EFFORTS TO MAINTAIN MONOGAMY IN COMMITTED ROMANTIC RELATIONSHIPS

by

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EFFORTS TO MAINTAIN MONOGAMY

ABSTRACT

Monogamy is widely viewed as the standard for heterosexual intimate relationships in Western societies. Despite prevailing norms and attempts to be monogamous, deviations from sexual and romantic exclusivity are common, most notably infidelity. In contrast with ample existing research in infidelity, research into monogamy is nascent, and reveals a multidimensional construct that extends beyond sexual exclusivity. Notably, there is a dearth of research examining the role of the tempted partner in resisting attractive others that may be a regular presence in their lives, such as a friend or co-worker. The current dissertation contributed to the burgeoning literature on monogamy in three ways: first, by exploring the range and prevalence of monogamy maintenance (MM) behaviours in which individuals in heterosexual relationships engage when faced with attractive others; second, by identifying the ability of demographic, personality, relationship, and sexual attitudinal variables, as pulled from the infidelity literature, to predict MM; and third, by situating monogamy maintenance use within the Investment Model, a well-validated model of relationship quality and maintenance. Three separate samples were recruited online through crowdsourcing to complete surveys regarding episodes of extradyadic attraction respondents had experienced. The findings revealed widespread MM use, with three main MM subscales identified: efforts to avoid contact and developing intimacies (Proactive Avoidance), efforts to bolster the primary relationship (Relationship Enhancement), and the relative lack of efforts to redirect one’s attention away from the attractive other and to attenuate one’s extradyadic attraction (Low Self-Monitoring/Derogation), all three of which were endorsed by the majority of respondents. Relationship commitment from the Investment Model and reciprocation of extradyadic
EFFECTS TO MAINTAIN MONOGAMY

attraction were predictive of MM use, whereas many robust predictors of infidelity were not. MM use was ultimately not predictive of infidelity outcomes. The findings highlight the importance of conceptualizing monogamy maintenance behaviours as part of the constellation of behaviours in relationship maintenance, support the study of monogamy as distinct from that of infidelity, and serve as an important initial step toward future personal, counselling, educational, and research applications.
ACKNOWLEDGEMENTS

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## Table of Contents

ABSTRACT ........................................................................................................................ ii
ACKNOWLEDGEMENTS ................................................................................................... iv
Table of Contents ........................................................................................................... v
List of Tables ................................................................................................................ ix
List of Figures ................................................................................................................ x

### 1.0 General Introduction
- Monogamy as the Standard for Intimate Relationships ........................................ 4
- Deviations from the Monogamy Standard ................................................................. 14
- Determinants of Monogamy Maintenance ............................................................... 27
- Strategies to Maintain Monogamy ......................................................................... 43
- The Investment Model ........................................................................................... 67

### 2.0 Goals of the Present Research
- Primary Objective ................................................................................................... 84
- Second Objective .................................................................................................... 85
- Third Objective ....................................................................................................... 87
- General Introduction References ......................................................................... 90

### 3.0 Article 1: Ain’t Misbehavin’?: Monogamy Maintenance Strategies in Heterosexual Romantic Relationships
- Abstract .................................................................................................................... 112
- Ain’t Misbehavin’?: Monogamy Maintenance Strategies in Heterosexual Romantic Relationships ................................................................. 113
  - Prevalence and Impact of Infidelity ..................................................................... 113
  - Monogamy Maintenance Strategies .................................................................. 115
  - The Current Study ............................................................................................... 119
- Pilot Study: Item Generation and Refinement ...................................................... 120
  - Method ................................................................................................................ 121
  - Measures .......................................................................................................... 122
  - Results .............................................................................................................. 123
- Study One: MMI Item Refinement and Identification of Subtypes in Episodes of Extradyadic Attraction ......................................................... 125
  - Methods ............................................................................................................ 125
## EFFORTS TO MAINTAIN MONOGAMY

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures</td>
<td>126</td>
</tr>
<tr>
<td>Results</td>
<td>128</td>
</tr>
<tr>
<td>Discussion</td>
<td>135</td>
</tr>
<tr>
<td>Study Two: Confirmation of MMI Subtypes in Ongoing Intimate Relationships</td>
<td>137</td>
</tr>
<tr>
<td>Method</td>
<td>137</td>
</tr>
<tr>
<td>Measures</td>
<td>138</td>
</tr>
<tr>
<td>Results</td>
<td>140</td>
</tr>
<tr>
<td>Discussion</td>
<td>145</td>
</tr>
<tr>
<td>General Discussion</td>
<td>147</td>
</tr>
<tr>
<td>Characteristics of Monogamy Maintenance Types</td>
<td>148</td>
</tr>
<tr>
<td>Extent of Monogamy Maintenance Use</td>
<td>151</td>
</tr>
<tr>
<td>Associations between Monogamy Maintenance and Infidelity Outcomes</td>
<td>153</td>
</tr>
<tr>
<td>Limitations and Future Directions</td>
<td>154</td>
</tr>
<tr>
<td>Conclusions and Implications</td>
<td>156</td>
</tr>
<tr>
<td>References</td>
<td>157</td>
</tr>
</tbody>
</table>

### 4.0 Examination of Potential Demographic, Personality, and Sexual Attitudinal Correlates to Monogamy Maintenance

<table>
<thead>
<tr>
<th>Reference</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>173</td>
</tr>
</tbody>
</table>

### 5.0 Article II: Walk the Line: How Successful Are Efforts to Maintain Monogamy in Intimate Relationships?

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>179</td>
</tr>
<tr>
<td>Walk the Line: How Successful Are Efforts to Maintain Monogamy in Intimate Relationships?</td>
<td>181</td>
</tr>
<tr>
<td>Defining and Negotiating Monogamy</td>
<td>183</td>
</tr>
<tr>
<td>The Investment Model</td>
<td>185</td>
</tr>
<tr>
<td>Derogation of Alternatives and Monogamy Maintenance</td>
<td>185</td>
</tr>
<tr>
<td>The Current Study</td>
<td>187</td>
</tr>
<tr>
<td>Method</td>
<td>188</td>
</tr>
<tr>
<td>Participants</td>
<td>188</td>
</tr>
<tr>
<td>Measures</td>
<td>189</td>
</tr>
<tr>
<td>Procedure</td>
<td>192</td>
</tr>
<tr>
<td>Results</td>
<td>192</td>
</tr>
<tr>
<td>Data Screening and Conditioning</td>
<td>192</td>
</tr>
</tbody>
</table>
EFFORTS TO MAINTAIN MONOGAMY

Preliminary Analyses ........................................................................................................ 195
Associations between Relationship Commitment and Monogamy Maintenance .......... 196
Monogamy Maintenance as a Predictor of Infidelity at Two-months’ Follow-up .......... 197
Associations between Attraction Context and Monogamy Maintenance .................. 198
Discussion ......................................................................................................................... 199
Relationship Characteristics Associated with Monogamy Maintenance ................. 199
Monogamy Maintenance and Monogamy Success ....................................................... 202
Monogamy Maintenance as a Response to Relationship Threat ................................. 204
Limitations and Future Directions ............................................................................... 205
Conclusions and Implications ...................................................................................... 207
Compliance with Ethical Standards ............................................................................. 209
References ...................................................................................................................... 210
Appendix A: Monogamy Maintenance Inventory ......................................................... 222

6.0 Do Levels of Commitment and Relationship Threat Interact?: Testing the Calibration Paradigm .................................................................................................................. 224
References ...................................................................................................................... 228

7.0 General Discussion .................................................................................................... 229
Limitations ...................................................................................................................... 232
Design Limitations ......................................................................................................... 232
Sample and Procedural Limitations .......................................................................... 238
Measurement Limitations ........................................................................................... 240
Statistical Limitations .................................................................................................... 242
Conclusions and Implications ...................................................................................... 243
General Discussion References .................................................................................. 247

Appendices ..................................................................................................................... 254
Appendix A. Mechanical Turk® Recruitment Message – Study One ......................... 254
Appendix B. Consent Form – Study One ................................................................. 255
Appendix C. Demographics questionnaire ................................................................ 257
Appendix D. Ineligible for Participation Form ............................................................. 260
Appendix E. Monogamy Expectations in Current Relationship ................................. 261
Appendix F. Experiences with Infidelity ................................................................. 263
Appendix G. Monogamy Maintenance Items for Pilot of Study One ....................... 264
EFFECTS TO MAINTAIN MONOGAMY

Appendix H. Monogamy Maintenance Behaviours Retained for Study One (after pilot work) .................................................................................................................................................................................. 267
Appendix I. Monogamy Maintenance Inventory .................................................................................................................................................................................. 271
Appendix K. Investment Model Scale .................................................................................................................................................................................. 273
Appendix L. The Religious Commitment Inventory 10 (RCI-10) .................................................................................................................................................................. 278
Appendix M. Big Five Inventory .................................................................................................................................................................................. 280
Appendix N. Sexual Narcissism Scale – Sexual Entitlement Subscale .......................................................................................................................................................... 282
Appendix O. The Revised Sociosexual Orientation Inventory (SOI–R) .......................................................................................................................................................... 283
Appendix P. The Sexual Inhibition and Sexual Excitation Scale– Sexual Inhibition 2 subscale (SIS2) .................................................................................................................................................................. 285
Appendix Q. Debriefing Form .................................................................................................................................................................................. 286
Appendix R. Mechanical Turk® Recruitment Message – Study Two .......................................................................................................................................................... 287
Appendix S. Consent Form – Study Two .................................................................................................................................................................................. 288
Appendix T. Experiences with Infidelity at Two Months’ Follow-up– Study Two... 290
Appendix U. Monogamy Maintenance over Past Two Months for Study Two ....... 291
Appendix V. License of Permission from John Wiley and Sons to Reuse Chapter Three Contents .................................................................................................................................................................. 293

CURRICULUM VITAE .................................................................................................................................
List of Tables

Table 3-1. Factor Loadings from Exploratory Factor Analysis and Descriptive Statistics for Monogamy Maintenance Inventory ................................................................. 165
Table 3-2. Association between Monogamy Maintenance Strategies and Relationship Outcomes ................................................................................................................. 168
Table 3-3. Descriptive Statistics for Monogamy Maintenance Inventory for Study Two ......................................................................................................................... 169
Table 3-4. Association between Monogamy Maintenance Strategies and Infidelity Outcomes ................................................................................................................... 171

Table 4-1. Total Variance Explained by Exploratory Factor Analysis ......................... 177

Table 5-1. Use of Monogamy Maintenance by Context of Extradyadic Attraction ...... 220
EIFFORTS TO MAINTAIN MONOGAMY

List of Figures

Figure 1-1. Dimensions of relationship quality as outlined by the Investment Model..... 69

Figure 2-1. The proposed associations between dimensions of relationship quality as outlined by the Investment Model, enactment of monogamy maintenance strategies, and infidelity outcomes........................................................................................................... 89

Figure 5-1. Visual representation of the associations between Investment Model and monogamy maintenance efforts.................................................................................................................. 221
Chapter 1

General Introduction

Monogamy is the standard in committed romantic relationships in Western societies (Anderson, 2010; Conley, Ziegler, Moors, Matsick, & Valentine, 2012; Shackelford & Buss, 1997; Ziegler, Conley, Moors, Matsick, & Rubin, 2015), and is commonly defined as sexual and emotional exclusivity to one romantic partner. Although shifts in Western societal attitudes toward greater permissiveness in relationships and sexuality have been evident in the previous few decades (as evidenced in public attitudes toward a variety of topics, such as divorce, premarital sex, casual sex, and homosexual relationships; e.g., Andersen & Fetner, 2008; Robinson & Jedlicka, 1982; Kraaykamp, 2002; Sherwin & Corbett, 1985), monogamy remains the almost universal expectation in committed romantic relationships (Treas & Giesen, 2000; Watkins & Boon, 2016).

Individuals in Canada and the United States overwhelmingly denounce infidelity, especially sexual infidelity (Feldman & Cauffman, 1999a; Thompson & O’Sullivan, 2015a). Similarly, over 90% of Canadian and U.S. adults report that they expect themselves and their romantic partners to be monogamous, strongly supporting the view that monogamy is a societal norm (Treas & Giesen, 2000; Watkins & Boon, 2016).

Despite consistently strong personal and social sanctions against infidelity, infidelity is not a rare occurrence in Western societies. Infidelity is most commonly understood as the participation in sexual acts with partner(s) outside of one’s committed romantic relationship, where an agreement to maintain sexual exclusivity is in place (Hackathorn, Mattingly, Clark, & Mattingly, 2011). Indeed, approximately half of Canadian college-aged individuals (46.8%) report lifetime infidelity (Thompson &
EFFORTS TO MAINTAIN MONOGAMY

O’Sullivan, 2016a), and approximately one-fifth of U.S. individuals (23.2% of men and 19.2% of women) report sexual infidelity in their current romantic relationships (Mark, Janssen, & Milhausen, 2011). Approximately 2% of a U.S. population-based sample of married individuals reported having engaged in sexual intercourse with extradyadic partners in the previous year (Whisman, Gordon, & Chatav, 2007). Overall, within Western societies, the combined probability that at least one partner within a marriage will be unfaithful has been estimated to be between 40 to 76% (Thompson, 1983), making infidelity a significant personal and interpersonal issue in a large number of committed relationships.

Individuals in romantic relationships are thus posed with a paradox wherein low rates of anticipated infidelity and the near universal disapproval of infidelity are contrasted with relatively high rates across relationships (Buss & Shackelford, 1997b; Hackathorn et al., 2011; Watkins & Boon, 2016). This paradox leads to a number of research questions: Which factors lead committed individuals to overcome these apparent personal and social norms to stray sexually and/or emotionally from their primary partners? And, more compellingly, if infidelity is so common, how are certain individuals more successful in maintaining the expectations of monogamy in their relationships?

The current line of research was designed to address the latter question by first identifying efforts made by individuals in committed romantic relationships to maintain monogamy with their primary partners. After identifying monogamy maintenance efforts, this dissertation identified the characteristics associated with individuals who engage in these efforts. The efficacy of monogamy maintenance efforts in helping individuals avoid
infidelity then were examined longitudinally to better identify and track predictive factors.

To date, protective factors in maintaining monogamy are relatively unknown, reflecting the longstanding research focus on infidelity (e.g., Thompson, 1983; Watkins & Boon, 2016). The following sections provide an overview of the varied research and unifying theory that informed the current study. First, an overview of monogamy as the standard for intimate relationships is presented, including definitions and expectations of monogamy, preference for and expected benefits of monogamy, and sanctions against non-monogamy. Infidelity and other violations of the monogamy standard follow, including the association between infidelity and intimate relationships outcomes. The goal of this line of literature review was to establish the primacy of monogamy in the intimate relationships of Western societies, and to establish the negative association between relationship functioning and infidelity.

The next sections of the literature review outline factors that likely are associated with monogamy maintenance, whether positively or negatively. Predictors of monogamy maintenance, including interactions with attractive others and self-regulation, and predictors of infidelity are outlined. The emergent field of monogamy maintenance strategies is summarized, including communications about monogamy expectations, mate retention strategies, routine and strategic relationship maintenance, and derogation of attractive alternatives. These sections identify factors likely to be associated with monogamy maintenance as predictors and moderators, as well as relevant research fields from which to draw potential monogamy maintenance efforts for the current dissertation.
An introduction to the Investment Model (IM) and calibration paradigm are outlined as frameworks to understand monogamy and its maintenance in intimate relationships. The Investment Model is a widely adopted model that proposes a multifactorial approach to understand relationship protective (or destructive) behaviours, emphasizing the role of relationship commitment (Drigotas, Safstrom, & Gentilia, 1999; Rusbult, 1980; Rusbult, 1983; Rusbult, Martz, & Agnew, 1998). The calibration paradigm augments Investment Model by defining relationship commitment using both relationship status and commitment attitudes (Lydon, Fitzsimons, & Naidoo, 2003; Lydon, Meana, Sepinwall, Richards, & Mayman, 1999). Review of the theoretical model are followed by an outline of the current line of study, its research questions and hypotheses.

Monogamy as the Standard for Intimate Relationships

Monogamy has been consistently demonstrated to be the predominant expected relationship norm in Canada and the U.S. (Anderson, 2010; Conley et al., 2012; Mark et al., 2011; Treas & Giesen, 2000; Watkins & Boon, 2016). The current dissertation and the following literature review focuses on Western (largely Canadian and U.S.) norms, attitudes, and practices, reflecting the state of existing literature, unless otherwise highlighted. In the following sections, existing definitions and gaps within the definitions of monogamy are outlined. Monogamous relationships are described as the most privileged form of intimate relationships, and as a social institution that is expected to confer benefits upon its participants (Anderson, 2010; Conley et al., 2012). Those who do not conform to a standard of monogamy are typically subjected to social and personal disapproval as a consequence (Conley, Moors, Matsick, & Ziegler, 2013).
**Definitions of monogamy.** Although the violation of monogamy, in the form of infidelity, has received considerable empirical attention in Canada and the U.S. (Adimora et al., 2002; Adimora, Schoenbach, & Doherty, 2007; Mark et al., 2011), monogamy itself has been relatively unexamined. Definitions of the construct of monogamy are scarce and variable within the literature, and largely emphasize sexual monogamy. Historically, the terminology used to describe sexual monogamy and non-monogamy had been derived from biological and zoological research. For example, Pinkerton and Abramson (1993) named three sexual practice patterns within the animal kingdom: lifelong monogamy (one sexual partner across one’s lifetime); serial monogamy (more than one mutually monogamous and non-overlapping sexual partners); and complete promiscuity (sexual acts with concurrent sexual partners).

In a critical examination of popular assumptions about monogamy, Conley and colleagues identified that the most commonly-adopted research definition of monogamy emerged in response to the AIDS crisis in the 1980s: “Mutual monogamy means that you agree to be sexually active with only one person, and that person has agreed to be sexually active only with you” (Conley et al., 2012b; p. 125). Reflecting the emphasis on safer sex and AIDS prevention, this definition of monogamy does not address the comprehensive range of behaviours that has since been identified within the infidelity literature, including emotional, online, and pornography use behaviours (Thompson & O’Sullivan, 2016b). A recent Canadian online survey (n = 206) revealed that extradyadic sexual intercourse is most strongly and consistently endorsed as comprising infidelity; however, sexualized online behaviours (such as sexual chat), nonsexual intimate behaviours (such as close dancing), and pornography use were still considered infidelity
EFFORTS TO MAINTAIN MONOGAMY

by participants, although agreement was less consistent across participants (Thompson & O’Sullivan, 2016b). These findings suggest that the definition of monogamy is likely to be multidimensional and contain interpersonal variation.

Anderson (2010) expanded upon the concept of monogamy by designating four categories of monogamy: physical monogamy, desirous monogamy, social monogamy, and emotional monogamy. Physical monogamy refers to the lack of participation in extradyadic sexual activity. Desirous monogamy refers to the amount of sexual partners that individuals desire or fantasize about having should social sanctions not be in place. Social monogamy refers to the concept that individuals want to portray an image of monogamy to others, regardless if sexual exclusivity is truly a part of one’s relationship. Emotional monogamy refers to emotional or romantic exclusivity to a partner (Ziegler, Conley, Moors, Matsick, & Rubin, 2015; p. 220). Within this framework, individuals can (and often do) value one category of monogamy over another, such as the importance of staying physically monogamous (not having intercourse with another) but allowing lapses in desirous monogamy (having fantasies about having intercourse with another partner). Individuals also can experience conflicts and misalignment between different categories of monogamy within this framework. For example, a highly emotionally monogamous relationship may be marked with great desire for recreational sex, and can create a great level of cognitive dissonance about that desire and feelings for one’s partner (Anderson, 2010). Anderson’s (2010) multidimensional framework appears to lay the foundation toward a better representation of the experiences and expectations within monogamy. Although informative, this framework was developed using qualitative interviews with a small sample ($n = 40$) of white, heterosexual undergraduate males. Further validation of
EFFORTS TO MAINTAIN MONOGAMY

this framework within larger and more diverse samples would help contribute to a greater understanding of the multidimensional nature of monogamy.

Lay conceptions of monogamy in Western societies appear to differ from how monogamy has been operationalized in the research literature, and variability can exist between laypersons with regards to their definitions of monogamy. U.S. individuals are likely to consider themselves as engaging in monogamy, as long as they do not have multiple concurrent sexual partners (Ziegler et al., 2015). However, young men engaging in a wide variety of extradyadic behaviours, ranging from flirting, kissing, to intercourse, also consider themselves to be monogamous (Anderson, 2010). In his qualitative interviews, Anderson’s (2010) sample of young heterosexual men in the U.K. named multiple ways in which they have engaged in extradyadic sexual practices, while contradictorily still holding onto the identity of being a “monogamous person.” Applying Anderson’s (2010) multidimensional framework in understanding these young men’s reports would indicate that these men emphasize social monogamy (presenting as monogamous to observers) while minimizing physical monogamy (extradyadic sexual involvement) and desirous monogamy (number of desired partners). Unfortunately, although the participants acknowledged their enactment of infidelity behaviours, this sample was not asked how they defined monogamy. In sum, self-reports of whether individuals are monogamous may not accurately correspond with research operationalizations of monogamy, particularly with regard to sexual monogamy.

