimental impact amongst the partner who perceives themselves to be the target, rather than the perpetrator, of this facet of jealousy.

Fourth and lastly, the demonstrated moderating effects of romantic attachment highlighted the need to consider attachment processes for a thorough understanding of jealousy. Specifically, our results provided support for attachment as influencing how emotional, cognitive, and behavioural responses to relationship threats (i.e., jealousy) may be differentially experienced and related to one's couple satisfaction. More explicitly, provided the enhancing effect of attachment anxiety on the relation between particular facets of jealousy and couple satisfaction, findings suggest that individuals exhibiting these attachment patterns may be more highly distressed by jealousy within their couple relationship. As such, greater attention to an

anxiously attached partner may be indicated when jealousy is revealed to be problematic within a romantic relationship. However, the potentially limited function of deactivation strategies amongst avoidantly attached individuals when experiencing a relationship threat may imply a greater degree of distress resulting from jealousy, particularly their own jealousy, than what is readily acknowledged or reported by such individuals.

In summary, given the intricate emotions, thoughts, behaviours, and consequences of jealousy, a comprehensive and systematic understanding of its most central elements is required for the proper assessment and implementation of interventions aimed towards jealousy. A hierarchical examination incorporating an attachment perspective provided an innovative and illuminating understanding of the ubiquitously experienced and important relational process of jealousy and its association with couple satisfaction.

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Table 1

Intercorrelations of Primary Study Variables

	1	2	3	4	5	6	7	8	9
1. Anxiety	--	.182***	.368***	.497***	.361***	.236***	.203***	.084	-.238***
2. Avoidance		--	.165***	.057	-.060	.246***	.185***	.060	-.495***
3. Cog Jealousy			--	.422***	.138***	.393***	.340***	.014	-.278***
4. Beh Jealousy				--	.387***	.272***	.469***	.161***	-.160***
5. Emo Jealousy					--	.063	.153***	.574***	.082
6. P Cog Jealousy						--	.553***	.217***	-.391***
7. P Beh Jealousy							--	.321***	-.231***
8. P Emo Jealousy								--	.010
9. C Satisfaction									--
<i>Mean</i>	63.85	41.67	20.24	19.71	40.34	22.79	20.74	41.33	16.39
<i>Standard Deviation</i>	20.67	16.08	11.21	9.31	8.95	12.46	11.06	9.53	2.87

Note. Cog = Cognitive, Beh = Behavioural, Emo = Emotional, P = Participant's perception of their partner's jealousy, C = Couple

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2

Hierarchical Regression Model- Participant's Jealousy X Attachment Anxiety on Couple Satisfaction (Model 1)

	<i>B</i>	<i>SE B</i>	<i>B</i>	ΔR^2
(Constant)	7.36	.054		
Cognitive Jealousy	-.029	.228	-.027***	.077
Behavioural Jealousy	-.363	.260	-.307	.002
Emotional Jealousy	.034	.039	.161***	.022
Attachment Anxiety	-.002	.001	-.196***	.031
Gender	-.020	.029	-.034	.000
Cognitive Jealousy x Anxiety	-.024	.012	-.475	.003
Behavioural Jealousy x Anxiety	-.005	.013	-.095*	.009
Emotional Jealousy x Anxiety	.003	.002	.269*	.009
Cognitive Jealousy x Gender	-.105	.123	-.179	.000
Behavioural Jealousy x Gender	.155	.142	.239	.001
Emotional Jealousy x Gender	.005	.022	.046	.000
Cognitive Jealousy x Anxiety x Gender	.013	.007	.468	.006
Behavioural Jealousy x Anxiety x Gender	-.001	.007	-.043	.000
Emotional Jealousy x Anxiety x Gender	.000	.001	-.173	.001
Total R^2				.163

Note. Each predictor was entered on a separate block, $\Delta R^2 = R^2$ change; Anxiety = Attachment anxiety.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3

Hierarchical Regression Model- Perception of Partner's Jealousy X Attachment Anxiety on Couple Satisfaction (Model 2)

	<i>B</i>	<i>SE B</i>	<i>B</i>	ΔR^2
(Constant)	.682	.045		
Cognitive Jealousy	-.338	.225	-.349***	.153
Behavioural Jealousy	.132	.287	.125	.000
Emotional Jealousy	.007	.039	.038**	.011
Attachment Anxiety	-.002	.000	-.139***	.023
Gender	.009	.024	.015	.001
Cognitive Jealousy x Anxiety	-.008	.009	-.185***	.017
Behavioural Jealousy x Anxiety	-.008	.011	-.170*	.007
Emotional Jealousy x Anxiety	.003	.002	.382	.000
Cognitive Jealousy x Gender	-.012	.121	-.022	.000
Behavioural Jealousy x Gender	-.075	.152	-.134	.000
Emotional Jealousy x Gender	.005	.021	.053	.000
Cognitive Jealousy x Anxiety x Gender	.003	.005	.120	.000
Behavioural Jealousy x Anxiety x Gender	.002	.006	.072	.000
Emotional Jealousy x Anxiety x Gender	-.002	.001	-.412	.006
Total R^2				.219

Note. Each predictor was entered on a separate block, $\Delta R^2 = R^2$ change; Anxiety = Attachment anxiety.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 4

Hierarchical Regression Model- Participant's Jealousy X Attachment Avoidance on Couple Satisfaction (Model 3)

	<i>B</i>	<i>SE B</i>	<i>B</i>	ΔR^2
(Constant)	.665	.041		
Cognitive Jealousy	-.130	.203	-.122***	.077
Behavioural Jealousy	-.349	.227	-.294	.002
Emotional Jealousy	.037	.036	.178***	.022
Attachment Avoidance	-.653	.056	-.451***	.198
Gender	.014	.022	.023	.001
Cognitive Jealousy x Avoidance	-.698	1.106	-.114	.002
Behavioural Jealousy x Avoidance	-.942	1.370	-.131	.002
Emotional Jealousy x Avoidance	.010	.213	.008	.000
Cognitive Jealousy x Gender	-.030	.111	-.052	.000
Behavioural Jealousy x Gender	.127	.125	.196	.001
Emotional Jealousy x Gender	-.008	.020	-.067	.000
Cognitive Jealousy x Avoidance x Gender	.328	.614	.097	.001
Behavioural Jealousy x Avoidance x Gender	.387	.759	.099	.000
Emotional Jealousy x Avoidance x Gender	-.022	.116	-.034	.000
Total R^2				.307

Note. Each predictor was entered on a separate block, $\Delta R^2 = R^2$ change; Avoidance = Attachment avoidance.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 5

Hierarchical Regression Model- Perception of Partner's Jealousy X Attachment Avoidance on Couple Satisfaction (Model 4)

	<i>B</i>	<i>SE B</i>	<i>B</i>	ΔR^2
(Constant)	.662	.041		
Cognitive Jealousy	-.268	.201	-.277***	.153
Behavioural Jealousy	-.057	.252	-.054	.000
Emotional Jealousy	.055	.034	.292**	.011
Attachment Avoidance	-.619	.055	-.428***	.169
Gender	.014	.022	.025	.001
Cognitive Jealousy x Avoidance	-.825	1.178	-.146	.000
Behavioural Jealousy x Avoidance	.069	1.362	.011*	.006
Emotional Jealousy x Avoidance	.106	.198	.101	.000
Cognitive Jealousy x Gender	-.001	.109	-.002	.000
Behavioural Jealousy x Gender	.014	.134	.025	.000
Emotional Jealousy x Gender	-.021	.019	-.199	.002
Cognitive Jealousy x Avoidance x Gender	.266	.641	.087	.001
Behavioural Jealousy x Avoidance x Gender	.282	.737	.084	.000
Emotional Jealousy x Avoidance x Gender	-.058	.107	-.103	.000
Total R^2				.343

Note. Each predictor was entered on a separate block, $\Delta R^2 = R^2$ change; Avoidance = Attachment avoidance.

* $p < .05$, ** $p < .01$, *** $p < .001$

Article 2

Intimacy and Couple Satisfaction: The Moderating Role of Romantic Attachment

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Abstract

The present study extends findings regarding the established relation between intimacy (emotional and sexual) and couple satisfaction by investigating dyadic processes of intimacy (actor and partner effects) and the moderating role of gender and insecure romantic attachment on this relation. Using a sample of 117 heterosexual couples, results analyzed through an Actor-Partner-Interdependence Model revealed that only actor and partner emotional intimacy were significantly and positively related with actor couple satisfaction when examined simultaneously with sexual intimacy; a greater amount of variance was revealed for actor versus partner emotional intimacy. Higher actor attachment avoidance was also found to moderate the aforementioned association, such that a decreased positive relation was demonstrated between actor emotional intimacy and actor couple satisfaction. Thus, results suggest that emotional intimacy may play a less important role in the attainment of satisfactory couple relationships amongst individuals exhibiting higher attachment avoidance. The practical and clinical implications of findings are discussed.

Keywords: intimacy, attachment, relationship satisfaction, couple relationship

Intimacy and Couple Satisfaction: The Moderating Role of Romantic Attachment

Romantic intimacy is regarded as one of the highest values of human existence and is considered as imperative for healthy functioning (Bowlby, 1969/1982). Research has corroborated this outlook by revealing that high levels of romantic intimacy in one's relationship are one of the strongest predictors of physical health (e.g., lower rates of illness, increased recovery from illness; Hook, Gerstein, Detterich, & Gridely, 2003), psychological well-being (e.g., reduced risk for depression, therapy seeking, life satisfaction; Hobfoll & Leiberhan, 1989; Hook et al., 2003; Horowitz, 1979; Morris, Morris, & Britton, 1988), and couple satisfaction (Schaefer & Olson, 1981). Taken as a whole, the attainment of intimacy can be viewed as an imperative means by which to create meaningful and satisfactory bonds between individuals, in turn leading to an array of positive outcomes.