A U.S. interview study examined monogamy beliefs and practices with a sample of 38 women recruited from methadone maintenance treatment programs who had experienced intimate partner violence (Hearn, O’Sullivan, El-Bassel, & Gilbert, 2005).
EFFORTS TO MAINTAIN MONOGAMY

Three typologies differentiated these women’s beliefs and practices regarding monogamy and concurrent sexual partnerships. In the first typology, monogamy was viewed as important and believed to be practiced by both partners. Most women who belonged in this group equated love, honesty, and other relationship virtues with monogamy, and many women within this group named consequences to having concurrent sexual partnerships, including social denigration associated with the sexual double standard, and reprisals from jealous/violent partners. In the second typology, the practice of monogamy from either partner was doubted. The women in this group valued monogamy as an ideal for their relationships, but reported coming to doubt the monogamy of their partners as the quality of their relationships changed, as they contracted a sexually transmitted infection from their partners, or noticed other signs of potential extradyadic partnerships. Some of these women reported having extradyadic sexual partnerships but attempted to keep them discreet. In the third typology, monogamy was not important or not practiced. Women in this group described having an informal monogamy or non-monogamy agreement at the start of their relationship, engaging in extradyadic sexual partnerships when their partners violated established discussed norms in the relationship, or engaging in extradyadic sexual partnerships for drugs or money. A small number of women in this group described devaluation of monogamy.

In summary, the definition of monogamy within Western societies is deeply intertwined with definitions of infidelity. The predominant research conceptualization of monogamy focuses on avoidance of sexual infidelity. Yet, lay usage and understanding of the term monogamy suggest that sexual exclusivity is not necessary for individuals to consider themselves monogamous. Enactment of monogamy also is influenced by
EFFORTS TO MAINTAIN MONOGAMY

perceived and actual partner monogamy. Given the aforementioned definitional ambiguity and inconsistency, additional research specifying the behaviours that individuals engage in to avoid extradyadic contact may help inform our understanding of the multidimensional nature of monogamy.

Expectations of monogamy in self and in intimate partners. Over 90% of U.S. heterosexual adults in committed romantic relationships endorse sexual exclusivity as the norm, with 99% of married and 94% of cohabiting heterosexual U.S. respondents expecting sexual exclusivity for themselves and their partners (Treas & Giesen, 2000). The vast majority of Canadian heterosexual individuals want to know if their partner has committed infidelity (Watkins & Boon, 2016). The expectation of monogamy is reflected further by individuals’ expectations that their relationships will not experience infidelity. In Buss and Shackelford’s (1997b) examination of newly married U.S. couples, very few newlyweds expected themselves to engage in extradyadic sexual behaviours, ranging from passionate kissing (5-7%) to serious affairs (less than 1%). Similarly, very few newlyweds expected their partners to engage in extradyadic behaviours (5-6% for passionate kissing, 1-2% for serious affairs). A recent online survey study of 209 heterosexual Canadian university students in ongoing relationships examined expectations of monogamy in one’s dating partner (Watkins & Boon, 2016). Participants were instructed to estimate the likelihood that their partner has cheated, or would ever cheat. Averaged across all participants, estimates of a partner’s likelihood of engaging in infidelity was 9.7%, which was significantly lower than the lowest published prevalence rate for dating infidelity (14%; Hall & Fincham, 2009). Averaged estimates of partner infidelity likelihood also were significantly lower than participants’ predictions for the
average person of the opposite sex (9.7% versus 41.8%; Watkins & Boon, 2016). Furthermore, estimates of past partner infidelity in one’s relationships were significantly lower than were self-reports of infidelity in the current relationship (5.0% versus 9.1%). In sum, Watkins and Boon (2016) found that individuals tend to underestimate the likelihood of their partners’ infidelity, compared to their estimates of the likelihood of infidelity by the average opposite-sex individual, their own rates of infidelity, and the most conservative established figures in existing research. Overall, the vast majority of heterosexual individuals in dating relationships do not expect to be affected by infidelity in their relationships, although they acknowledge the risk and impact of infidelity on dating relationships at large.

Preference for and benefits of monogamy. Individuals in the U.S. overwhelmingly perceive monogamy as positive and as superior to alternative relationship structures (Conley et al., 2013; Ziegler et al., 2015). Across two online survey studies (n = 1101 and 269) comparing monogamous relationships to consensual non-monogamous (CNM) relationships, participants in the U.S. were asked to rate the two relationship forms on the degree to which they possessed 22 identified benefits (e.g., provides companionship, is socially acceptable, promotes possessiveness; Conley et al., 2013). Participants rated monogamous relationships as possessing greater levels of almost all benefits, with the exceptions of being less jealous, preventing boredom, and allowing independence. Notably, positive perceptions of monogamy generalized across college/non-college adults, women and men, ethnic groups, sexual orientations, and monogamy/CNM relationship status. Each of these groups held similar beliefs about the benefits and superiority of monogamous relationships compared to CNM relationships.
Furthermore, comparisons of participants’ ratings on arbitrary traits (e.g., being law-abiding, being charismatic, being likely to donate to charity) were significantly higher for monogamous relationships compared to CNM relationships, suggesting the existence of a halo effect surrounding monogamy on judgments irrelevant to relationship functioning.

The perceptions of monogamy as relationship enhancing and as a necessary sacrifice made for the sake of a valued relationship were examined via three U.S. studies assessing monogamy attitudes (Mark, Rosenkrantz, & Kerner, 2014; Oswalt & Wyatt, 2011; Schmookler & Bursik, 2007). In a scale development study, a survey of 87 college students in heterosexual relationships explored the links between gender role expectations, gender, and the views of monogamy as relationship enhancing and as a necessary sacrifice (Schmookler & Bursik, 2007). Men and women in this sample did not significantly differ in their views of monogamy as relationship enhancing, although men were more likely to view monogamy as a sacrifice made for the sake of the relationship, as compared to women. In turn, viewing monogamy as relationship enhancing was positively correlated with relationship satisfaction, whereas viewing monogamy as a sacrifice was negatively correlated with relationship satisfaction. In a sample of 247 U.S. Latino/a students, gender differences in the view of monogamy as a sacrifice was replicated, with men viewing monogamy as a sacrifice more than did women, but no significant differences in the viewing of monogamy as relationship enhancing (Oswalt & Wyatt, 2011). Monogamy attitudes were compared between a subsample of 293 bisexual adults to an overall sample of 5,988 participants (Mark et al., 2014). Compared to heterosexual and gay/lesbian participants, bisexual individuals viewed monogamy as significantly less relationship enhancing, and as involving significantly more sacrifice.
EFFORTS TO MAINTAIN MONOGAMY

Similar to previous findings, bisexual men rated monogamy as a sacrifice significantly more so than bisexual women, but there were no significant gender differences in attitudes towards monogamy as relationship enhancing. Overall, both men and women tend to view monogamy as contributing positively to relationship satisfaction; however, men and bisexual individuals tend to endorse more personal costs to monogamy than do their female and heterosexual and gay/lesbian counterparts.

In a sample of 189 U.S. adults, thematic coding derived eight commonly reported benefits that monogamy confers upon its participants, including commitment, health, trust, meaningfulness, passion, sex, morality, and family (Conley et al., 2013). The theme of commitment was the most commonly endorsed theme (61% of all participants), which encompasses sub-themes of emotional security, dependability, ease with partner, exclusivity, and long-term nature of the relationship. Health was a theme endorsed by 59% of participants, encompassing the sub-themes of no STIs, no physical violence, mental health, and happiness. The theme of trust was endorsed by 56% of participants, encompassing sub-themes of faithfulness, decreased jealousy, honesty, and confidence in relationship. Meaningfulness was endorsed by 46% of participants, encompassing the sub-themes of relationship deepness, respect, lack of loneliness, and good communication. Passion as a theme was endorsed by 28% of participants, encompassing the sub-themes of true love, passion, and romance. Sex benefits as a theme, endorsed by 22% of participants, encompassed sub-themes of comfort, consistency, lack of worries, and excitement in sex. The theme of morality, endorsed by 12% of participants, encompassed the social acceptability of the relationship, morality, and beliefs of God and religiosity. The theme of family benefits, endorsed by 10% of the sample, encompassed
the sub-themes of family environment, financial support, and equality. Overall, Conley and colleagues (2013) found benefits attributed to monogamy in a host of realms, including personal (health), relationship (commitment, trust, meaningfulness, passion, sex), and beyond (morality, family environment).

A recent mixed method examination surveyed 220 U.S. participants regarding reasons that individuals are faithful to their partners (Emmers-Sommer, Warbler, & Halford, 2010). Respondents reported 508 reasons overall. The six categories that emerged include: satisfaction (e.g., happy with partner), not wanting to hurt partner/self (e.g., don’t want to upset partner), character/dispositional traits (e.g., have morals/values, believe cheating is wrong, honest person), commitment (e.g., love partner, committed to partner), investment (e.g., children, time, obligations), poor alternatives (e.g., no or poor alternatives, no desire to be with others), and sanctions/norms (e.g., social norm condemning infidelity, legal implications). Satisfaction with the relationship was the most common reason for maintaining monogamy, representing 51.7% of the 508 reasons given.

Qualitative research has examined sexual minority individuals’ choices to engage in monogamy as opposed to consensual non-monogamy (CNM). In a qualitative interview study with 65 U.S. gay men, all of the sexually monogamous men reported that they chose to establish a monogamous relationship because they associated monogamy as intertwined with commitment and intimacy (LaSala, 2005). The second most commonly endorsed reason for choosing monogamy was the avoidance of jealousy. Some men in this sample specifically chose men who were mutually seeking monogamous relationships after having experienced prior CNM arrangements, naming the avoidance of
EFFORTS TO MAINTAIN MONOGAMY

jealousy and insecurity as a motivator. Fear of HIV and other STIs emerged as the third most common reason for gay men to choose monogamy. In summary, individuals perceive monogamous relationships – and those engaging in those relationships – more positively. Monogamous relationships were viewed as being more committed, intimate, and satisfying, and people reported maintaining monogamy for the sake of relationship quality, as well as to avoid negative outcomes, such as hurting one’s partner or being castigated socially. Men and bisexual individuals were more likely to view monogamy as a sacrifice and a personal cost as compared to women and non-bisexual individuals.

Deviations from the Monogamy Standard

Two general types of deviations from the Western monogamy standard are described below: consensual non-monogamy and nonconsensual non-monogamy (infidelity). Although both CNM and infidelity involve participation in multiple concurrent romantic and/or sexual relationships, the current dissertation focused on infidelity. The focus on infidelity in the current line of research was because of its pervasiveness compared to CNM, its associations with poorer relationship qualities and outcomes, and the often-secretive nature of infidelity, leading to a sense of betrayal and the violation of an implicit or explicit agreement with one’s partner. A summary of the emerging research on CNM is provided below, including its prevalence, its stigmatized place in Western societies, and how these relationships both resemble and differ from monogamous relationships. A summary of infidelity research follows, including types of infidelity, its prevalence, and its associations with relationship distress.

Consensual non-monogamy. A small percentage of U.S. adults (5%) do not adhere to the monogamy norm but instead practice consensual non-monogamy (CNM),
EFFORTS TO MAINTAIN MONOGAMY

including arrangements such as swinging, polyamory, and open relationships (Rubin, Moors, Matsick, Ziegler, & Conley, 2014). Results from the National Surveys of Family Growth, which surveyed 4,928 men and 10,847 women, indicated that 11% of men and 12% of women engaged in concurrent sexual relationships over the prior year, although findings do not distinguish between consensual and nonconsensual non-monogamy (Adimora et al., 2002; Adimora et al., 2007; nonconsensual non-monogamy will be addressed in a following section). The work on CNM suggests that sexual minority individuals are more likely to engage in CNM, as compared to heterosexual individuals (Rubin et al., 2014). In a qualitative interview study of self-identity, relationship functioning, and community engagement among 60 bisexual individuals living in Australia, 53% of women and 60% of men reported some level of sexual openness along with a primary romantic relationship, whereas 25% of women and 35% of men reported a sexually exclusive relationship (McLean, 2004). In a nationwide survey of 212 U.S. gay couples, 60.3% were monogamous, whereas 39.6% were in CNM relationships (LaSala, 2004). Another survey study with an Internet convenience sample of 229 Australian gay men in intimate relationships found that 57% were currently in monogamous relationships, 27% in open relationships, and 17% in threesome-only relationships (Hosking, 2013). In sum, a sizable minority of gay men and a majority of bisexual men and women report engaging in CNM relationships.

Men in homosexual relationships may be more likely in their romantic relationships to demand emotional monogamy, as compared to sexual exclusivity. LaSala (2005) qualitatively interviewed 65 U.S. and Canadian cohabiting gay men in monogamous or CNM intimate relationships. Men in CNM relationships comprised
EFFORTS TO MAINTAIN MONOGAMY

43.1% of the sample. Notably, within this sample, 51.3% of monogamous participants reported having engaged in extradyadic sex, comprising 29.2% of the total sample. Compared to their monogamous peers, men in CNM relationships separated sex from intimacy and commitment, allowing these men to prioritize emotional intimacy within their primary relationship, even while engaging in casual sex with extradyadic partners. Participants named personal freedom and sexual variety as motivations for establishing CNM relationships, which one participant described “monogamy of the heart and not the genitals” (p. 9). Extradyadic sexual involvement is ‘compartmentalized’ and separated from the primary romantic relationship via a series of agreed-upon rules regarding safer sex and emotional boundaries with extradyadic partners. Although sexual and emotional monogamy remain the norm in Western heterosexual relationships, sexual monogamy appears often to be less emphasized than emotional monogamy in sexual minority relationships.

Stigma against consensual non-monogamy. Research directly comparing the benefits and costs of various intimate relationship structures is lacking. However, emerging research indicated that individuals in industrialized Western nations tend to perceive deviations from monogamy negatively (i.e., infidelity and consensual non-monogamy; Anderson, 2010; Conley et al., 2013; Moors, Matsick, Ziegler, Rubin, & Conley, 2013; Ziegler et al, 2015). Stigma against CNM had been explored empirically in a series of qualitative and survey studies by Conley and colleagues, who argued that stigma against CNM relationships arise due to the norm violations that these relationships represent and as a byproduct of their minority status compared to monogamous relationships (Conley et al., 2013). An online survey was completed by 1,101 primarily
EFFORTS TO MAINTAIN MONOGAMY

U.S. participants, who rated monogamous and CNM relationships on a number of relationship and arbitrary traits (Conley et al., 2013). CNM relationships were rated more negatively than were monogamous relationships across the majority of traits, by both monogamous and CNM participants. A follow-up online survey of 132 primarily U.S. participants further supported the previous findings by using relationship vignettes of two happy couples, one set of whom were monogamous and the other set CNM. When asked to rate the hypothetical CNM couple across a wide realm of relationship traits, values, and characteristics compared to most couples, raters perceived the CNM couple to be more sexually risky, less moral, less natural, less socially acceptable, and lower in relationship quality (Conley et al., 2013). The CNM couple also was rated to be more lonely and less sexually satisfied. An additional follow-up online survey with 269 primarily U.S. participants with similar methods but a more comprehensive list of rated characteristics indicated that the CNM relationship was rated as being of poorer quality than was the monogamous relationship across every trait, except for jealousy. Respondents also rated the CNM couple significantly less positively across a range of arbitrary characteristics, including being less caring, less successful in their careers, and less generous tippers (Conley et al., 2013). The bias against CNM was robust against the possible confounding factors of relationship happiness, sexual orientation, and gender.

In a separate sample of 554 primarily U.S. participants, relationship characteristics similar to the aforementioned studies were reassessed after explicitly holding constant the level of happiness in vignettes across relationship conditions (Moors et al., 2013). A CNM relationship that was perceived to be as happy as a monogamous relationship was still rated as being more sexually risky, less acceptable, lower in
EFFORTS TO MAINTAIN MONOGAMY

relationship quality, lower in relationship-irrelevant positive traits, less sexually satisfying, and more lonely. Furthermore, CNM relationships were stigmatized across all of the aforementioned dimensions regardless of the vignette target’s sexual orientation. Overall, heterosexual, gay, and lesbian relationships that were CNM were rated more negatively than were their monogamous counterparts (Moors et al., 2013). Moors and colleagues (2013) also randomly assigned 717 participants to rate the male and female heterosexual partners in CNM/monogamous relationships on the aforementioned characteristics to examine possible gender effects. A main effect for CNM relationship emerged once again, with both men and women in CNM being rated more negatively across all dimensions than were their monogamous counterparts. In summary, across multiple samples, findings supported a robust effect for Westernized individuals’ preference for monogamy and endorsement of stigma against consensual non-monogamy.

Outcomes of consensual non-monogamy. No research has directly examined the benefits of consensual non-monogamy (CNM). Moors and colleagues (2013) commented that individuals without experience in CNM have difficulty imagining the benefits of alternative relationship structures. Specifically, they noted that such examinations of the potential benefits of CNM “generally elicited disgust and moral anguish” (Moors et al., 2013; p. 59).

Outcomes of consensual non-monogamy have been examined via comparisons with monogamy and nonconsensual non-monogamy (infidelity). Research on CNM indicated that it is factors specific to nonconsensual non-monogamy that are associated with negative relationship consequences. Two studies examined the safer sex outcomes of CNM relationships and purportedly monogamous relationships. Individuals in CNM
EFFORTS TO MAINTAIN MONOGAMY

relationships, as might be expected, were more likely to have specific knowledge about their partners’ extradyadic sexual involvements (Lehmiller, 2015). In an Internet study with 556 participants in monogamous and CNM relationships, 63.3% of the CNM sample reported that their primary partners had specific knowledge of their extradyadic sexual involvement, as compared to the monogamous sample, in which 25% reported that their primary partners had specific knowledge of their extradyadic sexual involvement (Lehmiller, 2015). Although the CNM sample reported greater number of total sexual partners within this sample, reported rates for sexually transmitted infections did not differ between CNM and monogamous samples, and the CNM sample reported taking greater precautions with both their primary and extradyadic partners (Lehmiller, 2015). Another Internet sexual health survey (n = 700) compared risk reduction behaviours in the relationships of individuals in CNM relationships and individuals in monogamous relationships who reported having engaged in sexual infidelity (Conley, Moors, Ziegler, & Karathanasis, 2012). The CNM individuals in this sample were more likely to have engaged in safer sex behaviours with their primary partners. In their most recent extradyadic encounter, individuals engaging in nonconsensual non-monogamy were more likely to be under the influence of substances, and less likely to have engaged in safer sex behaviours (i.e., discussing STI testing and sexual partner history, using barrier protection, disclosing their extradyadic encounter to their primary partners; Conley et al., 2012). Overall, health outcomes indicate that CNM individuals are no more likely to be diagnosed with sexually transmitted infections compared with reportedly monogamous individuals, and that they tend to be more vigilant in engaging in safer sex practices, fully
EFFORTS TO MAINTAIN MONOGAMY

informing their partners of their STI status, and being tested for STIs (Conley et al., 2012; Lehmliller, 2015).

Relationship functioning comparisons were drawn between CNM and monogamous relationships in two studies which sampled gay men. In a nationwide U.S. survey of 121 gay male couples, relationship quality did not differ between CNM and monogamous relationships (LaSala, 2004). However, for purportedly monogamous relationships in which sexual infidelity was present, relationship quality and satisfaction were significantly lower than their CNM and strictly monogamous counterparts (LaSala, 2004). Gay men in open relationships where their agreements were violated in some way also demonstrated poorer relationship functioning than did their agreement-honouring counterparts (Hosking, 2013). These findings strongly suggest that it is the violation of a relationship agreement, whether a monogamy or CNM agreement, rather than concurrent partnerships that determine relationship satisfaction and quality.

Infidelity. Unlike consensual non-monogamy (CNM), where individuals within a primary intimate relationship have discussed the acceptable terms of extradyadic involvement, nonconsensual non-monogamy (infidelity) involves partners who are in a purported monogamous relationship where one or both partners have violated the monogamy norm within the relationship by engaging in extradyadic behaviours without the knowledge and/or consent of their primary partners. Nonconsensual non-monogamy has been termed in many ways in the literature, including extradyadic behaviours/involvement (e.g., Allen & Baucom, 2004; Luo, Cartun, & Snider, 2010; Yarab, Allgeier, & Sensibaugh, 1999), extramarital sex (e.g., Thompson, 1983), cheating (e.g., Anderson, 2010), infidelity (e.g., Buss & Shackelford, 1997b; Carpenter, 2012;
DeWall et al., 2011a; Emmers-Sommer et al., 2010; Hackathorn et al., 2011; Hall & Fincham, 2009; Mark et al., 2011; Shackelford, Besser, & Goetz, 2008; Thompson & O’Sullivan, 2016b; Wilson, Mattingly, Clark, Weidler, & Bequette, 2011), and sexual betrayal (e.g., Feldman & Cauffman, 1999a & 1999b). In the service of conciseness and consistency with the majority of the literature, this dissertation referred to nonconsensual non-monogamy as infidelity. In addition, the following literature review focused on Western (largely Canadian and U.S.) norms, attitudes, and practices, reflecting the state of existing literature, unless otherwise highlighted.

**Definitions and types of infidelity.** Infidelity is most commonly conceptualized in lay terms and in the research as the participation in sexual acts with partner(s) outside of one’s committed romantic relationship, where an agreement to maintain sexual exclusivity is in place (Hackathorn et al., 2011). Convergent research supported a more comprehensive definition of infidelity to include emotional or romantic infidelity, which describes emotional bonds formed with extradyadic partner(s), leading to the exchange of emotional resources, including love, time, and attention (Roscoe, Cavanaugh, & Kennedy, 1988; Shackelford & Buss, 1997). Research examining online sexual activities also supported the conceptualization of pornography use and other technology-facilitated and online behaviours, including ‘sexting’ and creating an online dating profile, as additional categories of infidelity (Thompson & O’Sullivan, 2016b).