Accordingly, intimacy has come to be regarded by many prominent psychological figures as a universal human need (Erikson, 1950; Rogers, 1972; Sullivan, 1953). Yet research has shown that the level of intimacy desired in one's romantic relationship may vary depending on an individual's attachment patterns (Feeney & Noller, 1991), with individuals exhibiting insecure forms of attachment being less able to effectively pursue intimacy goals (Hazan & Shaver, 1987). Provided the established link between romantic intimacy and couple satisfaction (Schaefer & Olson, 1981), and the abundance of research revealing attachment-based differences in romantic intimacy motives (Feeney & Noller, 1991), the current study sought to investigate a novel model examining romantic attachment as a moderator of the former relation.

The investigation of moderator effects (a variable which influences the strength or direction of the relation between a predictor and outcome) has been shown to be an exemplary and integral manner by which to elucidate the relation between variables and is regarded as an

indication of the advanced nature of a field of investigation (Aguinis, Boik, & Pierce, 2001; Cohen, Cohen, West, & Aiken, 2003). Accordingly, the overarching aim of the current study was to gain an increased understanding of the important link between intimacy and couple satisfaction by highlighting for whom this relation may differ. Additionally, given contemporary agreement of intimacy as a multifaceted relational phenomenon (Miller & Lefcourt, 1982; Oden 1974; Schaefer & Olson, 1981; Tolstedt & Stokes, 1983) that is mutually determined by both partners (Schaefer & Olson, 1981), we sought to further broaden this analysis by a comprehensive and dyadic examination of both partners' levels of two well-established facets of intimacy: emotional intimacy (defined as the experience of closeness of feeling and the ability and freedom to share openly in a non-defensive atmosphere where there is supportiveness and genuine understanding) and sexual intimacy (defined as the experience of general affection, touching, physical closeness, and sexual activity; Schaefer & Olson, 1981). The interrelations demonstrated between intimacy, romantic attachment, and couple satisfaction follow in support of the study's proposed moderator models.

Intimacy, Attachment, and Couple Satisfaction: Theoretical Links

Attachment frameworks are considered to be one of the most comprehensive theories for understanding relationship behaviours, preferences, and motives, including intimacy desires (Mikulincer & Shaver, 2007). In this way, attachment theory has been essential in elucidating how individuals exhibiting insecure forms of attachment commonly have the greatest difficulty navigating intimacy needs and desires in their relationships. Briefly, insecure attachments are believed to ensue in early life when one is exposed to emotionally unavailable attachment figures. As a means to cope with reduced caregiver responsiveness, one of two defensive strategies may develop, known as the hyperactivation or deactivation of attachment needs

(Cassidy & Berlin, 1994; Cassidy & Kobak, 1988; Mikulincer & Shaver, 2007). The primary aim of hyperactivation is to promote increased support and protection from an attachment figure that is sporadically available. Conversely, the primary goal of deactivation is to maintain emotional distance and strive for self-reliance; an approach that develops as a means to adjust to unavailable and unresponsive attachment figures. Although once adaptive to their particular caregiver circumstances, insecure attachment patterns commonly go on to bias preferences, perceptions, and behaviours in subsequent adult relationships (Collins & Read, 1990) in a way which negatively interferes with the attainment of couple satisfaction (Mikulincer & Shaver, 2007).

In adulthood, romantic partners typically serve as individuals' primary attachment figure (Hazan & Shaver, 1987). Insecure attachments in couple relationships are broadly manifested in terms of *anxiety over abandonment* (defined as fears of abandonment and anger about separation in romantic relationships) and *avoidance of intimacy* (defined as a desire for limited closeness and the suppression of emotions in romantic relationships; Brennan, Clark, & Shaver, 1998). Overall, anxiously attached individuals' prototypical use of hyperactivation strategies is typically exhibited in their romantic relationship as worries about rejection, concerns about the availability of others, dependency, and incessant attempts to provide and obtain greater emotional intimacy to and from their partner in a way that can be experienced as overbearing and arduous (Collins & Read, 1990; Feeney & Noller, 1991; Ognibene & Collins, 1998). Anxiously attached individuals are similarly shown to indiscriminately use sex as a means by which to attain acceptance, love, and avoid abandonment (Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006; Feeney & Collins, 2003), and thus, report enjoying the more intimate aspects of sex (kissing, cuddling, touching) than the act of sexual intercourse itself (Hazan, Zeifman, & Middleton, 1994). Taken as a whole,

anxiously attached individuals' exaggerated threat perception, fears of abandonment, and need to have greater mutual love may require them to experience higher levels of emotional and sexual intimacy by both oneself and their partner in order to feel satisfied in their romantic relationship. Thus, attachment anxiety may moderate the established relation between intimacy (emotional and sexual) and couple satisfaction, such that individuals exhibiting higher attachment anxiety may demonstrate a *stronger* positive relation between one's own or one's partner's intimacy and one's couple satisfaction when contrasted with individuals reporting lower attachment anxiety.

In contrast, avoidantly attached individuals' prototypical use of deactivation strategies is customarily displayed in their romantic relationship as the minimization of attachment needs and emotions (Bartholomew & Horowitz, 1991; Fraley & Shaver, 2000), a lessened desire for closeness and emotional intimacy (Collins & Feeney, 2003), and an overemphasis on autonomy needs (Feeney, 1999; Feeney & Noller, 1991). Such individuals are correspondingly more likely to display negative affect upon their partner's attempts to seek greater emotional intimacy and to regard these efforts as needy and dependent (Collins & Feeney, 2003). As such, both one's own and one's partner's intimacy can be experienced as jeopardizing efforts to sustain reduced levels of intimacy. Avoidantly attached individuals are also shown to be less inclined to use touch (e.g., kissing, cuddling, hugging) to express affection or seek care from their partner (Brennan, Wu, & Loev, 1998; Hazan et al., 1994) and demonstrate a greater likelihood of separating love and sex (Brennan & Shaver, 1995). Thus, their deactivation of emotions, discomfort with intimacy, and emphasis on self-reliance may require them to experience lower levels of emotional and sexual intimacy by both oneself and one's partner in order to feel satisfied in their romantic relationship. In this way, avoidant attachment may moderate the relation between intimacy (emotional and sexual) and couple satisfaction, such that individuals exhibiting higher attachment avoidance

may demonstrate a *lessened* positive relation between one's own or one's partner's intimacy and one's couple satisfaction when contrasted with individuals reporting lower attachment avoidance.

Altogether, the examination of such stipulations would reveal whether an attachment perspective elucidates for whom there may be a differential relation (i.e., strengthened or weakened link) between intimacy and couple satisfaction. Provided the imperative function of intimacy in romantic relationships, and the profound impact that such relationships can have on one's general well-being (Mikulincer & Shaver, 2007), understanding discrepancies in intimacy-based experiences and their potentially differential relation with one's couple satisfaction could reveal important theoretical, empirical, and clinical implications regarding the establishment of satisfactory couple relationships. Empirical links established between our variables of interest provide support for the aforementioned inferences.

Intimacy, Attachment, and Couple Satisfaction: Empirical Links

Empirical research has consistently demonstrated a positive link between emotional intimacy and couple satisfaction. Both Schaefer and Olson (1981), in addition to Greeff and Malherbe's (2001) findings, have shown that higher levels of one's emotional intimacy were related with higher levels of one's marital satisfaction. This was corroborated by Sanderson and Cantor's (2001) results which revealed that both one's and one's partner's [emotional] intimacy goals were linked with one's relationship satisfaction, with higher correlation coefficients demonstrated for one's intimacy goals. Despite research examining both partners' intimacy *goals* (i.e., *desire/motives* for intimacy), a dyadic examination of both partners' *experience* of intimacy (i.e., *current* levels of intimacy) has yet to be implemented in relation to one's relationship quality. Given that one's intimacy goals may differ from one's experience of intimacy, the novel

examination of both partners' *current* experience of emotional intimacy is required for a more thorough understanding of the link between intimacy and couple satisfaction.

Physical forms of intimacy are also shown to provide an important avenue by which individuals can express themselves and obtain care and validation from their partner (Reis & Patrick, 1996). This is consistent with both Schaefer and Olson's (1981), as well as Greeff and Malherbe's (2001) research, which revealed that higher levels of one's sexual intimacy were related with higher levels of one's marital satisfaction. Such findings are similarly in line with those of Tolstedt and Stokes (1983) demonstrating a positive relation between one's physical intimacy and one's marital satisfaction, with physical intimacy explaining variance in marital satisfaction over and above that shown for other forms of intimacy (e.g., affective or verbal intimacy), despite this effect being small. Studies have yet to examine both partners' level of sexual intimacy (goals or current experiences) in relation to one's couple satisfaction. Provided the multifaceted and dyadic nature of intimacy (Schaefer & Olson, 1981), it remains important to clearly delineate the relative contribution of both one's and one's partner's current level of emotional and sexual intimacy for a comprehensive understanding of the attainment of couple satisfaction. The higher correlation/regression coefficients revealed for emotional versus sexual intimacy (Greeff & Malherbe, 2001; Schaefer & Olson, 1981; Tolstedt & Stokes, 1983), as well as for actor versus partner emotional intimacy (Sanderson & Cantor, 2001), strongly suggest that emotional intimacy may exhibit a more central role in relationship quality, with actor effects demonstrating the strongest relation.

Lastly, numerous empirical studies have demonstrated a link between insecure attachment and intimacy (Guerrero, 1996; Mikulincer & Shaver, 2007; Pielage, Luteijn, & Arrindell, 2005; Pistole, 1994), as well as insecure attachment and couple satisfaction

(Mikulincer & Shaver, 2007), with the majority of studies demonstrating a negative association between these constructs. Given the current study's focus on expanding knowledge of intimacy and its link with couple satisfaction, and that a relation between the above variables (i.e., between a moderator and a predictor or outcome) is not a required stipulation for establishing moderation, for brevity, interested readers are invited to refer to the aforesaid authors for a detailed empirical overview of these associations.