In an analysis of lay definitions of infidelity, 155 U.S. college students freely generated features of infidelity, and 286 college students in a separate sample rated the centrality of the generated features to their understanding of infidelity (Weiser, Lalasz, Weigel, & Evans, 2014). Other than synonyms of infidelity (e.g., cheating), the most
common associations with infidelity included themes of *violation* (i.e., unfaithful, cheating, affair), *secretiveness* (i.e., dishonest, sneaking around, deceive), *immorality* (i.e., wrong, bad, immoral), *consequences* (i.e., breakup, broken trust, unforgiveable), and *emotional outcomes* (i.e., pain, crying, sad). Out of the 95 generated infidelity features, the most central features to infidelity were *unfaithful, cheating, broken trust, being with someone who is not your partner, and loss of trust*. Notably, the only behaviour found to be central to definitions of infidelity was sex (Weiser et al., 2014). In summary, although U.S. students may consider specific behaviours in their understanding of infidelity, the concealment of behaviours and subsequent relationship fallout were considered to be more central to infidelity.

Consequently, there is significant interpersonal variability regarding the perception of specific acts as infidelity. Although the participation in extradyadic penile-vaginal intercourse, anal intercourse, and oral sex are most consistently perceived as infidelity (Thompson & O’Sullivan, 2016b), more ambiguous behaviours, including flirting and hand holding, are not always perceived to comprise infidelity as consistently (Hackathorn et al., 2011; Thompson & O’Sullivan, 2016b; Wilson et al., 2011). Extradyadic sexual behaviours are the most likely to be deemed infidelity, with minimal variability between actor-observer perspectives, supporting the clear societal and personal norms for sexual monogamy and against sexual infidelity (Hackathorn et al., 2011; Thompson & O’Sullivan, 2016a; Thompson & O’Sullivan, 2016b; Wilson et al., 2011). In contrast, emotional infidelity, pornography use, and technology-facilitated and online infidelity behaviours are associated with greater variability and lower overall rates in
individuals’ characterization of them as infidelity (Sheppard, Nelson, & Andreoli-Mathie, 1995; Thompson & O’Sullivan, 2016a).

There are gender differences in the definition of infidelity, with women endorsing more features as being more central to infidelity as compared to men (Weiser et al., 2014). Women also are more likely than are men to incorporate emotional behaviours into their judgments of infidelity (Roscoe et al., 1988). To complicate matters further, the endorsement of these behaviours as comprising infidelity appears to be dependent on whether one is the actor or the observer of a given behaviour, with individuals more likely to judge a behaviour to comprise infidelity if performed by another person, notably their partners (Thompson & O’Sullivan, 2016b). Thompson and O’Sullivan (2016b) found that actor-observer differences were most evident for ambiguous behaviours, whereas the discrepancy between perspectives was not observed so strongly when judging participation in sexual behaviours and solitary behaviours. In summary, sexual, emotional, technology-mediated, and pornographic behaviours are commonly endorsed by individuals in Western societies to comprise infidelity. Sexual infidelity is the most commonly and consistently condemned compared to the other categories of behaviours, and the interpretation of behaviours as infidelity is dependent upon contextual factors.

**Prevalence of infidelity.** Although the prevalence of infidelity varies depending on the population sampled and the assessment approach used (e.g., anonymous or not), figures generated from Western research typically indicated that a substantial minority report having engaged in infidelity over their lifetime. Data from a U.S. national household survey of 12,571 adults between the ages of 15 to 44 indicated that 17.6% of women and 23.0% of men reported non-monogamy over the course of one year (Aral &
Leichliter, 2010). Seven percent of women and 10.5% of men within this sample reported mutual non-monogamy. Furthermore, as previously outlined, results from the National Surveys of Family Growth (U.S. probability surveys of 4,928 men and 10,847 women) indicated 11% of men and 12% of women engaged in concurrent sexual relationships over the prior year (Adimora et al., 2002; Adimora et al., 2007). Although nationally representative, the surveys did not distinguish between and may conflate those reporting infidelity with those reporting consensual non-monogamous relationships. Moreover, the survey only assessed sexual infidelity, leaving an incomplete view of infidelity overall.

Although one may expect higher levels of lifetime infidelity in samples of married compared to dating individuals resulting from likely greater age and relationship experience, no cross-sectional research has drawn direct comparisons of lifetime infidelity rates across ages and relationship experience. Approximately one-third of 417 U.S. adolescents reported having “cheated” by having engaged in sexual infidelity in their dating relationships (Feldman & Cauffman, 1999a). Similarly, 35% of 287 dating college-aged individuals reported having engaged in infidelity (Hall & Fincham, 2009). Within a clinical population, marriage and couples therapists estimated that 28% of their clients reported extramarital affairs (Whisman, Dixon, & Johnson, 1997). More recent figures examining infidelity within a given time frame indicated that 9% of 197 dating Canadian individuals reported having cheated on their current partners, whereas 2.3% of 2,291 U.S. married individuals reported having had extradyadic sexual intercourse in the previous year (Watkins & Boon, 2016; Whisman et al., 2007). The difference in time frames examined in the two studies (over the course of dating relationship versus over the previous year) limits the accuracy in making comparisons with regard to fidelity in dating
and marital relationships. In one longitudinal study, 14% of U.S. college-aged daters (n = 284) reported having engaged in emotional and/or physical infidelity over the four-week course of the study (Hall & Fincham, 2009). A study of 229 Australian gay men examined rule breaking in monogamous and consensually non-monogamous relationship agreements (Hosking, 2013). Over one-third of participants violated established relationship expectations within their current relationship (38%), and 56% of rule breaking participants (accounting for 21% of the total sample) reported having done so in the prior six months. This percentage did not significantly differ between men in monogamous or consensually non-monogamous relationships (Hosking, 2013). In sum, approximately one-third of dating individuals in Western nations reported having engaged in infidelity, whereas the field is lacking in more updated infidelity prevalence figures for married individuals.

Although infidelity prevalence figures typically address sexual infidelity, three U.S. studies have examined the broader range of infidelity behaviours. Two survey studies with undergraduate student samples (ns = 87 and 287, respectively) asked participants to report when they had been subject to sexual and emotional infidelity, and when they had engaged in sexual and emotional infidelity, respectively (Hall & Fincham, 2006; Hall & Fincham, 2009). Within the sample of 87 students who had previously experienced infidelity, 42.5% of participants reported experiencing sexual infidelity, 10.3% reported experiencing emotional infidelity, and 44.8% considered the infidelity to comprise both sexual and emotional components (Hall & Fincham, 2006). Within the sample of students who reported engaging in infidelity, 29% of 287 participants reported sexual infidelity, 28% reported emotional infidelity, whereas 43% considered their
behaviours to comprise both emotional and sexual infidelity (Hall & Fincham, 2009). Sexual and emotional infidelity appeared to be similarly common in dating relationships and often overlap, although the actual behaviours considered infidelity in these studies were unclear due to the subjective definitions of participants.

In a large MSNBC.com/iVillage online survey, 28% of married men and 18% of married women reported having had a “sexual liaison” outside of their marriage (Weaver, 2007). Although the methods of the MSNBC.com/iVillage survey were not identified in the article, specific questions addressed behaviours that traditionally have been left out of the definition of infidelity, namely emotional, online, and pornography use behaviours. Within this sample, nearly 20% reported having romantically kissed an extradyadic partner, and 15% of men and 7% of women reported having engaged in online sex with an extradyadic partner (Weaver, 2007). Although sexual infidelity is reportedly the most common form of infidelity in U.S. samples, many individuals are engaging in multiple infidelity behaviours.

**Associations between infidelity and relationship distress.** Sexual infidelity is the primary cause of divorce and marital separation cross-culturally (Amato & Previti, 2003; Betzig, 1989; DeMaris, 2013; Scott, Rhoades, Stanley, Allen, & Markman, 2013), and is a common cause of dating relationship dissolution (Feldman & Cauffman, 1999b; Hall & Fincham, 2006). The belief that one’s wife has been unfaithful is a leading cause of spousal abuse and homicide in Canada and the U.S. (Daly & Wilson, 1988; Hilton & Harris, 2005; Kaighobadi, Shackelford, & Goetz, 2009). Infidelity was ranked by couples’ therapists to be among the top three most difficult issues to treat, and the second most damaging to a relationship (behind physical abuse; Whisman et al., 1997).
Clinically, it has been observed that couples often experience infidelity as a cataclysmic event, and that while a subset of couples come to view the event as transformational and perceive relationship renewals and increased relationship functioning, that many couples continue to re-experience pain, betrayal, and insecurity within their partnerships (Perel, 2010).

Infidelity in romantic relationships had been linked to feelings of guilt by the perpetrator, and a constellation of negative feelings, including sadness, anger, frustration, disappointment, and mistrust, for the betrayed partner (Feldman & Cauffman, 1999b). In addition, infidelity undermines relationship stability for those who persist in the relationship, with individuals who engaged in extradyadic behaviours experiencing lower relationship quality at follow-up (Drigotas et al., 1999). In a two-month longitudinal survey study with 74 U.S. college students in dating relationships, extradyadic sexual and emotional involvement were associated with decreases in relationship commitment, investment, and satisfaction, and with increases in perceptions of the quality of alternatives to the relationship. In sum, infidelity incurs great personal and relationship costs, and is a risk factor for intimate violence.

**Determinants of Monogamy Maintenance**

Monogamy maintenance can be understood as efforts to maintain sexual and emotional monogamy with one’s current romantic partner against the presence of attractive potential partners. A number of interpersonal, cognitive, and personal factors likely influence the use of monogamy maintenance efforts and their consequent levels of success, although integrative research on monogamy overall is sparse. Although no studies have specifically addressed predictors and determinants for monogamy
maintenance, the following sections outline findings in relationship and cognitive research with implications for monogamy maintenance. Namely, attractive alternatives in social environments in which committed individuals may find themselves, the protective role of self-regulation and the deleterious effects of self-regulation depletion, and factors associated with infidelity attitudes and behaviours will be outlined.

**Interactions with attractive others.** Individuals who enter monogamous relationships continue to interact with attractive others, and they may not necessarily cease to be attracted or attractive to individuals with whom they interact. Consequently, individuals in committed romantic relationships may be faced with the prospect of maintaining monogamy despite undermining attempts by potentially attractive alternatives. Mate poaching is a concept within evolutionary psychology used to describe attempts by individuals to entice members of committed romantic relationships away from their current partners for the purpose of developing sexual or romantic relationships (Schmitt & Buss, 2001). Mate poaching attempts are extremely common, with over 50% of Israeli individuals reporting having attempted mate poaching, and 87% of men and 94% of women in committed relationships having been propositioned to have extradyadic sex (Ein-Dor, Perry-Paldi, Hirschberger, Birnbaum, & Deutsch, 2015). Mate poaching, or targeting individuals in existing romantic relationships, may be a desirable strategy for some individuals looking for sexual or romantic partners. A study with 184 U.S. college students compared ratings of interest in pursuing an opposite-sex target by gender and relationship status (Parker & Burkley, 2009). Although men were more interested overall in pursuing opposite-sex targets, a three-way interaction revealed that single women were more interested in pursuing male targets that they believed were in committed
EFFORTS TO MAINTAIN MONOGAMY

relationships. An interaction effect was not found for men (Parker & Burkley, 2009). Thus, some individuals who are seeking sexual or romantic partners may find it appealing to pursue individuals who already are in existing relationships, in particular, heterosexual women pursuing committed male targets.

Similarly, O’Sullivan and Vannier (2013) examined the link between relationship status and judgments of attractiveness and desirability as short or long-term partners. One-hundred and ninety-three Canadian heterosexual young adults judged photographs of opposite sex individuals with randomly assigned relationship statuses, which were either disclosed or not disclosed to participants. Young women perceived photos of men who were purportedly in committed relationships to be more attractive than they did photos of single men, above and beyond the objective attractiveness of the rated targets (O’Sullivan & Vannier, 2013). Young women also viewed committed men as equally desirable as single men for potential partnerships, whereas young men viewed single women as more desirable for potential partnerships than committed women. In sum, individuals in committed relationships continue to be appealing to individuals who are seeking a mate, and are likely to continue to experience attraction toward and from other individuals, which will have to be navigated in any attempts to remain monogamous to their partnerships.

Self-regulation and self-regulation depletion. Self-regulation is a conscious reaction to avoid completing a response, such as approaching or responding to an attractive alternative partner. Self-regulation is defined as “a controlled process that overrides the usual consequences of an impulse rather than preventing the impulse from occurring” (Baumeister & Heatherton, 1996; p. 2). Emerging research by Meyer and
colleagues (2011) and Ritter and colleagues (2010) link self-regulation to the successful derogation of attractive alternatives, which is a strategy used by individuals in committed relationships to maintain monogamy (which will be further explained in a following section). Self-regulation may be the process by which derogation can occur in committed individuals; it is the depletion of self-regulation that may lead to derogation failures.

The most widely accepted model of self-regulation is the strength-based model, which states that self-regulation involves a single, limited capacity across different acts, and can become temporarily depleted by exertion in an unrelated task (Muraven, Tice, & Baumeister, 1998; p. 780). The depletion of self-regulation in an unrelated task, according to this model, may subsequently affect committed individuals’ abilities to regulate their relationship protective processes, such as derogation. Ritter and colleagues (2010) supported the conceptualization of derogation of alternatives as a self-regulated behaviour through two experimental studies. Single and committed heterosexual Dutch college students were exposed to 40 attractive and 40 unattractive photos of opposite-sex targets and asked to evaluate, in a forced-choice format (yes/no), whether they considered the target to be a potential partner. Committed individuals also were asked to rate their relationship satisfaction and commitment to their current partners.

In the first study, 102 heterosexual undergraduate students were randomly assigned to either the self-regulation depletion, which involved emotional suppression after watching a series of movie clips evoking both positive and negative emotions, or a control condition, in which participants were not instructed to suppress their emotions. Participants then evaluated the pictures of opposite-sex targets. Individuals in committed relationships with ample self-regulatory resources (control condition) demonstrated less
interest than single participants in the attractive opposite sex target as potential partners. However, when subjected to emotional suppression, committed individuals showed as much interest in attractive opposite sex targets as their single counterparts. Furthermore, romantically involved participants reported less commitment to their partner in the self-regulation depletion conditions (Ritter et al., 2010). The second study ($n = 93$) replicated the findings of the first study, using a different self-regulation depletion paradigm, involving evaluating the opposite sex target under time pressure versus under ample time allowance (control condition). Findings across both studies indicate that self-control depletion can have deleterious effects on individuals’ efforts to maintain distance from potential relationship threats. When individuals find themselves in situations where their self-regulatory resources are depleted, such as at the end of a stressful day, or when consuming alcohol, or after having made a number of decisions unrelated to the romantic relationship, their ability to derogate attractive alternatives is compromised. The researchers argued that the findings revealed how highly committed individuals can engage in infidelity. However, Ritter and colleagues did not report on the levels of relationship commitment in their samples, commenting only on the change in relative levels after the self-regulation manipulation. The generalization of these findings – based on an undergraduate sample – to highly committed individuals requires replication of these findings in samples with broader relationship experiences, and with direct examinations of relationship variables.

The findings from a functional magnetic resonance imaging (fMRI) study supported the link between self-regulation and derogation of alternatives. Meyer and colleagues examined the neural bases for the derogation effect (Meyer, Berkman,
EFFORTS TO MAINTAIN MONOGAMY

Karremans, & Lieberman, 2011). Fourteen heterosexual adults were instructed to complete a computerized task while situated within the fMRI, which involved indicating whether they would be interested in dating a hypothetical potential romantic target. Participants judged 80 photos of opposite-sex targets across eight 10-photo blocks, alternating between being under time pressure or without time pressure, with attractive or unattractive targets in randomized order. Increased activation in areas of the brain associated with the successful derogation of attractive others were noted when committed individuals were judging the photos. The authors argued that the brain activation pattern was consistent with less felt attraction to attractive others. The pattern of activation found in this study had also been associated with participant-rated levels of relationship investment. Consistent with findings by Ritter and colleagues (2010), the observed pattern of activation associated with derogation of alternatives was not evident when self-regulatory resources were taxed under time pressure, suggesting that derogation occurs when cognitive resources are available, and that although often implicit, derogating attractive others uses and reduces cognitive resources.

**Predictors of infidelity.** No research had directly examined the predictors of monogamy maintenance. However, demographic, personal, relationship, and contextual variables have been associated with one form of non-monogamy – infidelity. Although imperfect, predictors of infidelity can be illustrative of potential risk factors against monogamy maintenance. Research regarding infidelity predictors largely sample individuals from Western nations, in particular Canada and the U.S., and relevant cross-cultural samples are highlighted below as applicable. Predictors of permissive attitudes toward as well as participation in infidelity are summarized below, as both are
EFFORTS TO MAINTAIN MONOGAMY

consistently correlated (Feldman & Cauffman, 1999a; Hackathorn et al., 2011; Thompson & O’Sullivan, 2016a).

**Gender.** The associations between gender and infidelity are complex and mixed, but generally indicate that men are more likely to participate in infidelity compared to women. Gender differences in incidence and prevalence rates differ across studies. Some studies find that men participate in infidelity at higher rates than do women (Knox, Vail-Smith, & Zusman, 2008; Schmitt, 2004; Sheppard et al., 1995; Towner, Dolcini, & Harper, 2015; Vail-Smith, Whetstone, & Knox, 2010), other studies find no gender differences in infidelity rates (Brand, Markey, Mills, & Hodges, 2007; Feldman & Cauffman, 1999b; Mark et al., 2011), and in yet other studies, gender differences are not addressed (Shackelford et al., 2008; Whisman et al., 2007). However, no studies have found that women commit infidelity at significantly higher rates than do men. One study found that being male increased the odds of infidelity by 79% (Treas & Giesen, 2000), and dating men tend to hold more permissive attitudes toward infidelity compared to women (Feldman & Cauffman, 1999a; Sheppard et al., 1995; Towner et al., 2015). However, sex differences tend to be more pronounced in self-report data as compared to behavioural measures (Seal, Agostinelli, & Hannett, 1994). Notably, gender differences in infidelity prevalence rates have been reported to decrease in magnitude over successive Western cohorts (Allen et al., 2005; Brand et al., 2007). More recent theoretically-based examinations are needed to confirm and make sense of these potentially diminishing gender differences in infidelity rates.

**Religiosity.** Religiosity is negatively associated with individuals’ estimates of own likelihood and estimates of their partners’ likelihood to engage in sexual infidelity (Buss
EFFORTS TO MAINTAIN MONOGAMY

& Shackelford, 1997b). In an interview study with a probability sample of 3,432 U.S. adults, regular participation in religious activities was found to be negatively associated with reported extramarital sex (Treas & Giesen, 2000). In a U.S. nationally representative sample, 2,291 individuals who had been married for more than 12 months were asked to report experiences of extradyadic sexual intercourse, four items measuring religiosity (including importance of beliefs, frequency of attending religious services, whether participants seek spiritual comfort during difficulties, and whether individuals considered their faiths when making daily decisions), and other personality and relationship variables (Whisman et al., 2007). Religiosity was a unique predictor of sexual infidelity. In addition, the association between marital dissatisfaction and sexual infidelity was moderated by degree of religiosity. Religiosity appeared to have a buffering effect against infidelity for dissatisfied spouses: dissatisfied married individuals who were religious were less likely to commit infidelity compared to their similarly dissatisfied but non-religious peers (Whisman et al., 2007).

**Personality.** Several studies investigated links between infidelity attitudes and behaviours with personality traits (Buss & Shackelford, 1997b; Lalasz & Weigel, 2011; Mark et al., 2011; McNulty & Widman, 2014; Schmitt, 2004; Shackelford et al., 2008). Using data from 214 participants comprising 107 newly married couples, two U.S. studies established links between conscientiousness, neuroticism, and agreeableness with infidelity attitudes and estimations (Buss & Shackelford, 1997b; Shackelford et al., 2008). At the time of data collection, each spouse completed a series of measures, including self-reported and spouse-reported Big Five personality measures, relationship quality, and reported on their partner’s and their own likelihood of participating in six
different types of infidelity behaviours over the next year (Buss & Shackelford, 1997b). Self-rated Big Five personality traits in women were associated with women’s own infidelity attitudes and self-estimations of infidelity. Namely, low conscientiousness and high neuroticism in the women of this sample were associated with greater estimates of own likelihood of engaging in infidelity (Buss & Shackelford, 1997b). Personality traits of the women also affected spousal estimates of infidelity. Men whose wives were lower on conscientiousness and higher on neuroticism anticipated – accurately – greater likelihood of their wives participating in infidelity behaviours. Women who were lower in agreeableness reported higher estimates that their husbands would be involved in infidelity (Buss & Shackelford, 1997b). Shackelford and colleagues’ (2008) follow-up study examined the same data for the mediating effect of relationship dissatisfaction. Their causal model indicated that individuals who were married to more unreliable (low conscientiousness) and disagreeable (low agreeableness) spouses reported less satisfaction with their marriages, and estimated higher probabilities of themselves engaging in infidelity over the following year. Individual levels of conscientiousness, neuroticism, and agreeableness appeared to be reliable predictors of one’s attitudes toward infidelity, and perceptions of the likelihood of experiencing or participating in infidelity.