Current Study Objectives

Despite previous valuable contributions to the related literature, we aimed to further expand on prior research examining intimacy in the context of couple relationships in several ways. First, although research demonstrates that sexual intimacy is an important feature of relationship quality (Greeff & Malherbe, 2001; Schaefer & Olson, 1981; Tolstedt & Stokes, 1983), the preponderance of studies has concentrated solely on emotional intimacy. Even when sexual facets are examined, the focus has been primarily placed on sexual desires, sexual motivations, and sexual satisfaction while overlooking needs for closeness (Marelich, 2008). Provided the important function of both emotional and sexual facets of intimacy, this study sought to gain a greater understanding of their relative importance in order to further elucidate the elements of intimacy required for satisfactory couple relationships.

Second, intimacy is shown to be a dyadic process that must be regulated in a way which accommodates both partners (Lipert & Prager, 2001; Prager & Roberts, 2004; Reis & Shaver, 1988; Schaefer & Olson, 1981; Sexton & Sexton, 1982). Yet, studies have primarily focused on an individual's experience of intimacy and its relation with one's relationship quality.

Accordingly, the current study endeavoured to investigate an Actor-Partner Interdependence Model (APIM) in order to conduct a novel exploration of the systemic links between both

partners' emotional and sexual intimacy and one's couple satisfaction. Explicitly, APIM permits the examination of an individual's predictor variable(s) on their outcome(s) (termed actor effects), as well as their partner's outcome(s) (termed partner effects). This approach is aligned with the most recent advances in couple research advocating for the investigation of dyads as a system in contrast to partners as separate entities.

Third, attachment research demonstrates how individuals enter into relationships carrying with them a history of personal and interpersonal experiences that shape their motives and preferences, including intimacy desires (Feeney & Collins, 2003). However, studies have yet to explore whether attachment processes may impact (i.e., moderate) the relation between intimacy and couple satisfaction. Given that the potential influence of one's romantic attachment on one's couple satisfaction may differ depending on the explicit partner or facet of intimacy under investigation, the relative contrasting of both partners' level of emotional and sexual intimacy was implemented in order to permit an inclusive and thorough understanding of the moderating role of romantic attachment.

For instance, given avoidant individuals' ability to separate love and sex (Brennan & Shaver, 1995), it is plausible that moderation effects of attachment avoidance may be weaker for sexual versus emotional facets of intimacy if the former is perceived as less intrusive to their preferred desires for more limited interpersonal closeness. Likewise, it is conceivable that anxiously attached individuals' fears of abandonment (Brennan et al., 1998), and corresponding desire to attain higher levels of mutual intimacy (Pistole, 1994), may lead them to be equally sensitive to both their own and their partner's level of intimacy when contrasted with individuals higher in attachment avoidance. Thus, in short, the overall objective of the current study was to implement an original and systematic model investigating actor romantic attachment as a

moderator of the relation between actor versus partner emotional and sexual intimacy and actor couple satisfaction. Lastly, due to inconsistent gender effects of intimacy demonstrated within the literature, with some studies revealing gender differences for emotional and/or sexual intimacy (Greeff & Malherbe, 2001; Reiss, 1998; Tamaldage & Dabbs, 1990) and others reporting no such gender effect (McCabe, 1999), potential gender differences were investigated for all study relations to ascertain whether intimacy and its relation with couple satisfaction (including the potential moderating role of attachment) may differ for men and women.

Hypotheses

First, it was hypothesized that a positive linear relation would be demonstrated between actor and partner intimacy (emotional and sexual) and actor couple satisfaction. Second, it was hypothesized that the positive relation between actor and partner intimacy (emotional and sexual) and actor couple satisfaction would be stronger amongst those exhibiting higher actor anxiety over abandonment. Third, it was hypothesized that the positive relation between actor and partner intimacy (emotional and sexual) and actor couple satisfaction would be weaker amongst those exhibiting higher actor avoidance of intimacy. Fourth, it was hypothesized that emotional intimacy, when contrasted with sexual intimacy, would reveal a stronger relation with actor couple satisfaction. Fifth and lastly, it was hypothesized that actor intimacy, when contrasted with partner intimacy, would explain a greater amount of variance in actor couple satisfaction. Due to inconsistent gender findings in the literature regarding intimacy, no a priori hypotheses were put forth for gender effects.

Method

Participants

The sample was comprised of 117 English-speaking heterosexual couples from the community of Ottawa, Ontario and its surrounding regions. Eligibility criteria for the study included: a) being 18 years of age or older, b) being currently involved with the same partner for at least 12 months, and c) living with their partner for at least 6 months. The mean age of participants was 33.61 years ($SD = 13.46$) and the average duration of the romantic relationship was 6.46 years ($SD = 7.92$), with 43.2% of the couples married for an average duration of 6.26 years ($SD = 12.04$). The preponderance of couples did not have children (83.76%). The ethnicity of participants was 92.5% Caucasian, 2.3% Hispanic, 1.8% Black, 1.4% Asian, 0.5% Middle Eastern, 0.5% First Nation, and 1.0% other. The majority of participants held a university degree (61.80%), with an average annual income of \$44,100 (Canadian dollars).

Procedure

The current study was embedded within a larger longitudinal research study that consisted of three time phases, each occurring approximately 12 months apart. The sample used for this study comprised of individuals who either a) participated in this component of the study for the first time (phase 1; $n = 56$), or b) participated as a follow-up to their participation 12 months prior (phase 2; $n = 61$). All participants were voluntarily recruited by means of newspapers, community advertisements, and local events. Eligible participants were invited to participate in a 2.5 hour testing session during which they completed questionnaires, among other tasks. To minimize attrition rates among participants in the follow-up phase only, those unable to attend laboratory sessions were provided the option to have questionnaires sent to their home via regular mail or a secure and encrypted internet site (Survey Monkey). Prior to

participating, partners were informed of the nature and purpose of the study, the procedure, and confidentiality issues. All participants were requested to complete the questionnaires independently from their partner. The questionnaire package relevant to the current study took approximately 20 minutes to complete. A Multivariate Analysis of Variance (MANOVA) revealed no statistically significant differences between individuals participating for the first time (phase 1) or as a follow-up (phase 2) on measures of romantic attachment (fears of abandonment and avoidance of intimacy), intimacy (emotional and sexual), and couple satisfaction.

Measures

Sociodemographic questionnaire. This questionnaire was administered to gather relevant personal (e.g., age, ethnicity, mother tongue, educational level, salary, etc.) and relationship demographics (e.g., relationship/marital status, relationship length, etc.).

Personal Assessment of Intimacy in Relationships (PAIR; Schaefer & Olson, 1981). The PAIR inventory is a 36-item instrument that assesses five types of intimacy: emotional, social, sexual, recreational, and intellectual. Additionally, this measure contains a "conventionality" scale which measures the extent to which someone is "faking good". For the purposes of this study, only facets of emotional intimacy (e.g., "My partner listens to me when I need someone to talk to"), sexual intimacy (e.g., "Sexual expression is an essential part of our relationship") and conventionality were included (e.g., "Every new thing I have learned about my partner has pleased me"). All subscales of the PAIR consist of 6-items asking participants to indicate their responses on a scale ranging from 0 = *Strongly Disagree* to 4 = *Strongly Agree*, with a midpoint of 2 = *Neutral*. Scores are summed for each subscale, with higher scores indicative of higher intimacy or "faking good" (score range = 0-24). The alpha coefficients for the current study were .83 for emotional intimacy, .76 for sexual intimacy, and .82 for

conventionality, as compared with .75 and .77 that were originally established by Schaefer and Olson (1981) for emotional and sexual intimacy. Although a reliability coefficient for conventionality was not reported within their original study, item factor loadings for their scale were demonstrated to appropriately range between .55 to .66 (Schaefer & Olson, 1981).

Experiences in Close Relationships (ECR; Brennan et al., 1998). This 36-item scale is a widely used measure of adult romantic attachment and is comprised of two subscales: anxiety over abandonment (e.g., "I worry about being rejected and abandoned") and avoidance of intimacy (e.g., "Just when my partner starts to get close to me I find myself pulling away"). Responses are indicated on a 7-point Likert scale ranging from 1 = *Disagree Strongly* to 7 = *Agree Strongly*, with a midpoint of 4 = *Neutral/Mixed*. Item scores are summed for each subscale, with higher scores indicative of higher anxiety or avoidance (score range = 18-126). General attachment patterns in romantic relationships, rather than relationship-specific attachment, were assessed. The ECR demonstrates excellent reliability coefficients and has been shown to be psychometrically superior when contrasted with three well-known attachment measures (Fraley, Waller, & Brennan, 2000). The ECR has similarly been revealed to have good convergent validity and test-retest reliability scores (*range* = .50 and .75; Mikulincer & Shaver, 2007). In the present study, the internal reliability indices were .92 for anxiety over abandonment and .93 for avoidance of intimacy, as compared to .91 and .94, respectively, that were originally reported by Brennan and colleagues (1998).

Dyadic Adjustment Scale- 4 items (DAS-4; Sabourin, Valois, & Lussier, 2005). The DAS-4 is a briefer version of the original 32-item DAS (Spanier, 1976), a widely used and psychometrically validated self-report measure of dyadic adjustment for individuals involved in a romantic relationship. The DAS-4 includes questions such as: "How often do you discuss or

have you considered divorce, separation, or terminating your relationship?" Varying Likert-type scales are used and items are summed to obtain a global score, with higher scores reflecting higher levels of satisfaction with one's couple relationship (referred to within the article as couple satisfaction; score range = 0-21). The scale has demonstrated good reliability (Cronbach's alpha = .84), acceptable classification rates of distressed and non-distressed couples (.84 and .92, respectively), and better predictive validity (i.e., couple dissolution over a 2-year period) than the DAS-32 (Sabourin et al., 2005). In the present study, the internal reliability of the scale was .80.