The aforementioned literature addressed infidelity attitudes and estimates of the likelihood of infidelity in U.S. samples. A cross-cultural examination of Big Five personality traits, with 16,362 participants across 52 nations, revealed that low conscientiousness and low agreeableness was universally associated with participation in infidelity (Schmitt, 2004). Although some data suggested that neuroticism may be
positively associated with actual participation in infidelity (Whisman et al., 2007), this effect was only observed in men and women in South/Southeast Asia, men in Africa, and women in North America (Schmitt, 2004). Overall, with regard to the Big Five personality dimensions, only conscientiousness and agreeableness have been consistently linked with infidelity attitudes and participation across cultures (Buss & Shackelford, 1997b; Shackelford et al., 2008; Schmitt, 2004); the role of neuroticism is more variable.

Other personality traits and their associations with infidelity have been explored, to a lesser degree than the Big Five. Lalasz and Weigel (2011) queried the intent of 174 U.S. young adults to engage in hypothetical sexual extradyadic behaviours. In this sample, gender differences in infidelity intentions were fully accounted for by individual variations in sensation seeking. Narcissism was positively associated with both self and partner estimates of infidelity in newly married women (Buss & Shackelford, 1997b). Women who rated themselves as high on narcissism predicted themselves as being more likely to engage in a range of infidelity behaviours, including flirting, dating others, and having a brief affair. Men who rated their wives as being higher in narcissism predicted that their wives would engage in greater levels of extramarital flirting. Interestingly, high narcissism in newly married men was associated with greater anticipation of their wives participating in a range of infidelity behaviours. Two studies specifically examined the role of sexual narcissism in infidelity (McNulty & Widman, 2014). Both partners in 123 U.S. newlywed couples completed measures of sexual and marital satisfaction, infidelity, narcissism, and sexual narcissism independently every 6-8 months over the course of approximately four years. Sexual narcissism was positively associated with infidelity over the course of the study, even after controlling for levels of sexual and marital
EFFORTS TO MAINTAIN MONOGAMY

satisfaction, and global narcissism. Overall, personality variables were predictive of individuals’ failures in monogamy maintenance across cultures, with conscientiousness and agreeableness being negatively predictive of permissive infidelity attitudes, estimates of committing infidelity, and infidelity participation, whereas neuroticism and narcissism were positively predictive of permissive infidelity attitudes and estimates of committing infidelity, and sexual narcissism positively predictive of infidelity participation.

**Sexual attitudes and responsiveness.** Sexuality variables have been linked to infidelity participation. Permissive sexual attitudes, number of previous romantic relationships, and earlier age of sexual behaviour onset were positively associated with both infidelity attitudes and participation in infidelity (Feldman & Cauffman, 1999a; Treas & Giesen, 2000). Sociosexuality, characterized by individuals’ willingness to engage in uncommitted sexual relations (Simpson & Gangestad, 1991), had been positively linked to infidelity attitudes and behaviours (Barta & Kiene, 2005; Seal et al., 1994). Unrestricted sociosexuality was predictive of permissive infidelity attitudes, and individuals who exhibit unrestricted sociosexuality endorsed greater willingness to engage in infidelity across both self-report and behavioural measures (Barta & Kiene, 2005; Seal et al., 1994). Unrestricted sociosexuality was a direct predictor of infidelity, and was also partially mediated by commitment, in that unrestricted sociosexuality was predictive of lower relationship commitment, which led to a greater likelihood to participate in infidelity (Mattingly et al., 2011). Sociosexuality appeared to be a mediating variable between gender and infidelity. Barta and Kiene (2005) found sociosexuality to have partially mediated gender differences found in sexual (as opposed to emotional) motives for infidelity. Overall, U.S. college men were found to have more
permissive sexual attitudes and more unrestricted sociosexuality compared to college women across three cohorts over a 23-year period of time (Sprecher, Treger, & Sakaluk, 2013), and the persistence of gender differences in permissive sexual attitudes may reasonably correspond with the observed gender differences found in infidelity rates.

Psychophysiological sexual responsiveness had been explored for its potential links to infidelity participation (Janssen, Vorst, Finn, & Bancroft, 2002a; Janssen, Vorst, Finn, & Bancroft, 2002b; Mark et al., 2011). Individual variation in the levels of sexual responsiveness is conceptualized under the dual control model as the propensity for sexual excitation and inhibition, and differences in sexual responsiveness were associated with infidelity participation (Janssen et al., 2002a; Janssen et al., 2002b; Mark et al., 2011). Three separate factors, including one excitation and two inhibitory factors, were differentially predictive of psychophysiological response patterns in sexually functional men and women (Carpenter, Janssen, Graham, Vorst, & Wicherts, 2008; Janssen et al., 2002a; Janssen et al., 2002b). The sexual excitation scale assesses individual propensity to become sexually aroused stemming from a variety of situations. In comparison, the two sexual inhibition scales assess individual propensity to inhibit oneself sexually due to the threat of performance failure, such as arousal difficulty or concerns regarding pleasuring one’s partner, as well as due to the threat of potential consequences of sex, such as being caught, pregnancy, sexually transmitted infections, or pain (Carpenter et al., 2008). The imbalance or excess of sexual excitation or either types of sexual inhibition can be associated with sexual problems, such as sexual dysfunctions or high sexual risk-taking. Under the dual control conceptualization, sexual infidelity can be understood as a form of sexual risk-taking. Preliminary research using the dual control
model found that sexual excitation predicted infidelity in men, whereas sexual inhibition related to performance difficulties and sexual inhibition due to performance consequences predicted infidelity in both genders – the former a positive predictor, the latter negative (Mark et al., 2011). By extension, consideration of consequences associated with infidelity appears to be helpful in monogamy maintenance. In summary, permissive sexual attitudes, sociosexuality, and sexual responsiveness have both direct and interactive effects on infidelity attitudes and participation in Western societies.

**Attachment style.** Adult attachment styles have been associated with infidelity attitudes and participation, and may influence the motivations for engaging in infidelity. Individuals who demonstrated secure attachment were the least accepting of infidelity (Feldman & Cauffman, 1999a). In contrast, adults with avoidant attachment style had more permissive attitudes toward infidelity and demonstrated higher rates of infidelity (DeWall et al., 2011a). In a survey study using both a U.S. undergraduate dating sample of 504 participants and a married community sample of 1,000 participants, participants completed a battery of questionnaires examining attachment style and extradyadic experiences, including motivations for the most recent extradyadic experience and the nature of the involvement (Allen & Baucom, 2004). In both the undergraduate and community samples, individuals with dismissive attachment style reported significantly more extradyadic partners than did individuals of all other attachment styles. In the undergraduate sample, the next highest number of extradyadic partners was reported by women with preoccupied attachment style, and women with preoccupied attachment had significantly more extradyadic partners than did securely attached women. In both samples, individuals with dismissive attachment were most likely to report engaging in
EFFORTS TO MAINTAIN MONOGAMY

infidelity to seek autonomy from their primary relationship. Individuals with preoccupied and fearful attachment styles reported significantly higher intimacy motivations for infidelity, indicating that they sought closeness in their extradyadic partners. In the undergraduate sample, individuals with fearful and preoccupied attachment styles reported greater self-esteem boosting motivations for engaging in infidelity (Allen & Baucom, 2004). These findings suggest that monogamy maintenance strategies are more likely to be successful that allow individuals with dismissive attachment to accommodate their needs for autonomy and allow individuals with fearful and preoccupied attachment to accommodate their needs for intimacy. However, the narrow focus on attachment style and infidelity in this study neglects to control for other potent relationship variables, including relationship commitment.

Eight studies with primarily U.S. undergraduate college samples (total $n = 2,380$; DeWall et al., 2011a) demonstrated how individuals with high levels of avoidant attachment (not anxious attachment) paid greater attention on average to attractive alternatives, and viewed more positively and were more open to meeting alternatives to their current relationship partners than were individuals with other attachment styles. Dispositional avoidant attachment also was directly positively associated with participation in infidelity (DeWall et al., 2011a). The association between avoidant attachment and infidelity participation was significantly mediated by relationship commitment, indicating that avoidant attachment predicted lower relationship commitment, which then led to greater levels of infidelity. Similar findings associating avoidant attachment style with sexual infidelity were also found over three studies in university and community-dwelling Canadian samples (Beaulieu-Pelletier, Philippe,
EFFORTS TO MAINTAIN MONOGAMY

Lecours, & Couture, 2011). In both cross-sectional surveys ($n$s = 151 and 270) and a 10-month longitudinal study ($n$ = 84), avoidant attachment was positively associated with sexual infidelity. In summary, the positive association between avoidant attachment style and infidelity attitudes and participation was mediated by levels of relationship commitment, and secure attachment was negatively associated with infidelity attitudes in Western samples.

**Relationship variables.** In a survey sample of 74 U.S. undergraduate heterosexual daters, relationship commitment, satisfaction, and investment at baseline were negatively correlated with emotional and sexual infidelity at two-months follow-up, whereas the quality of alternatives at the initial time point was positively correlated with infidelity at follow-up (Drigotas et al., 1999). In the second diary format study, a sample of 37 heterosexual undergraduate participants reported on each cross-sex interaction in which they participated over spring break. Relationship commitment, satisfaction, and investment at the initial time point were negatively predictive of the number of cross-sex interactions and levels of intimacy associated with cross-sex interactions over spring break, whereas the perceived quality of alternatives was positively predictive of both the number and levels of intimacy of cross-sex interactions. These longitudinal findings directly linked relationship commitment, satisfaction, investment, and perceived quality of alternatives in young adults to infidelity participation and to placing oneself in more potentially monogamy challenging situations. Consistent with the aforementioned link between relationship investment and infidelity (Drigotas et al., 1999), higher social network overlap as measured by how much partners enjoyed spending time with one another’s family and friends was negatively associated with infidelity participation (Treas
EFFORTS TO MAINTAIN MONOGAMY

& Giesen, 2000). The findings from a sample of 220 U.S. undergraduate students further supported the link between perceived quality of alternatives to the relationship and infidelity (Drigotas et al., 1999). Among these dating individuals, the perceived attractiveness of alternatives was positively predictive of both men and women’s self-reported likelihood of cheating on their dating partners (Emmers-Sommer et al., 2010).

Relationship dissatisfaction may be more strongly linked to infidelity in women than in men, although conflicting findings have emerged. Relationship dissatisfaction and discordance in sexual values and attitudes predicted infidelity in a sample of 412 adult women recruited online into a survey for heterosexual individuals in a monogamous relationship (Mark et al., 2011). Within this study, relationship satisfaction and compatibility in sexual values were significant predictors of infidelity among women, but not among men. In contrast, Buss and Shackelford (1997b) found in their survey and interview data of 214 newlyweds that marital dissatisfaction, sexual dissatisfaction within the marriage, and lack of love and affection increased permissive attitudes toward infidelity in both men and women. An examination of a nationally representative survey of U.S. married individuals between 15-54 years ($n = 2,291$) also indicated that marital dissatisfaction was predictive of infidelity (Whisman et al., 2007). Examination of interview data with a national probabilistic sample of 3,432 U.S. married or cohabiting adults revealed that relationship dissatisfaction was associated with infidelity (Treas & Giesen, 2000). However, the latter two studies did not examine men and women separately in the effect of marital dissatisfaction upon infidelity.

The influence of relationship variables and infidelity upon one another appeared to be reciprocal. At two-month follow-up, individuals who reported engaging in
EFFORTS TO MAINTAIN MONOGAMY

extradyadic sexual and emotional behaviours in the interim reported lower relationship commitment, satisfaction, and investment, and higher perceived quality of alternatives, even after controlling for initial levels of these relationship variables (Drigotas et al., 1999). Overall, relationship commitment, satisfaction, investment, and the perceived quality of alternatives were found to be robust predictors of infidelity attitudes and participation. The effects were bi-directional, in that infidelity participation also had a detrimental effect on relationship variables, endangering further the maintenance of romantic relationships that had experienced infidelity.

In summary, a vast amount of literature to date has addressed the predictors and correlates of infidelity behaviours and attitudes in adults in Western nations. The strongest predictors from the literature demonstrated associations between infidelity and religiosity, personality, sexual attitudes, perceptions, and responsiveness, adult attachment styles, and relationship variables. The association between gender and infidelity may be confounded by factors including sensation seeking and sociosexuality and would benefit from more contemporary exploration. Research into infidelity predictors did not directly address monogamy maintenance, but rather provides insight into potential facilitators and obstacles regarding adoption of strategies that individuals may engage in the service of monogamy maintenance.

Strategies to Maintain Monogamy

As previously reviewed, infidelity is a significant and common threat to romantic relationships. According to research with Western samples, most individuals have experienced opportunities and desire to engage in infidelity. Only 8% of men and 4% of women reported having never experienced an opportunity to engage in sexual infidelity,
EFFORTS TO MAINTAIN MONOGAMY

and 68% of men and 43% of women in monogamous relationships reported having desired an extradyadic partner (Weaver, 2007). However, the majority is successful in maintaining monogamy. The resistance of attractive alternatives by committed individuals can be understood as a threat-induced relationship maintenance process (Agnew & VanderDrift, 2015). The literature on specific processes and strategies involved in resisting attractive alternatives is surprisingly incomplete and poorly integrated, with findings hailing from disparate fields of study, ranging from intimate relationships, to cognitive processing, to evolutionary sex differences. The literature presented below addresses explicit and implicit resistance to alternatives to one’s partnership, including the communication of monogamy standards, jealousy and mate retention, routine and strategic relationship maintenance, and the derogation of alternatives.

Communicating about monogamy standards. Which individuals are more likely to communicate about the importance of monogamy within their relationships? As previously addressed, heterosexual individuals in dating relationships typically do not expect to experience infidelity, even though approximately 30% report having experienced infidelity in the past (Watkins & Boon, 2016). Three known studies directly addressed explicit monogamy agreements among Canadian and U.S. heterosexual relationships. A Canadian online survey study with 209 individuals in heterosexual dating relationships explored expectations of partner monogamy (Watson & Boon, 2015). Approximately half (51.3%) of individuals in this sample had discussed their expectations for monogamy with their partners, and 67.5% had discussed the consequences of violating monogamy, suggesting that approximately half of the sample
EFFORTS TO MAINTAIN MONOGAMY

expected monogamy implicitly. In addition, two-thirds (64%) of individuals in the sample discussed the behaviours that they considered to constitute infidelity, whereas 56.3% of the sample reported agreement on what behaviours constituted infidelity.

In developing a measure of relationship issues, Boekhout and colleagues (2003) examined 202 heterosexual U.S. college students’ communication with partners about the acceptability of a range of extradyadic behaviours, namely making cross-sex friends, and dating other people. Forty-two percent of participants reported having discussed and come to an agreement about whether it was acceptable within their relationship to make new cross-sex friends, 17% reported having discussed the issue without coming to an agreement, whereas 41% of participants reported not having discussed the issue explicitly. With regard to dating other people, 55% of participants had discussed the issue and reportedly come to a consensus, 4% had discussed the issue without coming to an agreement, whereas 41% of participants reported not having discussed the issue explicitly (Boekhout, Hendrick, & Hendrick, 2003). These findings illustrate that approximately 4 in 10 individuals function with implicit beliefs about what constitute acceptable levels of extradyadic involvement within their relationships, without having sought explicit feedback from their partners.

An interview study examined perceptions of monogamy agreements and monogamy maintenance with a U.S. sample of 434 young heterosexual couples recruited from community clinics, who were considered to be at increased risk for STI transmission (Warren, Harvey, & Agnew, 2012). Between couples, only slight to fair agreement was found on measures of discussion of monogamy, monogamy agreement, and sustained monogamy. Within this sample, 56.2% of couples had both partners report
EFFORTS TO MAINTAIN MONOGAMY

that they had discussed monogamy, whereas 33.4% provided discordant responses (i.e., one said yes, one said no). When asked whether they had agreed to be monogamous, 58.4% of couples both reported yes, 1.5% of couples both reported no, whereas 40.1% provided discordant responses. When asked whether the man had maintained monogamy, 41.8% of couples both reported yes, 3.4% of couples both reported no, whereas 54.8% of couples provided discordant responses. Similarly, when asked whether the woman had maintained monogamy, 48% of couples both reported yes, 1.8% both reported no, whereas 50.1% reported discordant responses. In summary, emerging findings suggest that at least half of Westernized heterosexual dating individuals perceived having discussed monogamy with their dating partners; however, reports of monogamy agreements may not be accurate nor shared, and their impact upon monogamy maintenance had yet to be examined.

A survey study regarding 772 Australian gay men in relationships found that 54.3% of participants reported having an open sexual agreement, 15.7% reported threesome-only agreements, whereas 30.1% reported closed sexual agreements (Hosking, 2014). Approximately 8 in 10 participants overall (79.1%) reported having discussed their monogamy agreement explicitly. However, explicit discussions were significantly more common among couples with open (85%) and threesome-only (91.7%) agreements compared to couples with closed agreements (62.1%).

The development and maintenance of monogamy agreements and links between agreements to relationships and health outcomes were examined via qualitative interviews of 39 U.S. gay male couples (Hoff & Beougher, 2008). Individuals described negotiating their monogamy agreements as a result of wanting clarifications at the
EFFORTS TO MAINTAIN MONOGAMY

beginning of a relationship or after a break, opening up a monogamous agreement to allow for extradyadic sex, or renegotiating an agreement after it was broken, including making an implicit agreement explicit, adding new caveats, or making a new agreement altogether. Monogamy agreements fell along a continuum, ranging from more closed to more open, both with respect to extradyadic sex and emotional involvement. Thirty-one percent of the couples in this sample described their agreement as monogamous/closed, whereas 64% described open agreements of varying levels. Five percent of couples reported discrepant agreements. Seventy-two percent of couples reported having explicit discussions to establish their monogamy agreement, whereas 13% reported their agreements as being implicit. Many couples described the importance of separating emotional intimacy and the forbidding of emotional connections outside the primary relationship, which may manifest in an agreement to not go on dates or sleep overnight with an extradyadic sexual partner. A small number of couples functioned by a “don’t ask, don’t tell” agreement, which emphasizes honesty, respect, and discretion as operating principles but avoided setting specific conditions.

In Hosking’s (2013) examination of 229 Australian gay men in relationships, 90% of men in consensual non-monogamous relationships (CNM; either open or threesome-only) had explicitly negotiated the terms of what constitutes monogamy with their partners compared to 60% of monogamous men. Furthermore, 97% of gay men in open relationships had discussed ‘ground rules’ for their engagement in casual sex outside the primary partnership. Significantly more gay men in open (46%) and threesome-only (72%) relationships had renegotiated and updated their relationship monogamy norms since the start of their relationships as compared to monogamous gay men (6%; Hosking,
EFFORTS TO MAINTAIN MONOGAMY

2013). In comparison, less than 1% of 2,598 heterosexual married and cohabiting people reported having changed monogamy expectations over the duration of their relationships (Treas & Giesen, 2000).

Western individuals expecting monogamy were more likely to rely on implicit assumptions and engaged in less explicit communications regarding sexual and emotional monogamy with their partners compared to individuals engaging in relationships that explicitly do not assume monogamy. Explicit communication regarding monogamy agreements appeared to be normative for CNM relationships, and was more common in sexual minority relationships. Yet, it is unclear from the literature whether explicit communication regarding monogamy agreements conveys a positive impact on mutual understanding of relationship boundaries, and whether these agreements have an impact on the likelihood of maintaining monogamy in relationships.

**Jealousy and mate retention.** Jealousy had been defined as “an emotional state that is aroused by a perceived threat to a valued relationship or position and motivates behaviour aimed at countering the threat” (Daly, Wilson, & Weghorst, 1982; p. 11). Jealousy can be elicited in romantic and sexual relationships when threats are perceived to one’s relationships, such as an attractive rival potentially having sexual access to one’s partner. Within the evolutionary psychological literature, jealousy is posited to be a sexually dimorphic and adaptive trait, with male sexual jealousy ensuring confidence in the paternity of one’s children, and female sexual jealousy ensuring commitment and resource access for one’s offspring (Buss, Larsen, Westen, & Semmelroth, 1992; Daly et al., 1982). From this perspective, monogamy can be understood as a means to maximize the likelihood for offspring survival, and monogamy maintenance as protective
EFFORTS TO MAINTAIN MONOGAMY

mechanisms or strategies. A recent meta-analysis of the literature on jealousy supported
the theory of evolved sex differences in jealousy in romantic relationships, which posits
that contexts that spur jealousy differ for men and women (Buss et al., 1992; Daly et al.,
1982; Sagarin et al., 2012). Sagarin and colleagues’ (2012) meta-analysis of 199 studies
indicated that women find emotional infidelity (a male partner’s romantic attachment to
another) to be more distressing and jealousy-inducing than do men, whereas men find
sexual infidelity to be more distressing and jealousy-inducing than do women. However,
effect sizes were smaller for studies examining responses to actual versus hypothetical
infidelity risks, suggesting that sex differences in jealousy toward sexual and emotional
infidelity were not as pronounced in response to real-life relationship threats (Sagarin et
al., 2012).

Individuals who were chronically jealous were more sensitive to perceiving the
infidelity threat experienced by their partners, and once perceiving partner temptation,
were more likely to use mate retention tactics as attempts to maintain partner fidelity
(Neal & Lemay, 2014). Mate retention is conceptualized as a constellation of relationship
protective responses to external relationship threats in the form of potential sexual rivals
(Buss, 1988; Buss & Shackelford, 1997a; Buss, Shackelford, & McKibbin, 2008; Neal &
Lemay, 2014). For example, jealousy evocation was used by the majority (73%) of
college students in one sample ($n = 204$) to redirect their partners’ attention back to the
romantic relationship when mate retention motivations were activated via a vignette
(your partner might be “interested in someone else;” Sheets, Fredendall, & Claypool,
1997; p. 390). Men and women demonstrated comparable uses of jealousy evocation in
one’s partner, and individuals of different relationship commitment levels also did not
EFFORTS TO MAINTAIN MONOGAMY

differ in their use of jealousy evocation (Sheets et al., 1997). Overall, jealousy is an
emotional response that can occur after experiencing a relationship threat by a potential
rival, and the jealousy response can motivate attempts at mate retention, a potentially
relationship protective response.