Results

Preliminary Analyses

All statistical analyses were conducted with SPSS (Statistical Package for the Social Sciences) version 20.0. Prior to conducting the main analyses, data were verified for problematic missing values, multivariate normality, and univariate and multivariate outliers. Single imputations (using the expectation-maximization algorithm) were used to replace missing data (less than 1% of the dataset, missing at random) due to its ability to maximize power and its advantage over other available methods (e.g., case deletion, mean substitution, and regression; Widaman, 2006). Normality assumptions and the presence of outliers were examined by means of histograms and boxplots, respectively. Normality assumptions were not met across the study variables (three negatively skewed, two positively skewed); skewed variables were logarithmically transformed. Following transformations, two univariate outliers were identified using boxplots and further transformed by bringing their values closer to the mean. A test of Mahalanobis distance revealed that the dataset did not contain any multivariate outliers. Homogeneity of variance and covariance assumptions were met across variables of interest as shown by the lack of a significant Levene's statistics and Box's M test, respectively. Linearity

and the absence of multicollinearity were demonstrated by means of bivariate scatterplots and the variance inflation factor (VIF), respectively, across all variables.

Inferential Statistics

Bivariate correlations were computed in order to verify preliminary relationships amongst variables and assess bidirectionality in couples (see Table 1). Small to moderate correlations were found between men's and women's emotional intimacy, sexual intimacy, and couple satisfaction, suggesting that the dyadic data were non-independent. The correlational analyses also revealed preliminary relationships amongst study variables, typically supporting our hypotheses. Generally, emotional and sexual intimacy, in both men and women, were shown to be positively related with their own and their partner's couple satisfaction. The only exception was the absence of a significant relation between men's sexual intimacy and women's couple satisfaction. Additionally, attachment insecurity in women and men (anxiety and avoidance) was generally shown to be significantly and negatively associated with both their own and their partner's emotional intimacy, sexual intimacy, and couple satisfaction. The only exceptions were the absence of significant relations between actor attachment anxiety and partner emotional/sexual intimacy (for both men and women), as well as between men's attachment anxiety and women's couple satisfaction.

Primary Analyses

One of the most fundamental issues in couple research is non-independence (Kenny, Kashy, & Cook, 2006). Non-independence refers to when dyads (e.g., a romantic couple, parent/child, two friends) influence one another and therefore share a common variance. Given that relationship quality is found to be mutually determined by both partners (Hendrick, 1998), a plan of analysis utilizing the dyad was incorporated (APIM; Kenny & Cook, 1999). Specifically,

multilevel modeling, a technique highly recommended for the estimation of APIM parameters (Campbell & Kashy, 2002; Kenny & Cook, 2006), was employed. This technique includes the dyad as the highest unit of analysis, with individual partners nested hierarchically within the couple. Given the current study's use of distinguishable couples (i.e., heterosexual couples), two lines of data were created for each dyad. In the first line, the female partner was considered as the actor and the male was considered as the partner, with the reverse order occurring within the second line. Data were thereafter analyzed from this perspective. For more information on how data sets (including dyads) are structured within APIM and multilevel modeling readers are referred to Campbell and Kashy (2002), as well as Cook and Kenny (2005).

Multilevel modeling holds several advantages, including: (1) addressing the non-independence of dyadic data, (2) integrating both actor and partner effects into the same model, and (3) permitting the investigation of both main and indirect effects required for the examination of moderation models (Campbell & Kashy, 2002). To test our hypotheses, multilevel modeling was examined using Linear Mixed Models (LMM; with the restricted maximum likelihood; REML). All significant moderation effects (as demonstrated by a significant interaction effect between a predictor and moderator) were plotted, as well as subsequently examined by means of simple slope tests, using the range of both predictor variables (intimacy and attachment) from one standard deviation below and above the mean as outlined by Aiken and West (1991). All significant effect size estimates (η^2 : eta-square) were determined by comparing the residual variance of study models with and without significant predictor(s) or interaction(s) of interest, as outlined by Tabachnick and Fidell (2007).

To gain unbiased estimates of the hypothesized relations, all mixed-dyad independent variables were grand-mean centered (Kenny & Cook, 2006). Given the use of distinguishable

couples, gender was effect coded as male = -1 and female = 1. A significance level of .05 was used throughout. While a power analysis has not been specifically designed for APIM, the basis for this technique is regression. Using regression coefficients as the unit of analysis, it was determined that our sample size ($N = 117$ dyads) afforded a power level of more than .95 to detect a medium effect ($r = .3$) at an alpha level of .05 with models including 18 predictor variables (all interactions included; G*Power; Faul, Erdfelder, Lang, & Buchner, 2007).

Analyses proceeded in a series of steps. Different multilevel models were assessed in order to first examine predictors in isolation, followed by their interaction with other predictors. As such, three primary nested models were examined. Gender effects were subsequently investigated for each primary model by adding gender as a moderator; this resulted in the combined examination of six nested models. Each model included actor couple satisfaction as the outcome variable. All study models were initially examined by controlling for relationship length, number of children, and conventionality due to their demonstrated potential confounding effect(s) on the current study's primary variables (i.e., attachment, intimacy, couple satisfaction) and/or their interrelations (Creasey & Hesson-McInnus, 2001; Hazan & Shaver, 1984; Schaefer & Olson, 1981; Wendorf, Lucas, Imamoglu, Weisfeld, & Weisfeld, 2011). Given that the implementation of analyses including or excluding such potential confounds produced similar results, only models excluding these variables are presented in order to allow an improved and simplified interpretation of findings.

Additionally, provided that a small subset of individuals have been shown to concurrently display high levels of attachment anxiety and avoidance (and the corresponding use of both hyperactivation and deactivation strategies; Bartholomew & Horowitz, 1991), we examined the potential interaction of attachment anxiety and avoidance in predicting the relation between

intimacy and couple satisfaction in order to ensure a comprehensive assessment of the moderating role of romantic attachment. Specifically, LMM models were implemented by including all predictors (emotional and sexual intimacy, gender, attachment anxiety and avoidance) and the interactions of attachment (anxiety x avoidance x intimacy; anxiety x avoidance x intimacy x gender). Two separate models were tested, one including and one excluding gender as a predictor (as the inclusion of gender was shown to nullify some significant direct and interaction effects within our primary models as will be highlighted and presented subsequently). Given that no significant interaction effect of attachment anxiety and avoidance was found, that our primary objective was to differentiate between the dimensions of attachment anxiety and avoidance in isolation, and finally, that such dimensions are intended to be assessed and examined as distinct and orthogonal constructs (Brennan et al., 1998), the aforesaid attachment interactions will not be presented in succeeding analyses or discussed further.

Model 1: Emotional and Sexual Intimacy

First, with the aim of examining whether actor and partner intimacy (emotional and sexual) were positively related to actor couple satisfaction (hypothesis 1), two models were tested. Model 1a included actor and partner intimacy (emotional and sexual intimacy; predictor variables). Analyses revealed that actor and partner emotional intimacy were significantly and positively related to actor couple satisfaction ($p < .001$, $\eta^2 = .407$; $p < .05$, $\eta^2 = .026$, respectively). Conversely, actor and partner sexual intimacy were not found to be significantly related to actor couple satisfaction when examined concurrently with emotional intimacy¹ (see Table 2). Next, in order to examine the moderating role of gender on the above relations, all

¹ When sexual intimacy was examined in isolation from emotional intimacy, both actor and partner effects of sexual intimacy were significantly and positively related to actor couple satisfaction.

variables from model 1a were entered into model 1b along with gender and their interactions. Analyses revealed that partner emotional intimacy was no longer significantly related to actor couple satisfaction upon entering gender into the model. However, gender was not found to moderate any relations.

Model 2: Intimacy x Romantic Attachment Anxiety

Second, to examine whether actor attachment anxiety moderated the positive and non-significant relation between emotional and sexual intimacy and actor couple satisfaction, respectively (hypothesis 2), two models were tested. Model 2a included actor and partner emotional and sexual intimacy (predictor variables), actor attachment anxiety (moderator 1), and their interactions. Attachment anxiety was not found to moderate any relations (see Table 3). Next, in order to examine the moderating role of gender on the above relations, all direct and indirect relations investigated within model 2a were entered into model 2b along with gender (moderator 2) and their interactions. Analyses revealed that the relation between partner emotional intimacy and actor couple satisfaction was no longer statistically significant upon entering gender into the model. Gender was not found to moderate any direct or indirect relations.

Model 3: Intimacy x Romantic Attachment Avoidance

Third, to examine whether actor attachment avoidance moderated the positive and non-significant relation between emotional and sexual intimacy and actor couple satisfaction, respectively (hypothesis 3), two models were tested. Model 3a included actor and partner emotional and sexual intimacy (predictor variables), actor attachment avoidance (moderator 1), and their interactions. Analyses revealed that actor attachment avoidance moderated the relation between actor emotional intimacy and actor couple satisfaction, such that individuals reporting

higher levels of attachment avoidance demonstrated a weaker positive relation between their emotional intimacy and couple satisfaction when contrasted with individuals reporting lower attachment avoidance ($p < .01$, $\eta^2 = .024$, see Table 4 for all LMM findings pertinent to this model; see Figure 1 & Table 5 for plots and simple slope effects pertinent to the aforementioned interaction, respectively). No additional moderation effects of attachment avoidance were demonstrated. Next, in order to examine the moderating role of gender on the above relations, all direct and indirect links investigated within model 3a were entered into model 3b along with gender (moderator 2) and their interactions. Analyses revealed that the relation between partner emotional intimacy and actor couple satisfaction was no longer statistically significant, nor was the interaction between actor emotional intimacy and actor attachment avoidance upon entering gender into the model. However, once more, gender was not found to moderate any relations.