There is a small but notable body of work informed by the evolutionary
psychological perspective examining how individuals guard against rivals interested in
their partners to ensure partner fidelity. Buss and colleagues derived a measure of 19
mate retention tactics that can be subsumed under two overarching strategies: behaviours
targeted at one’s partner, and behaviours directed toward same-sex competitors (Buss,
1988; Buss & Shackelford, 1997a; Buss et al., 2008). Subcategories of behaviours
targeted towards one’s partner included direct guarding of one’s partner (vigilance,
concealment of mate, monopolization of mate’s time); negative inducements in response
to relationship threat (inducing jealousy in mate, punish mate’s threat to commit
infidelity, emotional manipulation, commitment manipulation, derogation of
competitors); and positive inducements in response to relationship threat (display of
one’s resources, sexual inducements, enhancing one’s physical appearance, emphasizing
love and caring, submission and debasement). Subcategories of behaviours directed
toward same-sex competitors included public signals of relationship possessiveness
(verbal or physical signals, wearing partner’s clothing or jewelry); and negative
inducements in response to relationship threat (derogation of mate to competitors, threats,
and violence against rivals; Buss, 1988). Buss (1988) originally derived this taxonomy by
sampling 105 U.S. undergraduate students to provide behaviours “that people do when
they want to prevent their partner from getting involved with someone else” (p. 296). The
resulting 104 behaviours were then grouped into categories (behaviours towards mate, behaviours towards rivals) and subcategories. The resulting taxonomy was then confirmed using a new sample of 102 students, who endorsed the acts they had performed and the amount of times committed (Buss, 1988).

Several variables had been associated with mate retention, including presence of infidelity threat, partner attractiveness, and partner sociosexuality. Buss’ (1988) pioneering study found that heterosexual men and women reported comparable overall levels of mate retention behaviours, and tended to use mostly similar tactics to retain their mates. Individuals have been found to be sensitive and active in detecting relationship threats (Ein-Dor et al., 2015; Neal & Lemay, 2014). Neal and Lemay (2014) sampled 96 heterosexual student and community member couples in a diary study about relationship quality, jealousy, and mate retention. Participant-reported levels of mate retention behaviours increased when partner-reported levels of infidelity threat increased. Heterosexual individuals with more attractive partners (whether in terms of youth and physical appearance for women, or resources and status for men) engaged in greater levels of mate retention compared to those with less attractive partners, indicating a sensitivity to mate poaching threat (Buss & Shackelford, 1997a). Similarly, Croatian individuals who perceived their partners to be more sexually permissive used greater levels of mate retention tactics (Kardum, Hudek-Knežević, & Gračanin, 2006). The overall level of mate retention behaviours used positively predicted controlling behavior, violence, physical injury, and sexual coercion (Buss et al., 2008). The following tactics were significantly associated with sexual coercion: vigilance, concealing one’s partner, monopolization of partner’s time, inducing jealousy in one’s partner, punishing partner’s...
EFFORTS TO MAINTAIN MONOGAMY

infidelity threat, emotional manipulation, commitment manipulation, derogation of competitors, derogation of partner, and threatening potential competitors (Buss et al., 2008).

The high overall use of mate retention strategies and the use of specific coercive tactics were detrimental to relationships. Yet, the use of certain other tactics appeared to be more effective than others with regards to mate retention. The most effective mate retention behaviours for both heterosexual men and women included: being loving and caring, resource display, and physical appearance inducement, whereas the least effective behaviours included derogation of mate, violence, and concealing one’s partner (Buss, 1988). In Neal and Lemay’s (2014) U.S. couples diary study examining the effects of infidelity threats on daily use of mate retention behaviours, strategies aimed at one’s partner, similar to direct guarding and negative inducements identified by Buss (1988), were predictive of greater partner relationship commitment the following day. These findings indicated that, at least in the short term, the use of particular mate retention strategies can be beneficial for relationships.

Resource display was a more effective tactic for heterosexual men than for women when comparing the relative effectiveness of strategies across the genders (Neal & Lemay, 2014). The threat of committing infidelity was a more effective tactic for heterosexual women than for men (Buss, 1988). Specific tactics also were associated with the length and intimacy of the users’ relationships. Buss (1988) identified that the following tactics were positively correlated with relationship length and intimacy in both sexes: vigilance about partner’s whereabouts, demanding commitment from one’s partner, using resources (e.g., spending money) on one’s partner, being loving and caring,
EFFORTS TO MAINTAIN MONOGAMY

using public verbal and physical signals of possession, and having one’s partner wear
clothing or jewelry indicating being ‘taken.’ In contrast, derogating one’s partner as a
retention strategy was negatively correlated with relationship length and intimacy (Buss,
1988). Although men and women displayed more similarities than differences in the use
of mate retention strategies, heterosexual men were more likely than were women to
target the threat of potential interlopers, whereas women were more likely to target their
partners in their efforts to prevent mate poaching (Buss, 1988; Buss & Shackelford,
1997a; Kardum et al., 2006).

Emerging experimental research suggested that heterosexual women are more
sensitive toward infidelity threats, whereas heterosexual men and women are attuned to
different types of infidelity threats. In a series of four studies, heterosexual women were
found to be more accurate and faster at perceiving threats of mate poaching than were
men, and were more likely to perceive ambiguous situations as comprising infidelity
(Ein-Dor et al., 2015). In the first study with 194 heterosexual Israeli adults, women
appraised more hypothetical ambiguous cross-sex incidents as comprising infidelity
threat than did men, and the findings were significant after controlling for previous
partner engagement in infidelity. In the second and third studies with 118 and 93
heterosexual undergraduate students, respectively, participants were asked to detect a
picture depicting infidelity among control pictures, and to detect a picture depicting a
poisonous animal among control pictures. Findings from studies two and three indicated
that the women were more accurate and quick in identifying the infidelity threat picture
than were the men. Men and women did not differ in their reaction time or accuracy in
identifying the poisonous animal, an infidelity-irrelevant threat. In the fourth study, 127
EFFORTS TO MAINTAIN MONOGAMY

heterosexual community participants were given two sets of nine scenes to judge. The first set of nine scenes varied with regard to the degree that the target was making eye contact with their partner or an attractive opposite-sex rival. The second set of nine scenes varied with regard to the degree that an attractive opposite-sex rival was making eye contact with the target or away from the target. Men were significantly more likely than were women to judge their partners as making eye contact with the opposite-sex rival when the scenes were ambiguous. In contrast, women were significantly more likely than were men to judge that the opposite-sex rival was making eye contact with their partner when the scenes were ambiguous (Ein-dor et al., 2015). These findings suggest that women may be more attentive to the potential threat posed by attractive rivals compared to men, whereas men appear to be more attentive to cues of their partners’ potential infidelity.

Research on jealousy and attention found that jealousy may alert individuals to be vigilant about potential rivals. Individuals paid greater attention to attractive same-sex targets when jealous, allowing for the better processing of rivals for the purpose of mate retention (Maner, Gailliot, Rouby, & Miller, 2007). Women were found to pay greater attention to attractive same-sex targets than were men. Although research on mate retention strategies indicated that women tend to target their partners to mitigate mate poaching risk, jealousy appeared to activate vigilance towards other female threats first (Buss & Shackelford, 1997a; Ein-dor et al., 2015; Kardum et al., 2006). Overall, gender differences in the fields of mate retention and jealousy indicated that women and men differ on average in both their monitoring of relationship threats and their consequent mate retention behaviours.
Mate retention literature had typically focused on heterosexual samples. Two studies examined use of mate retention among sexual minority men and women. A sample of 355 Canadian men and women in heterosexual or homosexual relationships reported on their partner’s use of mate retention strategies over the previous year (VanderLaan & Vasey, 2007). Comparisons were made between the four groups to examine the influence of gender and sexual orientation. Overall, homosexual women engaged in less mate retention behaviours compared to heterosexual women and less than both groups of men, even after controlling for relationship closeness (VanderLaan & Vasey, 2007). Six out of nineteen mate retention tactics (display of resources towards partner, monopolizing partner’s time, punishing partner’s infidelity threat, derogating potential competitors, sexual inducements, enhancing one’s appearance) showed heterosexual sex differences, indicating that they were sexually dimorphic, and were further examined in the different sexual orientation groups for potential differences. Heterosexual women engaged in mate retention tactics more often than did men, with the exception of resource display. Homosexual men tended to resemble heterosexual men in their use of mate retention behaviours, showing similar rates in five out of the six tactics (exception: resource display). In contrast, homosexual women significantly differed from heterosexual women in their use of all six mate retention tactics. For example, homosexual men and heterosexual women demonstrated similar levels of resource display as a tactic, which were significantly lower than among heterosexual men. Furthermore, homosexual women endorsed lower rates of enhancing one’s appearance and higher levels of displaying one’s resources than did heterosexual women, suggesting that the use of certain mate retention tactics may be less useful for certain relationship
EFFORTS TO MAINTAIN MONOGAMY

types in comparison to others (VanderLaan & Vasey, 2007). In summary, homosexual and heterosexual men tended to display similar mate retention tactics, whereas homosexual women engaged in significantly less mate retention compared to all other groups, and used significantly different tactics compared to their heterosexual counterparts. However, the reliability of participants’ recall of their partners’ behaviours over the previous year may be suspect, especially for behaviours which are harder to observe or quantify, such as monopolizing one’s partner’s free time.

Brewer and Hamilton (2014) examined the influence of sexual orientation on female mate retention, while controlling for gender identity, in a sample of 198 British adult women who self-identified as heterosexual, bisexual, or homosexual. The three groups used most of Buss’s (1988) nineteen mate retention tactics similarly, but significantly differed in their uses of four mate retention tactics: display of resources, signaling verbal possessiveness of partner towards others, signaling physical possessiveness, and wearing partner’s clothing or jewelry. Consistent with VanderLaan and Vasey’s (2007) findings, homosexual women were more likely than heterosexual women to use display of resource and signaling verbal possessiveness as tactics, whereas bisexual women’s uses of these two tactics did not significantly differ from the other two groups (Brewer & Hamilton, 2014). Heterosexual women were significantly less likely than bisexual and homosexual women to use signals of physical possessiveness and to wear partner’s clothing or jewelry (Brewer & Hamilton, 2014). The more frequent overall use of mate retention tactics by homosexual women, controlling for gender identity, stood in contrast to previous findings using partner reports (Vanderlaan & Vasey, 2007). Many mate retention tactics, especially those aimed at potential rivals, were likely undetected
EFFORTS TO MAINTAIN MONOGAMY

by one’s partner. Sexual minority women may be using mate retention tactics more frequently, targeting potential rivals of multiple sexes (Brewer & Hamilton, 2014). Overall, research on mate retention in sexual minority samples strongly indicated that, especially for non-heterosexual women, unique pressures result in differential responses in service of relationship maintenance.

In summary, Western individuals in romantic relationships engage in a variety of mate retention behaviours in response to the potential threat of their partners being enticed by a sexual rival. Men generally target their competitors, whereas women generally monitor their rivals while targeting their partners when encountering the threat of mate poaching. Some mate retention tactics are more commonly used, some are more effective than others, whereas others may be detrimental to the relationship. Although the mate retention literature is informative of the relationship protective behaviours in which individuals engage to ensure their partners do not have extradyadic sex, far less is known about strategies individuals use to stop themselves from doing the same. The emphasis on mate retention and mate poaching risks conceptualizing one partner within the relationship as passive, as the majority of mate retention research to date does not address the active role of the target partner (i.e., the target of the rival), with a few exceptions (Cousins, Fugère, & Riggs, 2015; Schmitt & Shackelford, 2003). No investigations to date have examined the role of the target partner in protecting the relationship, such as monogamy maintenance.

Routine and strategic relationship maintenance. Mate retention and monogamy maintenance efforts may be best understood as components in a constellation of behaviours in service of relationship maintenance. Relationship maintenance had been
conceptualized as routine and strategic by Stafford and Canary (1991). According to their conceptualization, routine relationship maintenance are non-strategic behaviours “that foster [relationship] maintenance more in the manner of a ‘by-product’” (p. 307), whereas strategic relationship maintenance had been defined as “actions individuals undertake with the conscious intent of maintaining their relationships” (Stafford & Canary, 1991; p. 306). In supporting their conceptualization and consequent scale development, a snowball sample of 956 U.S. college students and community members in romantic relationships completed measures of maintenance strategies and relationship quality. The resulting seven factors included assurances, openness, conflict management, shared tasks, positivity, advice, and social networks, which can be used either routinely or strategically. Although women were significantly more likely to use three maintenance factors (social networks, shared tasks, and openness), gender role was the primary predictor, with femininity significantly predicting all seven factors, and masculinity significantly predicting four (advice, assurances, openness, and positivity). A further study examining the role of sex and gender roles in relationship maintenance surveyed 189 U.S. men and women in romantic relationships (Aylor & Dainton, 2004). Their findings partially confirmed Stafford and Canary’s (1991) original findings. Women used routine openness more than did men. Femininity was positively associated with the routine use of advice, conflict management, and openness, whereas masculinity was positively associated with the strategic use of openness and shared tasks (Aylor & Dainton, 2004). Overall, sex and gender roles appear to influence the behaviours used to routinely and strategically maintain one’s relationship.
EFFORTS TO MAINTAIN MONOGAMY

The impact of routine and strategic maintenance factors on relationship qualities were examined in two studies. As mentioned previously, Dainton and Aylor (2002) examined relationship maintenance use in a survey of 189 U.S. men and women in romantic relationships. Respondents on average used multiple maintenance factors as opposed to using one specific maintenance factor. However, no significant associations were found between routine and strategic maintenance use, indicating that individuals used multiple behaviours in service of either routine or strategic relationship maintenance, but seldom both. *Positivity* and *sharing of tasks* were the most often used routine maintenance factors. Although both overall strategic and overall routine maintenance were predictive of relationship commitment and satisfaction, overall routine maintenance was most predictive. With regard to specific relationship maintenance factor use, the use of routine or strategic *assurances* and routine *positivity* were also significant positive predictors in relationship quality (Dainton & Aylor, 2002). Ogolsky and Bowers (2013) summarized the state of relationship maintenance literature via a meta-analytic review of 35 studies (total $n = 12,273$). The meta-analysis confirmed that use of relationship maintenance factors was positively correlated with relationship satisfaction, commitment, shared control, and affection. The use of *positivity*, *openness*, and *assurances* decreased over relationship duration. In summary, relationship maintenance, both strategic and routine, serves to increase relationship well-being. Individuals who choose to use maintain their relationships tend to use multiple strategies through either unremarkable or potentially threatening circumstances, and the choice of strategy use is influenced by one’s sex and gender role.
Derogation of attractive alternatives. Researchers had identified cognitive and perceptual biases that help to ensure the maintenance of monogamy, called derogation of attractive alternatives. Derogation had been described in Johnson and Rusbult’s (1989) classic study as a tendency to devalue alternative partners, which is most marked when the alternative poses as a great threat, when the alternative is attractive, and when the individual is faced with an actual opportunity to be involved with the alternative.

Derogation was described to take place as a result of both cognitive dissonance, which is motivational in nature, as well as via comparison with the current relationship, which is perceptual in nature (Johnson & Rusbult, 1989).

The derogation effect was first supported with a series of three studies examining heterosexual U.S. college students in dating relationships (Johnson & Rusbult, 1989). The first study was a 7-month longitudinal survey study that followed 17 men and 17 women. Participants completed questionnaires regarding the perceived quality of alternatives to the relationship, relationship satisfaction, and relationship commitment. For participants who maintained their relationships, their perception of attractive alternatives to the relationship decreased over time. In contrast, participants who terminated their relationships within the duration of the study demonstrated increases in their perception of the attractiveness of alternatives (Johnson & Rusbult, 1989). Although suggestive of the derogation effect, the first study did not establish a clear link between derogation and relationship threat.

The second study explored this phenomenon further by assessing how committed individuals respond to highly attractive alternatives to their relationship. Heterosexual college students in relationships (n = 278) evaluated fictitious online dating profiles and
were asked to rate the targets on a number of personality traits. Participants were assigned to an experimental condition with varying levels of target attractiveness (low, moderate, high) and personal-impersonal evaluation (what the participant felt personally about the profile versus how the typical student would feel). Participants also rated their satisfaction with and commitment to their current relationship. Current relationship commitment had the strongest effect on the derogation of alternatives under high threat conditions: when participants were asked to judge how attractive they personally found the highly attractive alternative (Johnson & Rusbult, 1989). However, it remains unclear from this study whether it was relationship commitment or some other confounding variable that influenced the level of threat that triggered the derogation response.

In the third study, 28 men and 48 women recruited from introductory psychology courses were asked to read vignettes and to imagine themselves as the protagonist in a situation in which they were being tempted by an attractive alternative partner. The vignettes varied in terms of the depiction of current relationship satisfaction and commitment, and individuals were asked to rate the personality traits of the alternative partner. Participants who read the vignettes in which they were described as being more committed to their current partners rated themselves as having lower attraction to the alternative, lower desire to date the alternative, lower interest in being approached, and lower evaluation with regard to personality variables of the alternative, compared to participants who were less committed to their hypothetical partners (Johnson & Rusbult, 1989).

Across three studies, Johnson and Rusbult (1989) established that heterosexual U.S. college students who were more committed to their relationships derogated
alternative partners, especially when the alternative posed a high risk to the relationship. Commitment was more strongly associated with derogation of alternatives compared to other relationship qualities, such as satisfaction. However, the findings were limited by the narrow sampling of U.S. college students, and the levels of relationship commitment, satisfaction, duration, and other factors thus were likely to be limited in that regard. Notably, those varying in relationship commitment levels evaluated alternatives similarly (around the midpoint) in study one, and participants rated alternatives of varying levels of attractiveness comparably in study two. Although significant results were found, the magnitude and real life implications of these findings were potentially minimal. These limitations reflected a homogenous sample with little variability. The generalizability of these findings to relationships at large necessitates replications using broader samples with more diverse relationship qualities (including relationship length and commitment). Despite these shortcomings, Johnson and Rusbult’s findings hinted at the potential utility of derogation as a strategy in monogamy maintenance.

A number of findings by Johnson and Rusbult (1989) had since been replicated beyond its original narrow sample, supporting the derogation effect and illuminating its consequences. Heterosexual individuals in committed relationships consistently rated attractive opposite-sex targets as less appealing than do their single peers (Johnson & Rusbult, 1989; O’Sullivan & Vannier, 2013; Simpson, Gangestad, & Lerma, 1990). Opposite sex targets were rated as less physically attractive, less sexually appealing, and less desirable as a dating partner for individuals already in committed relationships, compared to ratings of single individuals (Johnson & Rusbult, 1989; O’Sullivan & Vannier, 2013; Simpson et al., 1990). The derogation of attractive alternatives as a
EFFORTS TO MAINTAIN MONOGAMY

relationship maintenance strategy served to enhance relationship commitment, and the perception of alternatives as being lower in quality was protective of relationship longevity (Johnson & Rusbult, 1989; Simpson et al., 1990). Overall, committed individuals denigrated attractive alternatives to their current relationships and perceived them to be less desirable, which was a protective response against these potential threats to their relationships.

The derogation of attractive alternatives ranged from the explicit rating of attractive others to earlier and more automatic processing. The literature reviewed to this point had asked participants for explicit ratings of the attractiveness of potential alternatives, which could potentially trigger socially desirable responding. The research on non-explicit responses to potential relationship threats via a series of experimental paradigms strongly suggested that derogation also protects relationships via more automatic responses that influence attention and memory processes. Eighty-two young Dutch women (mean age = 21.5) were recruited for a memory recall experiment, where individuals were asked to reconstruct the faces of average and attractive opposite-sex targets (Karremans, Dotsch, & Corneille, 2011). Participants were exposed to the face of either an attractive or unattractive male for one minute, followed by a neutral filler task. They were then asked to complete a task where they attempted to reconstruct the target face by choosing between a succession of two images which best resembled the previously seen target. The images that each participant chose were then averaged into a composite face, which was then compared with the actual target to derive the level of discrepancy between recall and actual target. Women in committed relationships were less accurate in recalling facial features in male targets generally as compared to their
EFFORTS TO MAINTAIN MONOGAMY

single counterparts. This recall bias had the effect of negatively skewing the recalled attractiveness of attractive targets, and enhancing the attractiveness of average targets. The researchers concluded that committed women may be less sensitive to attractiveness cues overall as a bias that supports relationship maintenance (Karremans et al., 2011). However, the presence of recall biases that derogated attractive targets and enhanced average targets was inconsistent with previous findings that indicated that the level of derogation would be comparable to the level of relationship threat faced, assuming that attractive targets are more threatening (Johnson & Rusbult, 1989). Replications of these non-intuitive (although relationship protective) findings are needed. The extension of these findings with a male sample also would be informative.

Both implicit and explicit derogation of attractive alternatives appeared to be sensitive to sexual cues. In one of the initial explorations of perceptual biases in service of relationship maintenance, 286 U.S. heterosexual college students participated in a study on the effects of semantic priming on visual attention to attractive opposite-sex targets (Maner, Gailliot, & Miller, 2009). Participants were primed via direct exposure with either sexual words (kiss, lust) or neutral words (talk, floor) in the first study. Participants then completed a visual cueing task where they had to shift their attention away from facial photographs of attractive or average-looking men or women to categorize a novel stimulus. The latency period between the appearance of the novel stimulus and the response indicated the amount of attentional adhesion to the prior facial photograph. In single participants, the sexual prime resulted in a significant increase in the amount of time participants paid to attractive opposite sex targets. Sexual priming did not result in increased attention to attractive opposite sex targets for participants in a
EFFORTS TO MAINTAIN MONOGAMY

committed relationship. No differences were found in the control condition with the neutral word prime. Although single and committed participants enacted different levels of attentional adhesion, in this study, committed participants did not significantly display a target-specific response to attractive targets.

In the second study with 92 women and 68 men from a heterosexual undergraduate student sample, priming was conducted using a sentence scrambling task involving sexual or neutral words. Participants then completed the visual cueing task similar to study one. Once again, single and committed individuals displayed similar levels of attention toward attractive opposite-sex targets in the control conditions. However, in the groups cued with the sexual primes, compared to single participants, committed participants demonstrated significantly lower attention to attractive opposite-sex targets. These effects were target-specific in that they were not observed for attractive same-sex targets or for average attractive targets of either sex. Maner and colleagues (2009) concluded that implicit derogation of alternatives was specific to attractive opposite-sex targets and to potentially relationship-threatening (i.e., sexual) contexts.

A novel experiment examined the automatic responses triggered in committed individuals by attractive opposite-sex targets. Undergraduate heterosexual men and women in the U.S. (n = 117) were recruited to complete a computerized task that assessed the reaction time required to accurately shoot or refrain from shooting at a facial image that is accompanied by either a picture of a gun (shoot) or a wallet (refrain) (Plant, Kunstman, & Maner, 2010). The facial images were of either highly attractive or average-looking men or women. Men in committed relationships were significantly more likely to mistakenly shoot attractive female targets with a wallet than to mistakenly
EFFORTS TO MAINTAIN MONOGAMY

refrain from shooting the attractive female targets with a gun. These effects were specific to men in committed relationships, and were not observed for women, committed men responding to average-looking female targets, or single men. The researchers concluded that attractive female targets were perceived as potential relationship threats by men in committed relationships. It was unclear why these findings were not found in women facing potential relationship threats. The trigger of automatic threat responses may have behavioural response ramifications that aim to strengthen the existing relationship or to derogate the attractive alternative. Further explorations of behavioural response ramifications are needed to extend these findings.

The emerging field of research linking self-regulation to derogation of alternatives illustrates the protective processes against attractive rivals, even after brief exposure. However, individuals in committed relationships do not only face such superficial relationship threats as demonstrated in the lab. These findings suggest that an effective relationship protective strategy may be to avoid situations that involve both low levels of self-regulation and high levels of available attractive alternatives (Ritter et al., 2010). However, attractive alternatives who pose as potential threats to monogamy may be individuals with whom one has regular contact. In addition, attention cannot always be averted from attractive alternatives. Indeed, extradycadic partners are most often a friend or a work colleague – someone with whom an individual has spent an extended period of time (Weaver, 2007). Relationship protective behaviours in the face of possibly enduring threats and temptations have not been adequately explored. The current dissertation aimed to address the gaps in the understanding of relationship protective behaviours against potentially enduring relationship threats, while accounting for the impact of
EFFORTS TO MAINTAIN MONOGAMY

relationship factors, as guided conceptually by the Investment Model and the calibration paradigm.

**The Investment Model**

The current dissertation used the Investment Model constructs as the primary measures of relationship qualities influencing relationship protective behaviours. The Investment Model (Rusbult, 1980) is a predictive model assessing relationship maintenance, based on the social exchange approach (Foa & Foa, 2012), and was an elaboration and extension of interdependence theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959). The model comprises four central variables that predict relationship maintenance and dissolution, including relationship commitment, relationship satisfaction, investments in the relationship, and perceived quality of alternatives to the relationship (Rusbult, 1980). The Investment Model and its constructs have been robustly supported in the literature for their use in predicting the commitment to and outcomes of romantic relationships (Drigotas et al., 1999; Johnson & Rusbult, 1989; Miller, 1997; Rusbult, 1980; Rusbult, 1983; Rusbult et al., 1998), friendships (Allen, Babin, & McEwan, 2012; Chow & Tan, 2013), college enrollment (Hatcher, Kryter, Prus, & Fitzgerald, 1992), and business relationships (Rusbult & Farrell, 1983; van Dam, 2005).

**Investment model constructs.** The four key constructs identified in the Investment Model – relationship commitment, relationship satisfaction, relationship investment, and perceived quality of alternatives to the relationship – were posited to have a hierarchical relationship (Rusbult, 1980). Relationship commitment, defined as the probability that one will leave the relationship and feelings of psychological attachment, is the mediating variable between relationship continuance and termination and the other
three IM constructs (Le & Agnew, 2003; see Figure 1). Relationship satisfaction was defined as the degree of positive affect associated with the relationship, and is positively associated with the amount of rewards and negatively associated with the amount of costs associated with the relationship. Relationship satisfaction is a positive predictor of relationship commitment (Le & Agnew, 2003). Relationship investments comprise the amount of resources put into a relationship with the passage of time, and the costs of leaving the relationship. Relationship investments can include both intrinsic investments, which are investments made directly into the relationship, including emotional effort and time, and extrinsic investments, which are investments not inherent to the relationship but are associated with the relationship, such as a shared residence and friends. Relationship investments are positive predictors of relationship commitment (Le & Agnew, 2003). Lastly, the quality of alternatives to the relationship was defined as the benefits an individual would derive by another relationship, by being alone, or by a constellation of existing relationships (e.g., with friends or family). The perceived quality of alternative relationships is negatively associated with relationship commitment (Le & Agnew, 2003).

The four central variables posited by the Investment Model are conceptualized as an algorithm: relationship commitment is equal to perceived satisfaction plus investments, minus the quality of alternatives. Relationship commitment is consequently positively predictive of relationship maintenance, including relationship continuance or termination.
Efforts to maintain monogamy

Investment model and relationship maintenance. The Investment Model had been applied in the understanding of a number of relationship maintenance strategies, including sacrifice and derogation of alternatives. In the context of ongoing committed relationships, willingness to sacrifice is defined as “the propensity to forego immediate self-interest to promote the well-being of a partner or relationship … [and] may entail the forfeiting of behaviors that might otherwise be desirable (i.e., passive sacrifice), enacting of behaviors that might otherwise be undesirable (i.e., active sacrifice), or both” (Van Lange et al., 1997; p. 1374).

Over the course of six studies, Van Lange and colleagues (1997) examined the relationships between willingness to sacrifice and Investment Model constructs in dating and marital relationships. Studies one (n = 105) and two (n = 83) recruited Dutch

Figure 1-1. Dimensions of relationship quality as outlined by the Investment Model.
undergraduate students (44.8% female and 47% male; average age = 22.7 and 24, respectively) who were in committed relationships (average relationship duration = 32 and 30 months, respectively). In both of these studies, participants completed Investment Model measures, and were asked to rate the degree to which they would consider ending their relationships with their partners if it were not possible to engage in certain valued activities, indicating willingness to sacrifice. In both studies, commitment level was significantly positively correlated with willingness to sacrifice, and willingness to sacrifice was positively correlated with satisfaction and investment, while negatively correlated with perceived quality of alternatives (Van Lange et al., 1997). Commitment level accounted for 23-24% of the variance in willingness to sacrifice across the two studies, and largely mediated the effects of the other three IM constructs (satisfaction, investment, alternatives) on willingness to sacrifice. These two studies relied on cross-sectional self-reports and did not establish a causal relationship.

In study three, 101 U.S. undergraduates (41.6% male; average age = 19.5 years) were randomly assigned to one of eight experimental conditions. Participants read vignettes depicting hypothetical situations where they had to imagine how they would act and feel as the protagonist. The eight versions of the stories differed with regards to relationship satisfaction (low vs. high), perceived alternatives (poor vs. good), and investments (low vs. high). Participants also completed measures of IM constructs, passive and active sacrifice, and relationship functioning after reading the essay. Commitment was found to correlate positively with both active and passive forms of sacrifice, and sacrifice correlated positively with dyadic adjustment and correlated negatively with breakup intentions. Commitment accounted for 44% of the variance in
EFFORTS TO MAINTAIN MONOGAMY

willingness to sacrifice, whereas the other three IM constructs did not contribute any additional variance in sacrifice beyond commitment (Van Lange et al., 1997). Commitment also accounted for a significant percentage of variance in dyadic adjustment and breakup intentions beyond sacrifice. Although informative, the findings were based upon hypothetical scenarios and further replications would need to address the ecological validity of these findings.

Study four examined the second wave of a three-wave longitudinal study of 45 U.S. college dating couples (average relationship duration at recruitment = 19 months). Each partner completed IM construct measures, and were asked to report their own valued activities and their partners’ valued activities, as well as their own and their partners’ willingness to sacrifice. In addition, they had the opportunity to complete a physically demanding task to help their partner earn a small financial reward by stepping up and down a step as quickly as possible for a minute and surpassing their baseline rate. The number of stair steps taken was significantly and positively correlated with self-reported willingness to sacrifice, commitment, and dyadic adjustment. Commitment accounted for 10% of the variance in behavioural sacrifice, although investment size was the only other IM construct that was significantly predictive of sacrifice. Commitment accounted for a significant amount of variance in relationship adjustment beyond behavioural sacrifice, and sacrifice did not account for significant variance beyond commitment. Although the behavioural measure was associated with commitment, self-reported willingness to sacrifice, and dyadic adjustment, it did not show as strong a connection with IM constructs as found in the previous three studies.
Studies five and six used longitudinal designs to examine the causal links between IM constructs and sacrifice in couples from student and community samples. In study five, 87 U.S. college students (49.4% male, average age = 19.3 years) in committed romantic relationships completed relationship measures at baseline and were reassessed 6- to 9-weeks later. Participants reported on their willingness to sacrifice, as well as measures of IM constructs and dyadic adjustment. Similar to prior findings, baseline IM constructs were correlated with baseline commitment in the expected directions, with relationship satisfaction and investments correlated positively with commitment, and perceived alternatives correlated negatively with commitment. Baseline IM constructs were then correlated positively with baseline willingness to sacrifice. Consequently, sacrifice and commitment at baseline were correlated positively with relationship adjustment and relationship persistence. Longitudinal correlations indicated that baseline satisfaction and investments were correlated positively with commitment and sacrifice at reassessment, whereas perception of alternatives was correlated negatively with commitment and sacrifice at reassessment. Baseline commitment was correlated with relationship adjustment at reassessment 6- to 9-weeks post, although baseline sacrifice was not associated with relationship adjustment at reassessment. In study six, 64 newly married heterosexual couples recruited from the community (average age = 32.8 years) completed measures regarding willingness to sacrifice, partners’ willingness to sacrifice, relationship adjustment, and IM constructs. Across three time points over the course of two years, IM constructs were correlated positively with willingness to sacrifice, with the exception of perception of alternatives correlating negatively with willingness to sacrifice. Willingness to sacrifice and commitment level were associated positively with
relationship adjustment. Individual-level lagged analyses indicated that earlier measures of satisfaction, alternatives, and investments were correlated with later commitment, earlier IM constructs were associated with later sacrifice, and earlier sacrifice and commitment were correlated with later dyadic adjustment. Commitment accounted for an average of 35% of the variance in willingness to sacrifice, and largely mediated the effects of other IM constructs on sacrifice, consistent with previous studies’ findings. Again, willingness to sacrifice and commitment were both significantly associated positively with relationship adjustment and accounted for 40% and 58% of variance, respectively. In summary, Van Lange and colleagues (1997) convincingly supported the multi-level structure of Investment Model constructs over six studies, as well as the conceptualization of commitment as being in service of relationship maintenance. Commitment was consistently associated with willingness to sacrifice for one’s partner and relationship, a relationship maintenance behaviour, which is then associated with relationship adjustment and relationship persistence. However, the strongest effects found across this program of study relied upon self-report for the construct of self-sacrifice. Indeed, the weakest effects were found when sacrifice was measured via observation in a laboratory setting (study four).

The Investment Model also had provided a meaningful structure in understanding the reciprocal impact of the derogation of alternatives upon relationship variables. Some inconsistencies exist in the literature regarding these associations. As previously summarized, Johnson and Rusbult (1989) found across three college samples that explicit devaluation of attractive alternatives was positively associated with relationship commitment. In a college sample of 17 men and 17 women in dating relationships
EFFORTS TO MAINTAIN MONOGAMY

(average age = 19.8 years; average relationship duration at recruitment = 4.2 weeks), commitment increased over the course of ongoing committed dating relationships. Over the course of seven months, individuals who remained in their relationships viewed the attractiveness of alternatives as declining over time, whereas those who left their relationships viewed the attractiveness of alternatives as increasing. Committed individuals reported “lower attraction to the alternative partner, lower desire to date the alternative, lower interest in approaching or being approached by the alternative, and lower evaluations of the alternative with respect to [compatibility] variables” (p. 977).

Commitment also was related to derogation responses to attractive alternatives when rating fake online dating profiles, and when responding as the protagonist of a vignette. Their findings led Johnson and Rusbult to conclude that derogation is associated with lowered perceived quality of alternatives, and consequently, greater relationship commitment. Johnson and Rusbult’s (1989) longitudinal findings suggested a clear association between derogation and relationship commitment. Similarly, Miller (1997) found in a sample of 246 U.S. college students (39.8% male, median age = 21 years) that those reporting higher satisfaction with, investment in, and commitment to their dating relationships spent less time examining attractive alternative targets. They also exhibited lower physiological response via skin conductance to attractive alternatives, which are indirect measures suggesting lower attention, emotional responsiveness, and interest towards the observed targets.

Ritter and colleagues (2010) applied the Investment Model in two experimental studies of derogation and self-control depletion. They similarly found that committed heterosexual undergraduate students, compared to their single counterparts, were less
likely to rate attractive opposite-sex others as potential partners. Furthermore, they were able to link the ability to engage in derogation with self-control. Ritter and colleagues (2010) induced self-control depletion in two ways: by emotional suppression after watching emotional movie clips, and by responding under time pressure. In the self-control depletion conditions where committed participants were unable to derogate attractive alternatives, participants consequently reported less commitment to their partners. Experimentally, Ritter and colleagues (2010) further supported Johnson and Rusbult’s (1989) claim that derogation of alternatives benefits relationship commitment. However, mixed findings were found with regard to the role of relationship satisfaction and commitment. For example, in the non-depletion condition, relationship satisfaction was significantly negatively predictive of participants’ ratings of the attractiveness of others. However, the relationship between relationship commitment and participant ratings was not significant.

In summary, existing research strongly supports the application of IM constructs to the study of relationship maintenance, such as monogamy maintenance. The unique impact of individual IM constructs on monogamy maintenance and any bidirectional effects would be informative. In addition, the application of Investment Model in examinations of relationship maintenance beyond college samples is needed.

**Investment model and infidelity.** The Investment Model construct that is linked most intuitively to infidelity is the perception of attractive alternatives to the relationship. The link between perception of alternatives and relationship longevity is well-established; the perception of alternatives leads to weakened commitment, and lower commitment in turn increases the likelihood of relationship termination (Le & Agnew, 2003). With
regard to links to infidelity, one cannot commit infidelity without an alternative partner with whom to engage in extradyadic behaviours. Miller (1997) examined the connections between relationship commitment and attention to alternatives using a sample of 246 college students (40.2% male, median age = 21 years). Participants completed demographic and dating history questionnaires, which included measures of Investment Model constructs. Seventy-four participants (41.9% male) from the original sample were subject to an in-person manipulation where they were asked to examine three attractive opposite-sex targets, three attractive same-sex targets, and three control targets. Time spent examining each target was assessed, as was their skin conductance. All original participants were sent a follow-up questionnaire two months after the first time point to see whether they were with their original dating partners. Attention paid to alternatives was thus measured in three different ways: via self-report ratings on the initial questionnaire, via time spent inspecting opposite-sex targets, and via skin conductance levels. Perceived alternatives to the relationship was highly and negatively correlated to the other IM constructs (relationship commitment, satisfaction, and investments), as well as relationship adjustment and closeness. Those with higher perceived alternatives were significantly less likely to be dating the same partner two months later. Converging findings emerged for the behavioural measure, with individuals perceiving higher alternatives to their relationships spending more time examining attractive opposite-sex targets. Overall, individuals who were committed to their dating relationships, compared to casual dating and single individuals, spent less time examining opposite-sex targets and responded less physiologically with regards to skin conductance, indicating less attention paid to, and less emotional response to, attractive alternatives. Although these
findings provide a multi-method examination of the detrimental effects of paying increased attention to attractive alternatives as opposed to one’s partner upon relationship quality, they do not directly generalize to the tendency to commit infidelity. Direct connections between IM constructs—in particular the perception of alternatives—and infidelity outcomes remain unexplored.

One illustrative study used Investment Model variables specifically in predicting dating infidelity. Drigotas and colleagues (1999) found in a longitudinal study with 74 college students involved in heterosexual romantic relationships (18.9% men, average age = 18.2 years, average relationship duration = 28.2 months) that initial relationship commitment, satisfaction, and investment were negatively associated with sexual and emotional infidelity measured two months later, whereas the initial perceived quality of relationship alternatives was positively associated with infidelity committed over two months. Reciprocally, their findings also indicated that infidelity over the course of the study was associated with lower commitment, satisfaction, investment, and greater quality of alternatives at follow-up. A follow-up diary investigation with 37 U.S. college students in heterosexual relationships (32.4% men, average age = 19.1 years, average relationship length = 18.4 months) revealed that individuals who reported greater commitment to their dating relationship reported fewer and less intimate extradyadic interactions over the course of spring break (Drigotas et al., 1999).

Overall, Drigotas and colleagues’ (1999) findings were illustrative of the association between Investment Model constructs and infidelity, and suggestive of the utility of IM constructs in understanding monogamy. However, the application of IM constructs was restricted to a dating college sample, and the sample likely represented a
limited range of relationship experience and outcomes. The application of Investment Model in predicting monogamy and the strategies used to maintain monogamy needs to be replicated in a broader, more heterogeneous sample.

**Calibration paradigm.** Lydon and colleagues (1999, 2003)’s calibration paradigm informed the current line of research, firstly, in its multifaceted conceptualization of relationship commitment, and secondly, its integration of self-regulation depletion in predicting responses to threats posed by attractive others. A main point of criticism for many existing studies examining the derogation of attractive alternatives in romantic relationships involved the exclusive sampling of single and dating individuals, primarily drawn from college student samples, potentially limiting the levels of relationship commitment examined (e.g., Johnson & Rusbult, 1989; Ritter et al., 2010; Simpson et al., 1990). Although the differences in derogation use between singles and daters are quite robust, the existing literature had yet to adequately address how heterogeneity in relationship commitment may influence derogation of attractive alternatives, and by extension, monogamy maintenance behaviours. Relationship commitment, operationalized within the calibration paradigm, includes both relationship types and self-reported relationship commitment, to better account for the associations between Investment Model relationship variables and derogation of alternatives. Relationship commitment levels are calculated by combining relationship status (structural commitment) with self-reported relationship commitment (attitudinal commitment). Structural commitment reflects the structural or external forces which make it more difficult to dissolve a relationship, such as legal links associated with marriage or long-term cohabitation. In contrast, attitudinal relationship commitment is
“internally based … expressions of commitment” (Lydon et al., 1999, p. 153), which reflects felt desire and obligation to remain in a relationship.

With regard to the influence of limited self-regulatory resources, the calibration paradigm predicts that individuals will respond with derogation only when the relationship may be threatened by the potential attraction without being overwhelmed. Lydon and colleagues (2003) extended upon Johnson and Rusbult’s (1989) initial investigation into Investment Model variables and derogation by hypothesizing that “relationship defenses function in a curvilinear, inverted U fashion … when the level of threat is below or above the level of commitment, there will not be a cognitive or behavioral defense of the relationship” (Lydon, Fitzsimons, & Naidoo, 2003; p. 357). They posited that derogation, operationalized as the rating of an alternative partner as less attractive, will be greatest when the level of threat posed by the alternative closely matches the individuals’ commitment to their relationship.

Lydon and colleagues (1999, 2003) examined differential derogation responses as a function of commitment and threat levels over two experimental investigations (ns = 134 and 174). Participants were made to believe that they were taking part in a computer match-making program as a part of the study, then asked to rate the attractiveness of an opposite-sex target. Participants were randomly assigned to the moderate or high threat level conditions. Moderate versus high levels of relationship threat were triggered by the demand to either evaluate an attractive alternative who may or may not be interested in the participant (moderate), or to evaluate an attractive target after learning that the target was attracted to them (high). Levels of relationship commitment (high, moderate, low, single) were operationalized by combining structural commitment, as depicted by
relationship status (single, dating, married), with attitudinal commitment, as depicted by self-reported relationship commitment ratings, to construct a more comprehensive typology of relationship commitment. High commitment individuals were married individuals who self-rated high on relationship commitment. Moderate commitment individuals were dating individuals who self-rated themselves as highly committed, or married individuals who self-rated as moderately committed to their relationships. Low commitment individuals were dating individuals who self-rated as low to moderately committed to their relationships. In the moderate threat situation, moderate commitment participants derogated attractive alternative significantly more than single, low commitment, and high commitment participants. In the high threat situation, high commitment individuals derogated the attractive alternative significantly more than single, low commitment, and moderate commitment individuals. Lastly, low commitment participants did not derogate moderately attractive alternatives; they rated the attractiveness of alternatives comparable to single individuals. Findings were consistent with calibration paradigm assertions that derogation would be proportional to the level of threat posed by an attractive alternative.