Discussion

A plethora of studies exist demonstrating the important link between intimacy and couple satisfaction. Numerous studies have similarly revealed how attachment processes may influence intimacy motives and desires (Feeney & Noller, 1991). This study was unique in expanding existing knowledge devoted to the understanding of intimacy by investigating how intimacy and attachment may interact on their relation with couple satisfaction. Accordingly, our primary objective was to examine the moderating role of actor romantic attachment on the association between intimacy and couple satisfaction. Novel explorations similarly included the multidimensional and dyadic examination and contrasting of actor versus partner effects of two facets of intimacy (emotional and sexual), as well as the investigation of the moderating role of gender amongst all links. Prior to elaborating on study results, a clarification of gender findings is first required.

Intimacy and Gender

Although entering gender into our models resulted in the loss of a significant relation between partner emotional intimacy and actor couple satisfaction, as well as the loss of an interaction effect (actor emotional intimacy x actor avoidant attachment), gender was not found to moderate any direct or indirect relations examined within the current study. In this way, the entry of gender into our models took away variance from previously significant effects without significantly impacting the variables in question or their interrelations. Therefore, the inclusion of gender muddled rather than informed our models. Given the absence of gender effects, only elaborations of models excluding gender will follow as this is believed to be more representative of the role of actor and partner intimacy and their link with couple satisfaction within the context of our findings. Thus, our findings are aligned with previous research demonstrating no statistically significant difference between men and women as it pertains to the association between [emotional] intimacy and couple satisfaction (Sanderson & Cantor, 2001).

Actor versus Partner Emotional and Sexual Intimacy

Results revealed that both emotional and sexual intimacy (actor and partner effects) were linked with higher levels of actor couple satisfaction when each respective facet of intimacy was examined in isolation. However, actor and partner sexual intimacy were no longer significantly related with actor couple satisfaction when examined concurrently with emotional intimacy. In this way, sexual intimacy did not appear to independently contribute to couple satisfaction when emotional intimacy levels were simultaneously considered. Thus, our study findings suggest that current experiences of intimacy created through emotional closeness, self-disclosure, and mutual feelings of connectedness may be a more important contributor to satisfactory couple relationships than sexual intimacy. Future research may seek to examine whether the attainment

of higher levels of one facet of intimacy is influenced by the levels of intimacy acquired within the other facet. For instance, given the subsuming role of emotional intimacy over sexual intimacy for one's couple satisfaction, it is plausible that higher levels of emotional intimacy may occur irrespective of concurrent levels of sexual intimacy, whereas the reverse may be less likely to hold true within the context of long-term relationships.

Moreover, the current study demonstrated that although both actor and partner emotional intimacy were independently related to actor couple satisfaction, one's emotional intimacy accounted for a substantially higher proportion of one's couple satisfaction when contrasted with one's partner's emotional intimacy (40.71% versus 2.60%, respectively). The greater contribution of one's emotional intimacy suggests that the pursuit of higher levels of intimacy may require a particular focus on increasing an individual's subjective experience of intimacy (notwithstanding the acknowledged important dyadic nature of this relational experience). Research on close relationships reveals that individuals often project their intimacy goals unto their partner, often irrespectively of their partner's views and goals (Sanderson & Evans, 2001). The use of one's level of intimacy as an overall gauge of both one's own and one's partner's intimacy may perhaps partially explain the greater amount of variance accounted for by one's emotional intimacy (relative to one's partner's emotional intimacy) and its relation to one's couple satisfaction.

Moderating Role of Attachment

Additionally, our study endeavoured to further extend current knowledge regarding the association between intimacy (emotional and sexual) and couple satisfaction by exploring an original moderation model of romantic attachment. Although noted that the absence of a significant relation between actor and partner sexual intimacy and actor couple satisfaction nullified our initial hypotheses regarding one's romantic attachment increasing or decreasing the

strength of these relations, moderation effects were nevertheless feasible given that a significant relation between a predictor (e.g., sexual intimacy) and outcome variable (e.g., couple satisfaction) is not a required stipulation for demonstrating a moderation effect (Baron & Kenny, 1986). As such, moderation effects were examined for both emotional and sexual intimacy and are subsequently elaborated upon for anxious attachment, followed by avoidant attachment.

Contrary to expected findings, results demonstrated that the relation between both emotional and sexual intimacy (actor and partner effects) and actor couple satisfaction was not influenced (i.e., moderated) by an individual's level of attachment anxiety. Although research has demonstrated that individuals with higher attachment anxiety generally incessantly seek out and desire higher levels of intimacy in their romantic relationship (Feeney & Noller, 1991), higher reports of one's own or one's partner's intimacy did not render exacerbated increases in one's couple satisfaction. Prior studies have shown that anxiously attached individuals' continual attempts to attain higher intimacy (Mikulincer & Shaver, 2007) can paradoxically undermine the level of intimacy they have acquired at each stage of their relationship (Feeney & Noller, 1991). Perhaps then, transitory levels of intimacy, or the inability of higher levels of intimacy to fully satisfy anxiously attached individuals' greater need to feel secure or loved, limits a stronger relation between their intimacy (emotional and sexual) and couple satisfaction when present. If the former inference was found to be accurate, this may imply that a focus on reducing relationship features that undermine anxiously attached individuals' ability to maintain intimacy (e.g., intrusive attempts for greater intimacy; Lavy 2006) would be particularly important for their attainment of higher levels of couple satisfaction.

With respect to partner effects of intimacy, research demonstrates that individuals exhibiting higher attachment anxiety are less accurate in perceiving their partner's feelings of

love (Tucker & Anders, 1999). Given that intimacy can be regarded as an expression and sentiment of love, inaccurate estimations of one's partner's intimacy may perhaps partially explain the lack of a stronger relation between one's partner's intimacy and one's couple satisfaction amongst individuals with higher attachment anxiety. If substantiated, this could imply that increasing one's awareness of their partner's emotional and sexual expressions indicative of love may also be beneficial for anxiously attached individuals' couple satisfaction. However, given the absence of moderation effects of attachment anxiety within the current study, it may simply be that once attained, higher levels of one's or one's partner's emotional and sexual intimacy are related to one's couple satisfaction in similar ways amongst individuals with higher or lower attachment anxiety. Accordingly, future research may seek to ascertain whether anxiously attached individuals' stronger desires for intimacy (Mikulincer & Erev, 1991) results from their continual difficulty in aptly attaining and/or maintaining intimacy rather than stemming from an incessant and unlimited need for higher intimacy.

As it pertains to avoidant attachment, previous research has demonstrated that avoidantly attached individuals not only report having acquired, but moreover, desiring lower levels of intimacy in their romantic relationship (Collins & Feeney, 2003). Our study expanded such findings by confirming our hypothesis stipulating that individuals with higher attachment avoidance would exhibit less increases in their couple satisfaction when experiencing higher levels of emotional intimacy. First, the substantiation of this inference suggests that, despite higher levels of emotional intimacy generally increasing one's couple satisfaction, this may fail to occur to the same degree amongst those exhibiting higher attachment avoidance. Prior studies have shown that avoidant defences, such as the inhibition of emotions, can serve as a protective function against interpersonal closeness (Cassidy, 1994). Accordingly, when particular emotions

are experienced by avoidantly attached individuals (e.g., higher emotional intimacy) that hinder regulatory efforts to minimize closeness and interdependence, lower couple satisfaction may be reported when compared to those without such regulatory goals. Hence, there appears to be particular dynamics at play, dynamics which may extend beyond avoidant defences (e.g., negative relational expectations), that hinder higher levels of intimacy to incrementally increase one's couple satisfaction to the same extent amongst individuals exhibiting higher, compared to lower, attachment avoidance.

However, while thus far emphasizing the impact of higher levels of intimacy, our findings similarly illustrated that when experiencing low levels of emotional intimacy, individuals exhibiting higher attachment avoidance reported higher levels of couple satisfaction when compared to individuals with lower avoidance. This may imply that the negative consequences typically arising from lower romantic intimacy are less intensely experienced by those with higher attachment avoidance. Thus, rather than limited desires for intimacy being invariably detrimental to one's romantic relationship, avoidant defences may serve adaptive functions such as defending against dissatisfaction when having a more distant partner and/or when experiencing lower levels of closeness in one's romantic relationship.

Contrary to our proposed hypothesis, a moderating effect was not found for partner emotional intimacy, such that individuals with higher attachment avoidance did not demonstrate lessened increases in their couple satisfaction when having a partner who reported higher levels of emotional intimacy. This suggests that one's emotional intimacy (relative to one's partner's intimacy) may be more likely to be experienced by individuals with higher attachment avoidance as a detriment to their preferred limits to interpersonal closeness. Such findings may conceivably be explained by avoidantly attached individuals' tendency to view their partner as requiring

reduced levels of closeness and intimacy in order to protect and maintain one's own desired level of intimacy (Mikulincer & Erev, 1991). As such, it may be that one's perception of their partner's intimacy, or alternatively, discrepancies in intimacy desires between partners, that contributes more to one's couple satisfaction than one's partner's reported intimacy.

Lastly, contrary to our expectation, a moderation effect of attachment avoidance was not demonstrated for the relation between sexual intimacy (actor or partner effects) and one's couple satisfaction. The absence of such findings may potentially be explained by avoidant individuals' outlook on sexual intimacy, specifically, their tendency to separate love and sex (Brennan & Shaver, 1995). More explicitly, if avoidantly attached individuals' focus is primarily placed upon the physical needs gratified through sexual intimacy, as oppose to viewing this as a means of creating closeness, this may explain the absence of lessened increases in their couple satisfaction stemming from higher reports of one's or one's partner's sexual intimacy. This stipulation is consistent with past research which has demonstrated that avoidant individuals typically fail to express love and affection during sex (Birnbaum et al., 2006), are less likely to consider sex as a means by which to increase intimacy, and are correspondingly more likely to assess sexual satisfaction based on the physical components of sex (Davis et al., 2006).