Lydon and colleagues (2003) further examined the specificity of the calibration paradigm against other potential confounding effects. Moderately committed individuals rated attractive alternatives as less attractive when rating from their own perspective compared to when rating from the perspective of a hypothetical friend, supporting the claim that the derogation effect is specific to an individual’s own relationship maintenance. The enhancement hypothesis also was explored, which posited that derogation observed in committed individuals could be partially attributed to the
EFFORTS TO MAINTAIN MONOGAMY

enhancement of available partners by single individuals via “strategic self-persuasion,” or the tendency of relationship seeking individuals to exaggerate the appeal of available potential partners (p. 357). However, single individuals did not rate attractive available alternatives as being more attractive than attractive unavailable alternatives, thus the enhancement hypothesis for single individuals was not supported. Overall, the calibration paradigm had received promising empirical support in extending the current understanding of derogation of alternatives in relationships with a wider range of commitment levels. The findings also strongly support the use of IM constructs in examining monogamy maintenance strategies.
Chapter 2

Goals of the Present Research

Although monogamy is the standard for intimate relationships in Western societies and can impart many benefits upon its participants (Conley et al., 2013; Mark et al., 2011), a significant minority of individuals commit infidelity and violate their own standards for monogamy (Adimora et al., 2002; Adimora et al., 2007; Aral & Leichliter, 2010; Treas & Giesen, 2000). A repertoire of behaviours has been examined in which individuals engage to prevent themselves and their romantic partners from being enticed by an attractive alternative, including communication of monogamy standards (Hosking, 2013; Treas & Giesen, 2000; Watkins & Boon, 2016), mate retention (Buss, 1988; Buss & Shackelford, 1997a; Buss et al., 2008; Kardum et al., 2006; Neal & Lemay, 2014), jealousy and its evocation (Ein-Dor et al., 2015; Maner et al., 2007; Sheets et al., 1997), routine and strategic relationship maintenance (Dainton & Aylor, 2002; Ogolsky & Bowers, 2013), and derogation of attractive alternatives (e.g., Johnson & Rusbult, 1989). Several studies indicate that these strategies are used by the majority of individuals as a means of maintaining their relationships (Ein-Dor et al., 2015; Hosking, 2013; Neal & Lemay, 2014; Watkins & Boon, 2016), and the use of these strategies is associated with higher relationship quality (Neal & Lemay, 2014; Sheets et al., 1997; Warren et al., 2012).

The violations of monogamy expectations can have a devastating impact upon intimate relationships. Sexual infidelity is the primary reported cause of divorce, marital separation, and relationship breakups (Amato & Previti, 2003; Betzig, 1989; DeMaris, 2013; Feldman & Cauffman, 1999b; Hall & Fincham, 2006; Scott et al., 2013). Infidelity
is clinically difficult to treat (Whisman et al., 1997) and typically undermines relationship quality for those who persist in the relationship (Drigotas et al., 1999). Furthermore, infidelity or suspected infidelity is associated with emotional distress in both parties involved (Feldman & Cauffman, 1999b), and comprises a risk factor for intimate violence (Daly & Wilson, 1988; Hilton & Harris, 2005; Kaighobadi et al., 2009).

Monogamy maintenance and the prevention of monogamy violations are likely to be in the service of relationship quality and continuance. Although informative, the focus on partner-directed relationship maintenance strategies has been incomplete. Despite the research interest and evidence indicating the high use and relationship benefits of relationship maintenance strategies, a dearth of research addressed monogamy maintenance efforts beyond a small literature examining derogation of attractive alternatives. The focus on derogation of attractive alternatives was limited in the understanding of monogamy maintenance strategies as targeting possibly fleeting threats. But clearly, potential threats to relationship maintenance can arise from both fleeting attractions and enduring threats, such as continuing and long-term interactions with co-workers and individuals closely embedded in one’s social network. Derogation may be effective in mitigating more fleeting threats; however, behavioural responses against the latter, arguably stronger type of temptations remains unexamined. As a result, we do not know yet the extent of monogamy maintenance efforts, nor how they are being used by individuals in committed relationships, nor do we know their effectiveness in helping individuals maintain monogamy in their committed relationships.

The primary objective of this program of research was to provide the first comprehensive understanding of monogamy maintenance strategies among heterosexual
EFFORTS TO MAINTAIN MONOGAMY

adults. The targeted sampling of heterosexual individuals in committed relationships reflected the identified differences in the practices of and expectations and attitudes toward monogamy and consensual non-monogamy in gay/lesbian, bisexual, and heterosexual samples in existing research (Hoff & Beougher, 2008; Hosking, 2013; Mark et al., 2014), in an explicit attempt to avoid conflating samples that may qualitatively differ. The current dissertation examined the unique role of monogamy maintenance efforts in heterosexual romantic relationships by identifying: (a) the range of behaviours used in efforts to ensure monogamy by individuals in committed relationships when faced with a potentially attractive alternative partner; (b) the frequency of monogamy maintenance use; (c) the patterns of monogamy maintenance use in individuals of various relationship commitment levels; and (d) the patterns of monogamy maintenance use across different potential relationship threat levels.

The study was primarily exploratory in nature. The initial research questions that guided this study were not guided specifically by the theoretical framework. The remaining research questions and specific hypotheses were informed by the Investment Model (Rusbult, 1980) and calibration paradigm (Lydon et al., 1999; 2003).

Primary Objective

The primary objective of the current dissertation was to develop an initial comprehensive, integrative inventory of monogamy maintenance strategies. From what is known of the derogation effect, one could infer that both explicit reports of devaluation and automatic processes involving attention and memory may be involved in minimizing the attractive of alternatives in service of monogamy maintenance (DeWall, Maner, Deckman, & Rouby, 2011; Johnson & Rusbult, 1989; Karremans et al., 2011).
EIFFORTS TO MAINTAIN MONOGAMY

Comparisons also were drawn from the mate retention literature, which addresses behaviours targeted at one’s partner and ones directed toward same-sex competitors in managing the risk of attractive rivals (Buss, 1988). The current study drew upon mate retention strategies, relationship maintenance strategies including monogamy agreements and derogation, pilot data, and expert consultation in developing an inventory of monogamy maintenance strategies used to survey a diverse sample of romantically committed individuals.

RQ 1: What was the range of monogamy maintenance efforts reported by U.S. adults in heterosexual relationships?

RQ 2: To what extent were monogamy maintenance efforts engaged in by U.S. adults in heterosexual relationships?

Second Objective

The second main objective of the current dissertation was to identify factors, most notably relationship variables, associated with monogamy maintenance, both cross-sectionally and longitudinally. A comprehensive assessment of the range of monogamy maintenance strategies with Investment Model variables highlighted relationship qualities relevant to success in maintaining monogamy. Longitudinal examinations identified the impact of monogamy maintenance strategy use to relationship outcomes at two months follow-up. Two months in duration was consistent with previous comparable longitudinal examinations of infidelity (Miller, 1997; Drigotas et al., 1999) and allowed for enough time to elapse to sample the phenomenon at hand, while minimizing the likelihood of recall errors. Logistically, less time between data collection points also increased the likelihood of maintaining contact and managing participation attrition rate with
EFFORTS TO MAINTAIN MONOGAMY

temporary online participants. The adapted model which guided the second research goal is depicted in Figure 1-2, which integrates the Investment Model relationship constructs, monogamy maintenance, and infidelity outcomes to help explain the factors involved.

RQ 3: Was monogamy maintenance behaviour use among adults in heterosexual relationships moderated by demographic, personality, and attitudinal variables?

Hyp 1: Greater levels of religiosity, higher levels of conscientiousness, higher levels of agreeableness, lower levels of sexual narcissism (sexual entitlement), lower levels of sexual permissiveness, and greater levels of sexual inhibition due to performance consequences would predict greater reported use of monogamy maintenance relative to their counterparts.

RQ 4: Was monogamy maintenance behaviour use among adults in heterosexual relationships predicted by relationship qualities, as outlined by the Investment Model?

Hyp 2: Greater levels of relationship commitment would predict greater reported use of monogamy maintenance, in terms of range of behaviours.

Hyp 3: Relationship commitment would mediate the associations between satisfaction, investment, and perceived quality of alternatives and the use of monogamy maintenance.

RQ 5: Did the use of monogamy maintenance strategies among adults reduce the likelihood of reporting later sexual and emotional infidelity?

Hyp 4: Greater range of monogamy maintenance behaviour use would be associated with significantly lower likelihood of reporting sexual and emotional infidelity at two months follow-up.
Third Objective

The third goal associated with the current program of study was to extend the use of the calibration paradigm and to overcome shortcomings in existing research using the Investment Model. Using both structural (relationship status) and attitudinal (self-reported) commitment allowed for a multifaceted and more valid construction of the latent variable of relationship commitment beyond what self-reported commitment could achieve alone. The goal of the third study was to distinguish between individuals in relationships of varying commitment levels by their use of monogamy maintenance strategies.

**RQ 6: Is the use of monogamy maintenance strategies sensitive to the levels of relationship threat posed by an episode of extradyadic attraction, and do levels of relationship commitment moderate the use of monogamy maintenance?**

**Hyp 5:** Individuals facing high relationship threat (defined as reported reciprocated attraction with an attractive other) would report greater range of monogamy maintenance use compared to those facing low relationship threat (defined as reported unreciprocated attraction with an attractive other).

**Hyp 6:** A high level of relationship commitment (defined as individuals reporting high levels of both structural and attitudinal relationship commitment) would be associated with reports of greater range of monogamy maintenance behaviour use compared to lower levels of relationship commitment.

**Hyp 7:** A high level of relationship commitment (defined as individuals reporting high levels of both structural and attitudinal relationship commitment) would be associated with reports of greater range of monogamy maintenance behaviour use when faced with
EFFORTS TO MAINTAIN MONOGAMY

high relationship threat (defined as reported reciprocated attraction with an attractive other) compared to when faced with low relationship threat (defined as reported unreciprocated attraction with an attractive other).
Figure 2-1. The proposed associations between dimensions of relationship quality as outlined by the Investment Model, enactment of monogamy maintenance strategies, and infidelity outcomes.
General Introduction References


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Chapter 3

Article 1: Ain’t Misbehavin’?: Monogamy Maintenance Strategies in Heterosexual Romantic Relationships


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Authors’ Note

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Abstract

Monogamy is a near universal expectation in intimate relationships in Western societies and is typically defined as sexual and romantic exclusivity to one partner. This research informs the paradox between monogamy intentions and high rates of infidelity. Monogamy maintenance strategies used in response to relationship threats posed by attraction to extradyadic others were identified and characterized. Across three samples, 741 U.S. adults in intimate relationships completed surveys addressing monogamy maintenance. Twenty-four strategies emerged in three factors – Proactive Avoidance (of attractive alternatives), Relationship Enhancement, and Low Self-Monitoring/Derogation (in the face of extradyadic attraction). All monogamy maintenance factors were commonly endorsed, yet were largely unsuccessful at forestalling infidelity.

Keywords: infidelity, monogamy, relationship maintenance, survey
Ain’t Misbehavin’?: Monogamy Maintenance Strategies in Heterosexual Romantic Relationships

Monogamy is a widely adopted standard for committed romantic relationships in Western societies (Anderson, 2010; Conley, Ziegler, Moors, Matsick, & Valentine, 2012; Shackelford & Buss, 1997; Ziegler, Conley, Moors, Matsick, & Rubin, 2015), and is commonly defined as sexual and emotional exclusivity to one romantic partner. Despite consistently strong personal and social sanctions against infidelity, infidelity is not uncommon in Western societies. Approximately half of individuals report having engaged in infidelity at some point over their lifetimes, and approximately one-fifth of individuals report sexual infidelity in their current romantic relationships (Mark, Janssen, & Milhausen, 2011; Thompson & O’Sullivan, 2016b). A substantial body of research examining predictors of infidelity in terms of personality traits and relationship characteristics makes clear that most individuals and relationships are susceptible (Drigotas, Safstrom, & Gentilia, 1999; Hackathorn, Mattingly, Clark, & Mattingly, 2011; Mark et al., 2011; Weaver, 2007). By contrast, little is known about the cognitive or behavioral strategies used by those in their efforts to resist opportunities for extradyadic involvement with an attractive alternative partner. The aim of the current study is to explore strategies used to help maintain one’s exclusivity to a heterosexual romantic relationship.

Prevalence and Impact of Infidelity

Infidelity is most commonly conceptualized in research as the participation in sexual acts with partner(s) outside of one’s committed romantic relationship, where an agreement to maintain sexual exclusivity is in place (e.g., Hackathorn et al., 2011). A
EFFORTS TO MAINTAIN MONOGAMY

growing body of research shows that individuals consider infidelity to comprise more than only sexual forms. Infidelity also includes emotional or romantic infidelity, which describes affective bonds formed with an extradyadic partner(s), leading to the exchange of emotional resources, including love, time, and attention (Roscoe, Cavanaugh, & Kennedy, 1988; Shackelford & Buss, 1997), as well as technology-facilitated and online interactions with extradyadic partners (Thompson & O’Sullivan, 2016a). Sexual and emotional/romantic infidelities can and do co-occur and is associated with greater likelihood of relationship breakup (Allen & Rhoades, 2008).

Sexual infidelity is commonly reported by U.S. adults, with approximately one in seven U.S. women and one in four U.S. men reporting having had concurrent sexual relationships over the course of one year (Adimora et al., 2002; Adimora, Schoenbach, & Doherty, 2007; Aral & Leichliter, 2010). Infidelity is linked to adverse relationship outcomes. Sexual infidelity is the primary cause of divorce and marital separation cross-culturally, is among the most difficult clinical issue to address in couples therapy (Amato & Previti, 2003; Betzig, 1989; DeMaris, 2013; Scott, Rhoades, Stanley, Allen, & Markman, 2013; Whisman, Dixon, & Johnson, 1997), and is a common cause of dating relationship breakups (Feldman & Cauffman, 1999; Hall & Finchem, 2006). Infidelity and the suspicion of infidelity is a leading factor in spousal abuse and homicide in Canada and the U.S. (Hilton & Harris, 2005; Kaighobadi, Shackelford, & Goetz, 2009).

The prevalence of infidelity may not be all that surprising when considering that extradyadic attraction is common, and that over 90% of individuals report having had an opportunity to cheat on their partners (Weaver, 2007). When temptation is typical, and opportunities for extradyadic involvement are salient, but the consequences of straying
EFFORTS TO MAINTAIN MONOGAMY

are dire, it would be valuable to have insight into how some individuals are successful in avoiding infidelity and maintaining exclusivity within their romantic relationships.

**Monogamy Maintenance Strategies**

Monogamy maintenance can be understood as efforts to maintain sexual and emotional monogamy with one’s current romantic partner in the face of opportunities for extradyadic involvement. The literature on specific processes and strategies involved in resisting attractive alternatives is surprisingly limited and poorly integrated. A number of means to resist alternatives to one’s partner have been explored, including mate retention, routine and strategic relationship maintenance, the explicit communication of monogamy standards, and the derogation of alternatives.

**Mate retention.** Mate retention has been conceptualized as a relationship protective response to an external relationship threat in the form of a potential rival for one’s partner (Buss, 1988; Buss, Shackelford, & McKibbin, 2008). Two overarching responses have been identified in the literature: behaviors targeted at one’s partner, and behaviors directed toward same-sex competitors (Buss, 1988; Buss & Shackelford, 1997a; Buss et al., 2008). Certain tactics were found to be positively correlated with relationship length and intimacy, including vigilance about a partner’s whereabouts, demanding commitment from one’s partner, using material resources on one’s partner, being loving and caring, and using public verbal and physical signals of possession (Buss, 1988). Research on mate retention assesses common strategies for ensuring rivals do not successfully “poach” one’s partner away from a romantic relationship (Buss & Shackelford, 1997a). However, by contrast, the means by which individuals attempt to maintain their monogamy to their partners, that is, avoid being mate poached themselves,
EFFORTS TO MAINTAIN MONOGAMY

is not well understood. The mate retention research largely does not address the active role of the target partner (i.e., the target of the rival), with a few rare exceptions (Cousins, Fugère, & Riggs, 2015; Schmitt & Shackelford, 2003). No investigations to date have examined the role of the target partner in protecting the relationship, and notably none in the form of monogamy maintenance.

Routine and strategic relationship maintenance. Relationship maintenance has been conceptualized as routine and strategic by Stafford and Canary (1991). Routine relationship maintenance strategies are non-strategic behaviors “that foster [relationship] maintenance more in the manner of a ‘by-product’” (p. 307), whereas strategic relationship maintenance strategies are “actions individuals undertake with the conscious intent of maintaining their relationships” (Stafford & Canary, 1991; p. 306). Relationship maintenance strategies that have been identified include assurances, openness, conflict management, shared tasks, positivity, advice, and social networks. Individuals typically use multiple maintenance strategies as opposed to using one specific maintenance strategy in their relationships (Dainton & Aylor, 2002). The use of relationship maintenance factors was positively correlated with relationship satisfaction, commitment, control mutuality, love, liking, and continuity. Relationship maintenance, both strategic and routine, serve to increase relationship well-being, and individuals tend to use multiple strategies through either unremarkable or potentially threatening circumstances. Surprisingly, relationship maintenance strategies do not directly address strategies used in facing the threat of attractive others, which is a common threat to relationship stability. The current research aims to situate monogamy maintenance strategies within relationship maintenance more broadly, and to identify whether they resemble
relationship maintenance in its multidimensional nature, its wide adoption, and the
typical concurrent use of multiple strategies.

Establishing explicit monogamy agreements. Explicit communication about
relationship boundaries with one’s partner appears to be common, although many
individuals assume monogamy in their relationships based on unspoken norms (Gibson,
Thompson, & O’Sullivan, 2016). In one Canadian sample, approximately half of
individuals in heterosexual dating relationships had discussed their expectations for
monogamy with their partners, and two-thirds had discussed the consequences of
violating monogamy (Watkins & Boon, 2016). However, for those who had discussed it,
only 56% reported agreement on which behaviors actually constituted infidelity. A
common point of contention and disagreement between heterosexual couples is whether
it is acceptable within their relationship to make new cross-sex friends, with
approximately one in six college-aged individuals (17%) having discussed the issue
without coming to an agreement (Boekhout, Hendrick, & Hendrick, 2003). In another
sample of 434 heterosexual couples considered to be at high risk for STI transmission,
one in three couples disagreed on whether they had discussed expectations for
monogamy, and 40% of the couples provided discordant responses on whether their
relationship was monogamous (Warren, Harvey, & Agnew, 2012). Research illustrates
that most function with implicit beliefs about what constitutes acceptable levels of
extradyadic involvement within their relationships, without having sought explicit
feedback from their partners. Furthermore, there exists little consensus about which
behaviors constitute infidelity. Implicit monogamy agreements may not be accurate nor
shared, even though they play a key role in understanding the boundaries in monogamy.
The effectiveness of explicit monogamy agreements and how they can be understood in the context of monogamy maintenance has yet to be explored.

**Derogation of attractive alternatives.** The derogation of attractive alternatives is a cognitive and perceptual bias that helps in the service of monogamy maintenance. Derogation has been described as a tendency to devalue alternative partners, which is most marked when the alternative poses a significant threat, when the alternative is attractive, and when the individual is faced with an actual opportunity to be involved with the alternative (Johnson & Rusbult, 1989). Heterosexual individuals in committed relationships consistently rate attractive opposite-sex targets as less appealing than do their single peers (Johnson & Rusbult, 1989; O’Sullivan & Vannier, 2013; Simpson, Gangestad, & Lerma, 1990), and the propensity to perceive alternatives as being less attractive is predictive of relationship maintenance (Rusbult, Martz, & Agnew, 1998). Longitudinal assessments of college students in committed romantic relationships found that those who remained in their relationships perceived alternatives as decreasingly attractive over time, as compared to individuals who terminated their relationships (Johnson & Rusbult, 1989). Derogation also occurs implicitly and influences attention and memory processes, with minimal awareness or control. Women in committed relationships display poorer memory recall of attractive male faces as compared to their single counterparts (Karremans, Dotsch, & Corneille, 2011). Furthermore, although single individuals paid greater amounts of attention to attractive opposite sex targets when primed with sexual words, this effect was not found in individuals in committed relationships (Maner, Gailliot, & Miller, 2009). Derogation appears to occur at both
EFFORTS TO MAINTAIN MONOGAMY

explicit and implicit levels, enabling individuals in committed relationships to deliberately devalue the attractiveness of potential alternative partners.

Although derogation processes appear to be effective against attractive others after very brief exposures, attractive alternatives may be individuals with whom one has consistent and long-lasting contact; attention cannot always be averted or devalued consistently from attractive alternatives. Indeed, extradyadic partners are most often a friend or a work colleague – someone with whom an individual has spent an extended period of time (Weaver, 2007). Intentional monogamy maintenance behaviors in the face of possibly enduring threats and temptations have not been adequately explored to our knowledge. The current study aims to address the gaps in the understanding of monogamy maintenance behaviors against potentially enduring relationship threats.