Alternatively, it is plausible that the absence of moderation effects of romantic attachment (anxiety or avoidance) on the relation between sexual intimacy and couple satisfaction is explained by the limited statistical power that can arise within the context of moderation analyses. More specifically, given a non-significant relation between sexual intimacy and couple satisfaction when examined alongside emotional intimacy, the modification of this relation (i.e., the attainment of a significant relation) would necessitate a particularly strong moderation effect of attachment; with research revealing that even a weak association between a

predictor and outcome variable significantly lowers the power to find a moderation effect (Aguinis, 1995). Therefore, despite romantic attachment strategies utilized by individuals with anxious and avoidant attachment playing an important role in relationship functioning (Mikulincer & Shaver, 2003), the magnitude of this influence may not exceed that required to alter the non-significant association demonstrated between sexual intimacy and couple satisfaction within our primary models. Prospective research implementing study procedures that are shown to improve the power to find moderation effects, for instance, the implementation of experimental manipulation studies (Aguinis, 1995; Aguinis et al., 2001), may ensure that moderation effects of attachment are not erroneously dismissed for sexual intimacy. However, given that emotional intimacy was shown to subsume sexual intimacy, in so far as it pertains to the association with couple satisfaction, it may simply be that emotional components are a more important feature of intimacy, and consequently, moderation effects of romantic attachment may only be pertinent to this facet.

Limitations, Strengths, and Future Directions

Despite the methodological strengths and novel explorations comprising the current study, its limitations must also be considered. First, the use of correlational data limits causal inferences that can be drawn from our findings. Although intimacy was postulated to impact couple satisfaction, it is similarly possible that couple satisfaction leads to greater intimacy or that each reciprocally influence one another. As such, experimental studies are needed to determine causality. Second, despite a strength of the study being the use of a reasonably diverse array of dyads (e.g., common-law and married couples, varied relationship lengths, assorted ages, etc.) in a romantic relationship of at least 12 months duration, couples nevertheless tended to majorly consist of well-educated, Caucasian individuals in a predominantly highly-functioning

heterosexual relationship. Thus, it cannot be assumed that the study's results are generalizable to all dating or married couples. Replication of our models amongst varied samples is required to ascertain the external validity of all findings, particularly amongst distressed couples who may exhibit lower levels of intimacy and couple satisfaction and/or higher levels of attachment insecurity. In short, results of the current study must be interpreted within the context of the particular sample used.

Third and lastly, there remain several research questions that were not addressed within the present study that could prospectively be addressed in future research. In order to circumvent multiple objectives and analyses (and the corresponding risk of type I or II errors) at the expense of a thorough understanding and explication of our models, the current study solely aimed to examine certain facets of intimacy and attachment and their relation with couple satisfaction. For instance, only the moderating role of actor romantic attachment, in contrast to partner attachment, was examined as the former was believed to play a more central and informative role within the context of our objectives. Although one's partner's attachment may influence one's experience of intimacy, in turn impacting one's couple satisfaction (implying mediation; aims which were outside the scope of the present study), the moderating role of partner attachment was deemed to be less applicable. Nonetheless, prospective studies may seek to examine (or rule out) whether intimacy and its relation with couple satisfaction differs based on the attachment of both partners of a dyad (i.e., actor and partner attachment) or particular dyad types (e.g., secure/secure, avoidant/anxious couples, etc.).

Moreover, given greater empirical evidence for the established relation between emotional and sexual intimacy and couple satisfaction when contrasted with other facets of intimacy, the former facets were deemed to be most appropriate for instigating investigations

ascertaining the moderating role of attachment. Nonetheless, prospective studies may seek to examine the broader applicability of our models to other facets of intimacy (e.g., recreational intimacy, intellectual intimacy, etc.) or differing frames of reference for measuring intimacy (e.g., desired, perceived, versus experienced intimacy). Lastly, as previously alluded to, future research may seek to implement more advanced procedural methods (e.g., observational and/or experimental manipulation studies) in order to verify the robustness of all significant and non-significant moderation effects explored within the current study.

Conclusions

Consistent with previous research, our results further confirmed the significant role of intimacy in attaining satisfactory couple relationships (Greeff & Malherbe, 2001; Schaefer & Olson, 1981). The present study's novel incorporation of an attachment perspective further extended this knowledge by revealing differences in the strength of the relation between emotional intimacy and couple satisfaction as a function of one's romantic attachment. Accordingly, our findings provided support for attachment theory as a valuable framework by which to comprehend underlying idiosyncratic intimacy-based motives and experiences (Collins & Feeney, 2003; Feeney & Noller, 1991) and their corresponding differential relation with couple satisfaction. In practical terms, this understanding may prove to be a useful [preventive and/or therapeutic] tool in maintaining or increasing satisfaction in romantic relationships. Furthermore, given research revealing that couples tend to report greater satisfaction when they are aware of their partner's goals, irrespective of those goals (Sanderson and Cantor, 2001), understanding for whom intimacy may be differentially related to one's couple satisfaction may similarly aid in this endeavour. More broadly, our findings illuminated how levels of emotional intimacy required for satisfactory relationships may vary from

individual to individual or couple to couple, providing empirical support for Schaefer and Olson's (1981) proposition that there exists no standard level of intimacy. As such, consistent with this notion, it is our contention that satisfactory relationships likely require intimacy needs to be distinctively and mutually determined by the needs of both partners of a dyad rather than an invariable striving towards a universal standard. Attachment theory provides an innovative angle by which to understand differences in emotional intimacy and its relation with couple satisfaction.

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Table 1

Means, Standard Deviations, and Correlations between Intimacy, Romantic Attachment, and Couple Satisfaction

	1	2	3	4	5	6	7	8	9	10
1. ANX W										
2. ANX M	.118									
3. AVD W	.313**	.127								
4. AVD M	.184*	.301**	.185*							
5. EI W	-.445***	-.079	-.600***	-.318***						
6. EI M	-.051	-.283**	-.291*	-.531***	.464***					
7. SI W	-.226*	-.068	-.430***	-.219*	.534***	.346***				
8. SI M	-.037	-.314**	-.182*	-.446***	.139	.507***	.390***			
9. SAT W	-.379***	.103	-.528***	-.343***	.681***	.398***	.425***	.146		
10. SAT M	-.191*	-.232*	-.303**	-.539***	.480***	.690***	.381***	.346**	.491***	
Mean	57.32	48.52	38.62	40.90	19.08	19.03	19.01	18.09	16.94	17.00
Standard Deviation	21.67	18.75	18.46	15.56	4.81	4.51	3.97	4.72	3.18	3.25

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. ANX = attachment anxiety, AVD = attachment avoidance, EI = emotional intimacy, SI = sexual intimacy, SAT = couple satisfaction, W = women, M = men.

Table 2

*Emotional and Sexual Intimacy (Actor and Partner Effects) on Actor Couple Satisfaction (Model**1a)*

<i>Fixed Effects</i>	<i>Estimate Coefficient</i>	<i>St. Error</i>	<i>t-value</i>	<i>Lower 95% CI</i>	<i>Upper 95% CI</i>	<i>p-value</i>
Intercept	.618	.015	42.573	.589	.647	.000
Actor effects						
EI	-.445	.044	-10.131	-.532	-.359	<.001
SI	-.017	.045	-0.389	-.106	.071	.698
Partner effects						
EI	-.104	.044	-2.366	-.191	-.017	<.05
SI	-.036	.045	-0.794	-.124	.053	.428

Note. EI = emotional intimacy, SI = sexual intimacy; emotional and sexual intimacy are reflected values.

Table 3

Emotional and Sexual Intimacy (Actor and Partner Effects) x Actor Attachment Anxiety on Actor Couple Satisfaction (Model 2a)

<i>Fixed Effects</i>	<i>Coefficient Estimate</i>	<i>St. Error</i>	<i>t-value</i>	<i>Lower 95% CI</i>	<i>Upper 95% CI</i>	<i>p-value</i>
Intercept	.618	.015	40.582	.588	.649	<.001
Main effects						
Actor Anxiety	-.129	.081	-1.582	-.288	.032	.115
Actor EI	-.421	.046	-9.106	-.512	-.330	<.001
Partner EI	-.111	.044	-2.523	-.198	-.024	<.05
Actor SI	-.015	.045	-.326	-.103	.074	.745
Partner SI	-.040	.045	-.885	-.128	.049	.377
Interaction effects						
Actor EI x Anxiety	-.152	.271	-.560	-.686	.383	.576
Partner EI x Anxiety	-.381	.253	-1.506	-.881	.117	.134
Actor SI x Anxiety	.235	.294	.797	-.345	.814	.426
Partner SI x Anxiety	.354	.260	1.363	-.158	.865	.174

Note. EI = emotional intimacy, SI = sexual intimacy; emotional and sexual intimacy are reflected values.

Table 4

Emotional and Sexual Intimacy (Actor and Partner Effects) x Actor Attachment Avoidance on Actor Couple Satisfaction (Model 3a)

<i>Fixed Effects</i>	<i>Coefficient Estimate</i>	<i>St. Error</i>	<i>t-value</i>	<i>Lower 95% CI</i>	<i>Upper 95% CI</i>	<i>p-value</i>
Intercept	.600	.016	37.539	.570	.627	.000
Main effects						
Actor Avoidance	-.280	.087	-3.230	-.450	-.109	<.01
Actor EI	-.406	.048	-8.484	-.501	-.312	<.001
Partner EI	-.092	.043	-2.152	-.177	-.008	<.05
Actor SI	.029	.046	.616	-.063	.120	.539
Partner SI	-.036	.044	-.834	-.122	.049	.405
Interaction effects						
Actor EI x Avoidance	.647	.241	2.682	.171	1.12	<.01
Partner EI x Avoidance	.121	.220	.549	-.314	.560	.584
Actor SI x Avoidance	-.260	.267	-.970	-.781	.266	.333
Partner SI x Avoidance	.026	.244	.105	-.456	.507	.916

Note. EI = emotional intimacy, SI = sexual intimacy; emotional and sexual intimacy are reflected values.

Table 5

Simple Slope Effects of Actor Couple Satisfaction as a Function of Actor Emotional Intimacy

Moderated by Actor Attachment Avoidance

<i>Fixed Effects</i>	Moderator			
	<u>Low Avoidance</u>		<u>High Avoidance</u>	
	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>
EI x Avoidance	-.523	-7.338***	-.290	-5.065***

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, EI = emotional intimacy, Avoidance = attachment avoidance; emotional and sexual intimacy are reflected values.

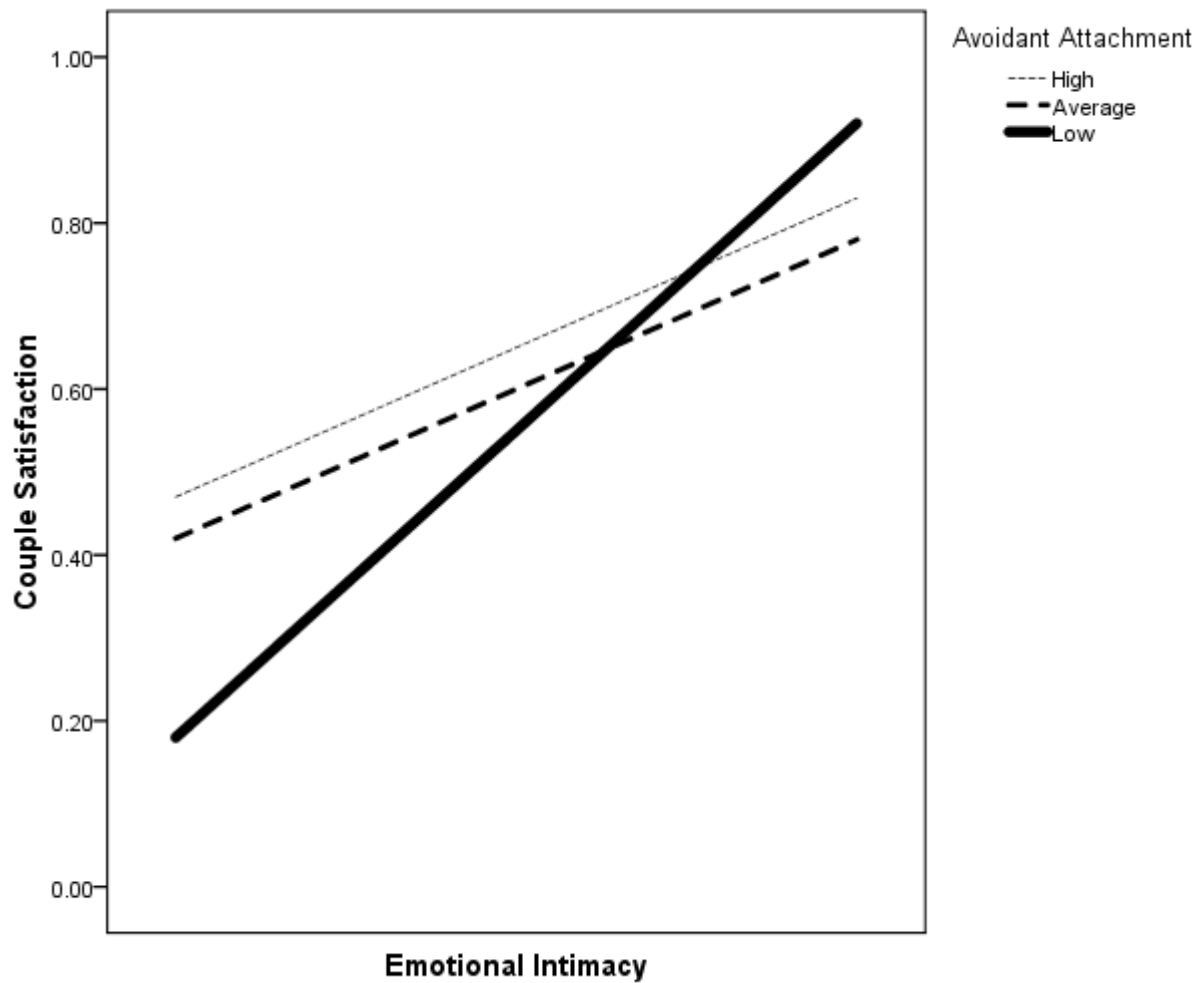


Figure 1. Graph of actor couple satisfaction as a function of actor emotional intimacy moderated by actor romantic attachment (Model 3a - logged values).

General Discussion

Summary of Primary Results, Strengths, and Global Implications

The influence of romantic attachment on couple relationships was the overarching focus of the current thesis and was examined within two articles. Explicitly, the aim was to investigate the moderating role of romantic attachment on universally experienced relationship factors, jealousy and intimacy, and their relation with couple satisfaction. Correspondingly, given the important and established link between both jealousy and intimacy and couple satisfaction (Pheiffer & Wong, 1989; Schaefer and Olson, 1981), but remaining gaps in the literature regarding these associations, an additional and equally valuable aim was to incorporate novel and extended explorations of these relations.

Specifically, the first article focused on exploring the moderating role of romantic attachment on the relation between one's own and one's perception of their partner's emotional, cognitive, and behavioural jealousy and one's couple satisfaction amongst a university sample of individuals currently involved in a heterosexual relationship of at least 12 months. The implementation of hierarchical models simultaneously incorporating each facet of jealousy revealed that cognitive jealousy was negatively associated with one's couple satisfaction, whereas emotional jealousy demonstrated a positive association; behavioural jealousy was not shown to add incremental value in one's couple satisfaction. All aforementioned results for each respective facet were applicable to both one's own and one's perception of their partner's jealousy. Findings also confirmed the hypothesized moderating role of romantic attachment on the relation between several facets of jealousy and couple satisfaction, with attachment anxiety mostly increasing and attachment avoidance either decreasing or not influencing this association. Thus, results suggested that the negative and positive consequences of jealousy on couple

satisfaction may be exacerbated amongst those exhibiting higher attachment anxiety. The methodological, theoretical, and empirical strengths of the study included the examination of the incremental value of three facets of jealousy, the novel exploration and contrasting of one's jealousy versus one's perception of their partner's jealousy, and the investigation of an original model examining the moderating role of romantic attachment and gender on the relation between jealousy and couple satisfaction.

The second study aimed to examine the moderating role of romantic attachment on the link between one's own and one's partner's emotional and sexual intimacy and one's couple satisfaction using a community sample of dyads currently involved in a heterosexual relationship of at least 12 months. The implementation of an Actor-Partner Interdependence Model using Linear Mixed Models revealed that only actor and partner emotional intimacy were significantly and positively related with actor couple satisfaction when examined concurrently with sexual intimacy; a greater amount of variance was explained by actor versus partner emotional intimacy. Actor avoidant attachment was also found to moderate the aforementioned relation, such that a decreased positive association was demonstrated between actor emotional intimacy and actor couple satisfaction. Hence, results suggested that emotional intimacy may play a less central role in the couple satisfaction of individuals exhibiting higher attachment avoidance. Noteworthy methodological strengths of the study included the incorporation of an actor-partner interdependence model permitting a dyadic examination of both a participant's and their partner's intimacy (Kenny, Kashy, & Cook, 2006). This approach is congruent with the view of intimacy as a dyadic process that must accommodate both partners (Schaefer & Olson, 1981), as well as the most recent advances in couple research that explores the dyad as a system in contrast to partners as separate entities. Additional strengths of the study included the examination of the

relative contribution of two facets of intimacy in relation to one's couple satisfaction, as well as the investigation of an original moderation model incorporating both attachment and gender to explore the link between intimacy and couple satisfaction.

Overall, the abovementioned studies lend a significant contribution to the literature by means of their novelty, their relevance to universally experienced facets of couple functioning, their comprehensive nature, and focus on attenuating existing gaps in the literature regarding romantic attachment, jealousy, and intimacy and their relation with couple satisfaction.

Moreover, the articles consisted of a solid and inclusive theoretical basis, methodological rigour, and advanced statistical procedures. Altogether, the examination of innovative models revealing moderation effects of romantic attachment on couple satisfaction within two respective studies provides valuable insights regarding the role of attachment processes in relationship functioning.

Explicitly, the amalgamation of findings revealed that jealousy and intimacy and their association with one's couple satisfaction is not only dependent on the specific facet [of jealousy/intimacy] examined and the particular romantic partner of focus, but moreover, an individual's working model of attachment. For individuals exhibiting higher attachment anxiety, an exacerbated relation was demonstrated between one's jealousy (behavioural and emotional), or one's perception of their partner's jealousy (cognitive and behavioural), and one's couple satisfaction. Levels of attachment anxiety did not differentially impact the positive link between one's or one's partner's level of intimacy (emotional or sexual) and one's couple satisfaction. Conversely, individuals exhibiting higher attachment avoidance demonstrated *lessened* decreases in their couple satisfaction when one perceived their partner as experiencing higher levels of jealousy (behavioural), as well as when one experienced lower levels of romantic intimacy (emotional). As such, the thesis articles provided a unique understanding of the pervasive role of

romantic attachment processes and its influence on increasing or decreasing the established relation between universally experienced relationship facets and couple satisfaction.

Limitations and Future Directions

Despite the aforementioned strengths of the studies, several limitations also merit discussion; such limitations could be addressed within future studies. First, the limitation of utilizing self-report measures must be acknowledged given that such assessment methods have occasionally been shown to be susceptible to response bias (Furnham, 1986). Explicitly, response bias refers to the systematic tendency to respond to item questions in a way that is unrelated to the particular content intended to be measured by the assessment tool (Furnham, 1986). One common form of response bias, known as social desirability bias, is the tendency to provide socially accepted responses in contrast to what is reflective of one's honest feelings (Furnham, 1986). Considering that self-report measures were implemented within the thesis studies, one cannot refute the possibility of data being biased towards reporting lower levels of attachment insecurity or jealousy and/or higher levels of intimacy and couple satisfaction. Although a conventionality measure was incorporated and utilized within the second article of the thesis to minimize the aforesaid social desirability bias, such controls were not implemented within the first presented article. Accordingly, future studies may seek to address and circumvent this possible bias by incorporating a social desirability scale and/or multi-model assessments that comprise of interviews, observational methods, or experiments.

To this end, some alternative methods for assessing attachment processes include observational coding schemes, such as the Secure Base Scoring System (SBSS; Crowell et al., 1998) and semi-structured interviews, such as the Current Relationship Interview (CRI; Crowell & Owens, 1998). Likewise, additional options for investigating jealousy include experimental

studies evoking and manipulating jealousy-producing events in the laboratory (De Steno, Valdesolo, & Bartlett, 2006). Finally, alternative assessments for evaluating romantic intimacy include observational coding systems, such as the Intimate Behaviour Rating System (Mitchell et al., 2008). In short, substitute methods to self-report measures exist that can be shown to provide some advantages, including reduced respondent-based biases (MacDonald, 2008). Nevertheless, the thesis studies were intended and viewed as a necessary first-step prior to determining whether more elaborate assessments or procedural methods may prove fruitful in further ascertaining the moderating role of attachment on the relation between jealousy or intimacy and couple satisfaction. Moreover, self-report measures continue to be a commonly used and valid method of assessment, with the proper construction of such measures having the potential to reduce response bias. Finally, it should also be noted that the averages obtained across the current thesis' measures of interest were akin to that reported by the original authors validating such constructs.

Second, the potentially restricted external validity of study results must similarly be acknowledged as a possible limitation of the current thesis. Overall, the respective sample included within each study tended to consist of well-educated, primarily Caucasian individuals in a predominately highly-functioning heterosexual relationship. Thus, it cannot be assumed that the studies' findings are generalizable to all dating or married couples. Consequently, all inferences drawn from our data must be interpreted within the context of the particular samples used. The replication of models amongst varied samples (varying ages, differing cultural backgrounds, same-sex couples, etc.) is required to ascertain the applicability and generalizability of results to more heterogeneous samples. Future research may correspondingly seek to replicate study models amongst a sample of distressed couples who may demonstrate

higher levels of jealousy and attachment insecurity and/or lower levels of intimacy and couple satisfaction.

Third, potential problems related to Type I errors (an error involving falsely rejecting the null hypothesis) and Type II errors (the probability of retaining the null hypothesis when it should be rejected; Tabachnick & Fidell, 2007) must similarly be considered within the scope of statistical analyses aimed at assessing moderation effects wherein problems related to power may frequently arise (Aguinis, 1995). It has been demonstrated that the power to find moderation effects in a typical study is commonly much lower than the recommended level of .80, often ranging between .20 and .34 (Aguinis, Boik, & Pierce 2001). This reduced power is found to be particularly applicable to studies which contain highly correlated predictor and moderator variables, study designs that are non-experimental in nature, and research utilizing outcome measures with a restricted variance (i.e., a reduced number of scale items; Aguinis, 1995; Aguinis et al., 2001; Frazier, Russell, & Bibko, 1992). Under these circumstances, the likelihood of inaccurately dismissing moderation effects (i.e., Type II errors) may be increased.

Given the thesis studies' use of a correlational design, the presence of correlated predictor and moderator variables, and the implementation of a 4-item outcome measure (DAS-4; Sabourin, Valois, & Lussier, 2005), commonly used statistical procedures intended to reduce the risk of Type I errors were not included within analyses in order to lessen the potential risk of Type II errors. For instance, a common practice designed to minimize Type I error rates when conducting multiple statistical comparisons is the implementation of statistical corrections whereby the probability levels used to detect significant findings are lowered. Considering the novelty of the moderator models implemented within the thesis and the ways in which power may potentially have been reduced within each study, corrections were not performed in order to

not erroneously dismiss "true" moderation effects. This approach was believed to be an appropriate means by which to balance possible Type I and II errors that may have arisen within the context of the statistical analyses implemented. Moreover, this was regarded as a more conservative and suitable variation of several authors' proposition that significance levels be raised above .05 when attempting to compensate for the possibility of low power within moderation analyses (Aguinis, 1995; Judd, McClelland, & Culhane, 1995).

Irrespectively, support for the reliability of our findings cannot be minimized considering the thesis studies' use of large sample sizes, continuous variables, and reliable construct measures; all factors which are shown to strengthen the reliability of moderation findings (Aguinis, 1995; Frazier et al., 2004; Jaccard & Wan, 1995). Moreover, the studies' incorporation of strongly linked predictor and outcome variables, moderators based on a strong theoretical basis, and the replication of moderation effects of attachment across two studies similarly provide support for the demonstrated moderation effects (Aguinis, 1995; Frazier et al., 2004; Jaccard & Wan, 1995). Nevertheless, only replication studies can effectively determine the robustness of all results. As previously alluded to, such studies may seek to implement the abovementioned interviews, observational methods, and/or experimental procedures outlined for the thesis study variables as a means to help circumvent potential limits in power that may occur when conducting moderation analyses.

Fourth, in addition to the study limitations described above, there remain several research questions that were not addressed within the current thesis that could prospectively further deepen insights regarding the role of attachment processes in couple relationships. First, given that each study conducted was intended to be a preliminary and systematic examination of the moderating role of romantic attachment on couple satisfaction, only the moderating role of actor

romantic attachment was examined as this was believed to play a more central and informative role within the context of the thesis objectives. However, future studies may seek to extend this knowledge by examining how both partners' attachment dimensions or particular dyad types (e.g., secure/secure, avoidant/avoidant, avoidant/anxious couples, etc.) may impact the relation between jealousy or intimacy and couple satisfaction. Similarly, the examination of the moderating role of romantic attachment on the relation between other important relationship facets and couple satisfaction may also prove to be revealing in further ascertaining the generalizability of the studies' demonstrated moderation effects.

Additionally, high levels of theoretical and empirical support exist for hyperactivation and deactivation as secondary attachment strategies that are commonly used by individuals with higher attachment anxiety or avoidance, respectively (Mikulincer et al., 2001; Mikulincer & Shaver, 2003). As such, the processes underlying hyperactivation and deactivation (i.e., the intensification and minimization of attachment emotions) was used as an underlying theory to formulate hypotheses and explicate significant and non-significant results pertaining to the moderating effects of insecure romantic attachment. Specifically, hyperactivation and deactivation informed speculations regarding strengthened or weakened associations between jealousy or intimacy and couple satisfaction as a function of one's attachment. Accordingly, future studies may seek to directly verify inferences implying hyperactivation and deactivation strategies (i.e., the intensification vs. minimization of emotions) as veritably explicating the moderation effects of attachment anxiety and avoidance, respectively.

In line with these general aims, research has begun to focus on delineating procedural methods that assess and illustrate these underlying processes. For instance, differing *affect-cognition* links are believed to be employed (consciously or unconsciously) within the two

secondary strategies that facilitate distinct attachment goals (e.g., higher interdependence or distance in relationships; Mikulincer & Shaver, 2003). To access and explore these discrete links, studies have incorporated narrative scripts which prompt negative or positive *affect* in a way that differentially impacts the prototypical *cognitive* responses (i.e., hyperactivation or deactivation) of individuals with anxious versus avoidant attachment (Pereg, 2000). Briefly, results have shown that exposure to a negative affect script can facilitate (i.e., hyperactivate) the presence of negative cognitions amongst anxiously attached individuals and weaken (i.e., deactivate) this affect-cognition link amongst avoidantly attached individuals (Pereg, 2000). Even when scripts did not specifically involve the partner, negative affect scripts tended to impact cognitions regarding one's romantic partner (Pereg, 2000). The ability to demonstrate and manipulate affect-cognition links that represent the processes underlying hyperactivation and deactivation is believed to provide evidence for, as well as elucidate objective ways to assess, the two attachment strategies (Mikulincer & Shaver, 2003). Therefore, future studies may seek to utilize a variation of the aforesaid scripts to further evaluate the processes inferred to underlie the moderation effects of romantic attachment demonstrated within the presented articles. For instance, future research may seek to use modified narratives focused on relationship threats or interdependence (i.e., scripts instigating jealousy or intimacy-evoking *emotions*) that differentially activate the pertinent *cognitions* (i.e., affect-cognition links) of individuals utilizing hyperactivation versus deactivation strategies. Pending such research, the processes inferred to underlie the moderating effects of romantic attachment demonstrated within the thesis studies remain speculative.

Lastly, an additionally important and prospective area of research that was not addressed within the current thesis is the investigation of the explicit clinical implications of all findings.

Both jealousy and intimacy are shown to be valuable and prevalent areas of focus in couples therapy (Crowe, 1997; Zusman & Knox, 1998). Accordingly, studies have focused on delineating clinical interventions that address these relational phenomena within the context of couple relationships. Based on the findings of both study articles, future research may similarly seek to examine whether the demonstrated moderation effects of romantic attachment translate into a need to outline distinct therapeutic strategies and foci for jealousy and/or intimacy as a function of one or both partners' working models of attachment. The implementation of such studies could permit an innovative clinical research avenue and angle that is directly informed by the moderating role of romantic attachment. An attachment-informed approach is consistent with Emotionally-Focused Couples Therapy (EFT), the most widely-implemented and validated couples therapy intervention (Johnson, Hunsley, Greenberg, Schindler, 1999), which incorporates attachment theory and findings as a guiding framework within its approach and interventions (Johnson, 2007).

In summary, although the current thesis was unique in expanding existing knowledge devoted to jealousy and intimacy, several interesting and fruitful areas of research remain to be investigated within these domains. Notwithstanding, the findings derived from each article are novel and provide a myriad of implications for empirical studies and clinical work within four prominent areas of couple research: jealousy, intimacy, couple satisfaction, and romantic attachment. Correspondingly, the amalgamation of findings, as well as the discussions integrated within each study and the general thesis, offer exciting research avenues to be further explored within future investigations. It is believed that the continued incorporation of an attachment perspective within couple research will go on to further elucidate important relationship factors, in addition to jealousy and intimacy, and their differential relation with couple satisfaction.

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