The Current Study

The primary goal of the current study was to identify and characterize the strategies that heterosexual adults use in attempts to maintain monogamy when faced with an attractive alternative. The current study is limited to the exploration of monogamy maintenance in male-female romantic relationships, as prior qualitative work has identified differing attitudes toward and practices of monogamy between heterosexual, homosexual, and bisexual individuals in romantic relationships (Hoff & Beougher, 2008; Hosking, 2013; Mark, Rosenkrantz, & Kerner, 2014). Given strong endorsement of monogamy as a standard for heterosexual relationships, we expected that the majority of our sample would report using a number of monogamy maintenance (MM) strategies, similar to the findings that emerge in research on other forms of relationship maintenance (Stafford & Canary, 1991). Monogamy maintenance may be
negatively associated with infidelity as individuals presumably engage in such behaviors to protect their relationships. Such strategies would represent a form of relationship maintenance that are used to increase relationship quality (Ogolsky & Bowers, 2013), and are negatively associated with infidelity in turn (Drigotas et al., 1999). Yet, monogamy maintenance may be more common among individuals sensitive to the appeal of attractive alternative partners, and hence the relationship threat that an attractive alternative may pose. These individuals then may ultimately be more vulnerable to infidelity. Thus, no directional hypotheses are made in this regard.

Given the exploratory and descriptive nature of the study, we are not currently proposing a mechanism by which monogamy maintenance strategies operate. The corresponding research questions were: What is the range of monogamy maintenance strategies reported by adults in male-female relationships? (RQ1); To what extent are these strategies reported? (RQ2), and What are the associations between monogamy maintenance strategies and relationship outcomes? (RQ3) The aim of the study is to identify and characterize strategies individuals use to maintain monogamy, with its ultimate aim to inform the gap that exists between intentions of monogamy and the wide prevalence of monogamy violations.

**Pilot Study: Item Generation and Refinement**

As the literature is currently missing a comprehensive examination of monogamy maintenance strategies, the primary purpose of the pilot study was to generate and validate behavioral items reflective of experiences of monogamy maintenance prior to an exploratory factor analysis.
Method

Participants who were in a male-female romantic relationship completed an anonymous online survey, including the preliminary Monogamy Maintenance Inventory about an episode in their life when they experienced strong extradyadic attraction while they were involved in a romantic relationship, which may or may not have taken place during their current relationship.

Participants and procedure. One hundred and forty-five individuals completed the first survey page comprising eligibility items. Thirty-eight participants were excluded from completing the remainder of the survey because they did not meet the eligibility criteria. Participants who attempted to complete the survey after failing the eligibility criteria and participants who attempted to complete the survey multiple times (as determined by examination of participants’ IP addresses and response patterns) were removed from the final data set (n = 11). One participant was removed for failing to correctly answer the screening item embedded in the survey, indicating that they were responding unconscientiously. Participants were 95 adults (47 men and 48 women) with a mean age of 35.7 years (SD = 11.0; range = 18-70 years). They were recruited from Amazon®’s Mechanical Turk (MTurk)®, a crowdsourcing website that allows individuals to complete online jobs of their choosing for monetary compensation (Mason & Suri, 2012). Samples recruited via MTurk® are generally more heterogeneous than community, student, or traditionally-recruited online samples (Casler, Bickel, & Hackett, 2013). Individuals who met the eligibility criteria (i.e., resident of the United States, above the age of majority, heterosexual, in a male-female romantic relationship) completed an online anonymous survey assessing monogamy maintenance use. Of the 94
participants who completed this item, the majority identified as Caucasian (73.4%), Black (9.6%), Asian/Pacific Islander (5.3%), and other (11.6%). Most participants (60.0%) indicated that they were in a married or cohabiting relationship, whereas 40.0% reported that they were currently in a committed dating relationship. The mean length of the current relationship was 91.8 months ($SD = 106.7$; range = 3-648 months). All participants were informed that they would be completing an anonymous online survey about romantic relationships and that the study would take approximately 30 minutes to complete. After providing consent, all participants completed the online survey. Participants received monetary compensation ($1.50 USD) for participating. All procedures were approved in full by our institution’s research ethics board.

**Measures**

Participants completed a battery of questionnaires in an online survey, including the preliminary version of the MMI, a demographic questionnaire, and questions about relationship outcomes.

**Monogamy maintenance (MM) strategies.** Monogamy maintenance strategies and the context of their use were examined in a measure designed for the current study. The preliminary items for the Monogamy Maintenance Inventory (MMI) were drawn in part from prior research on explicit monogamy agreements (Boekhout et al., 2003), derogation effect (Maner et al., 2009; Plant, Kunstman, & Maner, 2010), and related measures on mate retention and relationship maintenance (Buss et al., 2008; Stafford, Dainton, & Haas, 2000), and in consultation with a team of sexuality and relationship researchers. Three items reflecting explicit monogamy agreements informed by prior research were included, e.g., *Discussed with my partner whether we considered having*
friends of the opposite sex to be acceptable. A large number of items from the Mate Retention Inventory-Short Form were included with minor changes in wording to be consistent with the aim of the inventory (e.g., *Gave my partner jewelry to signify that she was taken* was altered to *Wore my partner’s jewelry or clothing to signify that I was taken*; Buss et al., 2008). The Relationship Maintenance subscales provided inspiration for types of strategies, such as those calling upon openness (e.g., *Showed my partner my communications with this other person, such as on my cell phone*), and social networks (e.g., *Asked for advice from my friends*), which were not already included in the inventory (Stafford et al., 2000).

The MMI is a checklist of behaviors and strategies that assesses responses in an episode of extradyadic attraction. Instructions were as follows: “People in relationships often find themselves being drawn toward or attracted to someone who is not their partner. Please recall the episode in your life where you have felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who was not your partner at the time.” They were then asked to indicate which strategies (if any) they had used in response. Seventy-six initial strategies, including “avoided spending time with this other person” and “deleted their phone number,” were included in the MMI for piloting to ensure comprehensiveness of items sampled. Pilot participants responded to the initial inventory items by checking off the strategies that they had used, and were given the option to provide open-ended responses to generate additional items.

**Results**

Descriptive statistics were calculated to characterize the sample, and MMI items were examined for their rates of use.
**Descriptive statistics.** Three cases were identified as multivariate outliers and excluded from analyses. Most of the 92 remaining participants (95.7%) reported using at least one strategy on the preliminary MMI when they experienced an episode of extradyadic attraction, with a small minority of participants reporting having used no strategies during an episode (4.3%). They used an average of 15 unique MM strategies during their episode of attraction ($Md = 13$; range = 0-40). The most commonly endorsed MM strategies included “told my partner how important they are to me” (58.7%), “engaged in sexual acts with my partner” (47.8%), “distanced myself from this other person” (43.5%), and “reminded myself the importance of being faithful” (43.5%). In the current sample, 8.7% of participants reported having engaged in romantic infidelity in their current relationship, 6.5% reported having engaged in sexual infidelity, and 3.3% reported having engaged in both romantic and sexual infidelity. Overall, 12% of participants reported having engaged in either romantic or sexual infidelity in their current relationship.

**MMI preparation.** Items were retained for the MMI in Study One if they were endorsed by at least one participant. One preliminary item that was not endorsed by any participant was deleted, and six additional items that were generated via open-ended response by more than one participant were selected for inclusion into the inventory, resulting in a final inventory of 81 strategies for Study One. The generated six items included the following: *Tried to spice up my relationship to make it fresh and exciting*, *Reminded myself of the positive parts in my current relationship*, *Told myself about the potential negative consequences of cheating on my partner*, *Avoided having close
EFFORTS TO MAINTAIN MONOGAMY

relationships with members of the opposite sex (outside of family), Avoided spending time with members of the opposite sex, and Avoided communicating with ex-partners.

Study One: MMI Item Refinement and Identification of Subtypes in Episodes of Extradyadic Attraction

A large number (n = 81) of monogamy maintenance strategies were endorsed by at least one pilot participant, suggesting great diversity in the types of strategies used by individuals experiencing extradyadic attraction. Given the multidimensional nature of the items that were drawn from the literature (i.e., mate retention and relationship maintenance), the MMI is likely to contain multiple types of categorically distinct MM strategies, reflected in the existence of multiple factors. The current study refined and characterized the MMI by reducing the dimensions of preliminary items derived from the literature, from expert feedback, and from the open-ended pilot responses via exploratory factor analysis (EFA). We hypothesized that the majority of participants would endorse the use of at least one MMI strategy when experiencing an episode of extradyadic attraction, similar to the pilot sample, and that participants would endorse the use of multiple MMI strategies in an episode of extradyadic attraction.

Methods

Participants who were in a male-female romantic relationship completed an anonymous online survey, including measures of current relationship infidelity, and the revised MMI about an episode of extradyadic attraction while in a relationship.

Participants and procedure. Participants were recruited from MTurk®, and the eligibility screening page of the survey was accessed by 494 individuals. Twenty-one individuals did not complete any items on the survey, including the eligibility screening
EFFORTS TO MAINTAIN MONOGAMY

items. Of those who completed any items, 82 failed to meet the eligibility criteria, 11 failed to answer correctly the screening item embedded in the survey, and one was a case of duplicate IP address. The eligible sample prior to data conditioning comprised 379 heterosexual U.S. adults (171 men and 198 women), ages 19-63 ($M = 32.82, SD = 8.33$). They identified as Caucasian (77.6%), Asian/Pacific Islander (7.5%), Black (6.1%), Hispanic (6.1%), and other (2.8%). The mean length of their current relationships was 81.6 months ($SD = 81.7$; range = 0-369 months). Most participants indicated that they were in a married or cohabiting relationship (56.6%) or in a committed monogamous dating relationship (41.5%). Seven participants (1.9% of sample) reported that they were in a non-monogamous relationship and were excluded from analyses.

All participants were informed that they would be completing an anonymous online survey about romantic relationships and that the study would take approximately 30 minutes to complete. Similar to the pilot study, participants who met eligibility criteria (U.S. residents, above the age of majority, heterosexual, in a male-female romantic relationship) and who provided consent to participate were provided with the link to the anonymous online survey. Participants received monetary compensation ($1.25 USD) for their participation through MTurk®.

Measures

Participants completed a battery of questionnaires in an online survey, including the revised MMI, a demographic measure, and questions about relationship and infidelity outcomes.

Demographic questionnaire. Participants completed a demographic measure modified for the current study that assessed a range of background information, including
EFFORTS TO MAINTAIN MONOGAMY

age, gender, sexual orientation, ethnicity, religion, educational level, relationship status, sexual experience, and current relationship duration.

Experiences with infidelity questionnaire. Participants were asked to indicate whether they experienced sexual and romantic infidelity within their current romantic relationships. The instructions to participants were as follows: “Despite having some type of agreement or understanding with their partner, many people develop some type of sexual or romantic involvement (ranging from a brief one-time encounter to a long-term relationship) with another person. Which is true for you and your partner?” Eight dichotomous items assessed whether participants had engaged in romantic or sexual infidelity in their current relationships, whether their partners had engaged in romantic or sexual infidelity in their current relationships, and whether participants believed their partners had engaged in romantic or sexual infidelity in their current relationships even if they are unsure (Thompson & O’Sullivan, 2016b).

Monogamy Maintenance Inventory (MMI). Our preliminary instrument assessing monogamy maintenance strategies and the context of their use contained 81 behavioral items derived and retained from the pilot work. Similar to the pilot study, participants were asked about an episode of strong extradyadic attraction in a current or past romantic relationship. They were asked to endorse whether they engaged in behavioral strategies in the episode where they felt most attracted to an extradyadic other by checking off the strategies they had used, if any. Participants were then asked to provide the context of the episode, including when it occurred, whether the attraction was ongoing, and whether the attraction was experienced by the participant, the extradyadic person, or both. Participants also were asked to report the outcome of the episode of
extradyadic attraction and relationship in a yes/no format—whether participants (1) flirted with the person that they felt drawn toward or attracted to who was not their partner at the time, (2) engaged in a sexual relationship with that person, (3) engaged in a romantic relationship with that person, and/or (4) terminated their relationship with their romantic partner at the time.

**Results**

Descriptive statistics were tabulated to characterize the study sample after removal of 10 cases of multivariate outliers (N = 362). MMI items were examined subsequently for suitability for exploratory factor analysis (EFA).

**Descriptive statistics.** Similar to the pilot sample, the vast majority of participants (94.8%) endorsed at least one strategy on the preliminary MMI during an episode of great extradyadic attraction, with a small minority (5.2%) reporting no use of any strategies during an episode of attraction. Participants used an average of 15.8 unique MM strategies during their episode of attraction on average ($Md = 15$, range = 0-57). The most commonly endorsed strategies in this sample included “reminded myself of the positive parts in my current relationship” (60.2%), “told myself about the potential negative consequences of cheating on my partner” (51.7%), “told my partner how important they are to me” (51.1%), and “engaged in sexual acts with my partner” (50.8%). In the current sample, 7.0% of participants reported having engaged in romantic infidelity in their current relationship, 9.8% reported having engaged in sexual infidelity in their current relationship, and 4.6% reported having engaged in both romantic and sexual infidelity in their current relationship.
**Data preparation.** Data were screened and conditioned using procedures outlined by Tabachnick and Fidell (2012). Data were missing completely at random and were replaced using estimation maximization (Little’s MCAR test $\chi^2 = 278.4$, df = 338, $p = .992$). The MMI was excluded from the missing data analyses because of the checklist response format. A total of 10 cases of multivariate outliers were deleted prior to analyses, resulting in a sample size of $n = 369$. A total of 362 participants were included in the analyses after exclusion of individuals in non-monogamous relationships. The performance of each of the remaining items on the inventory was evaluated. The initial item pool was intentionally large (81 items) to compensate for the limited variability available by dichotomous responses, and to attempt to fully sample the phenomenon at hand. A total of 17 monogamy maintenance items that showed minimal variability (i.e., $>90\%$ of participants endorsing a response for a given item) were removed prior to the EFA (DeVellis, 2012). The final pool prior to the EFA was 64 items.

**Preliminary estimation of the factor structure.** The inventory’s factor structure was derived to characterize the nature of monogamy maintenance endorsed by participants (RQ1). Principal axis factoring was used to account for the dichotomous nature of the data, as well as to account for the violation of the assumption of normality. The initial unrotated factor structure was used to estimate the number of factors, presence of outliers, and absence of multicollinearity (Tabachnick & Fidell, 2012). Bartlett’s test of sphericity ($\chi^2 = 7133.4$, df = 2016, $p < .001$) and the Kaiser-Meyer-Olkin measure (KMO = 0.84) indicated that the main sample significantly differed from an identity matrix and that an exploratory factor analysis was appropriate. The factorability of the items was examined via the diagonals of the anti-image correlation matrix, which
EFFORTS TO MAINTAIN MONOGAMY

indicated that most items exceeded the recommended cut-off value of .5 (Tabachnick & Fidell, 2012). To determine the number of factors to draw, a parallel analysis was conducted using the Monte Carlo PCA for Parallel Analysis software for the final EFA, in addition to considering the scree plot and Kaiser’s rule (eigenvalue greater than 1). A three-factor solution, which explained 25.7% of the original variance, was preferred because of the leveling off of eigenvalues on the scree plot after three factors, and the insufficient number of primary loadings and difficulty of interpreting the fourth and subsequent factors. There was little difference between the three-factor varimax and direct oblimin solutions, and both solutions were examined in subsequent analyses before deciding to use the direct oblimin rotation for the final solution, as recommended by Sakaluk and Short (2017).

A total of 39 items was eliminated sequentially after consideration of the following factors: (a) they failed to meet a minimum criterion of having a primary factor loading of .4 or above; (b) they displayed a cross-loading of .3 or above in the pattern matrix; and/or (c) inclusion of the item resulted in lessened internal consistency as indicated by Cronbach’s alpha. The final principal axis factoring EFA was conducted with the remaining 25 items, using direct oblimin rotation.

**Final factor structure and definition.** The range of monogamy maintenance strategies was identified via factor analysis. The pattern and structural matrices were evaluated in the characterization and naming of three oblique factors. The first of three factors that emerged in the final principal axis factoring analysis reflected avoidance behaviors in which individuals deliberately minimized time spent with or becoming familiar with individuals to whom they were attracted, which was labelled Proactive
Avoidance. The second factor reflected self- and partner-directed behaviors aimed at
enriching or deepening the primary relationship, which was labelled Relationship
Enhancement. The third factor included negative loadings onto seven behaviours which
reflected a relative lack of self-directed cognitive attempts to attenuate extradyadic
attraction and to redirect one’s attention to their primary partner, which was labelled Low
Self-Monitoring/Derogation. The Proactive Avoidance factor accounted for
approximately 21.2% of the variance, the Relationship Enhancement factor accounted for
9.6%, and the Low Self-Monitoring/Derogation factor accounted for 7.1%. Taken
together, the three factors explained 37.8% of the variance.

Of the 25 items retained, the Proactive Avoidance scale comprised 11 items, and
the Relationship Enhancement and Low Self-Monitoring/Derogation scales both
comprised seven items each. As the subscales differed in number of items, subscale
scores were derived by calculating subscale means. Subscale means were used to
examine correlations between subscales. Proactive Avoidance and Relationship
Enhancement scores were significantly positively correlated, \( r = .27, p < .001 \). Proactive
Avoidance and Low Self-Monitoring/Derogation were significantly positively correlated,
\( r = .45, p < .001 \), as were Relationship Enhancement and Low Self-
Monitoring/Derogation, \( r = .32, p < .001 \).

**Internal consistency.** The internal consistency of the MMI subscales was
examined using Kuder-Richardson-20 adjustment to the Cronbach’s coefficient alpha (\( \alpha \))
for the total inventory and each subscale. Alphas for the inventory and each subscale
were adequate to good: Proactive Avoidance = .76; Relationship Enhancement = .78;
Low Self-Monitoring/Derogation = .78; and the total inventory = .84. Further analysis of
EFFORTS TO MAINTAIN MONOGAMY

the inventory and each subscale revealed that deletion of one item from the Proactive Avoidance subscale (“avoided spending time with members of the opposite sex”) would improve the internal consistency if deleted, and the item was subsequently removed from the subscale. Final alphas for the three factors and the inventory overall can be found in Table 1.

Use of MMI. Descriptive statistics were generated after the EFA to assess the extent to which adults in male-female relationships engage in monogamy maintenance strategies (RQ2) (Table 1). A majority of the sample (92%) reported using at least one strategy from the MMI, with participants using an average of seven strategies during an episode of extradyadic attraction. Each factor was commonly used. Proactive Avoidance strategies were used by 74.0% of the sample; Relationship Enhancement was used by 76.8%, whereas Low Self-Monitoring/Derogation was evident in 69.3% of the sample. Composite scores were created based on the mean of the items that had their primary loadings on each factor. Higher scores indicated greater presence of the monogamy maintenance factor. Participants reported engaging in the greatest levels of Proactive Avoidance strategies, followed by Relationship Enhancement strategies, and Low Self-Monitoring/Derogation. Examination of the skewness, kurtosis, and histograms indicated that the use of monogamy maintenance was positively skewed (degree of skewness exceeded 2.0), with most participants using a small number of strategies.

Associations between monogamy maintenance and relationship outcomes. Preliminary tests examined the effectiveness of MM strategy use in helping to ensure that exclusivity is maintained in the primary relationship. Mann-Whitney U Tests were calculated to address RQ3 regarding the relationships between the uses of MMI factors.
EFFORTS TO MAINTAIN MONOGAMY

during an episode of attraction to an alternative partner and relationship outcomes for the relevant primary relationship. The Mann-Whitney U Test was chosen as the numbers of strategies used across MMI factors were not normally distributed. The first test examined the association of MMI factors with the presence of absence of extradyadic contact or breakup, termed no adverse outcomes and some adverse outcomes (Table 2). A Bonferroni adjustment was applied to the six between-group comparisons to account for increased potential for Type I error ($p < .0083$). A medium-sized difference was found in the endorsement of Low Self-Monitoring/Derogation strategies by those who experienced some adverse outcomes ($Md = 2, n = 237$) and those who did not ($Md = 1, n = 125$), $U = 9605.0, z = -5.62, p < .001, r = -.30$. No significant associations were found between the use of Proactive Avoidance or Relationship Enhancement strategies and the experience of adverse relationship outcomes.

The second tests examined the association of MMI factors with specific relationship outcomes: flirting with the attractive other, engaging in a sexual relationship with the attractive other, engaging in a romantic relationship with the attractive other, or terminating the relationship with the primary partner. A Bonferroni adjustment was applied to the 12 between-group comparisons ($p < .0042$). A medium-sized difference was found in the endorsement of Low Self-Monitoring/Derogation by individuals who flirted with attractive alternative partners ($Md = 2, n = 210$) and the number used by individuals who did not flirt ($Md = 1, n = 152$), $U = 9389.0, z = -6.83, p < .001, r = .36$. No significant associations were found between Low Self-Monitoring/Derogation and the remaining relationship outcomes (romantic infidelity, sexual infidelity, relationship
EFFORTS TO MAINTAIN MONOGAMY

termination), nor between the uses Proactive Avoidance or Relationship Enhancement strategies and the four relationship outcomes.

Direct logistic regression was performed to assess the associations between the three types of monogamy maintenance strategies on the likelihood that respondents would report that they had engaged in any type of extradyadic behaviour (flirtation, romantic infidelity, sexual infidelity), or terminated their relationship, as a response to their extradyadic attraction. The model contained the three MMI factors as independent variables. The full model containing all predictors was statistically significant, $\chi^2(3, N = 362) = 40.99, p < .001$, indicating that the model was able to distinguish between respondents who reported and did not report any extradyadic attraction outcomes. The model as a whole explained between 10.7% (Cox and Snell R square) and 14.8% (Nagelkerke R squared) of the variance in extradyadic attraction outcome, and correctly classified 67.1% of cases. According to the Wald criterion, only Relationship Enhancement, $\chi^2(1, N = 362) = 4.26, p < .05$, and Low Self-Monitoring/Derogation, $\chi^2(1, N = 362) = 29.44, p < .001$) made a unique, statistically significant contribution to the model. The strongest predictor of extradyadic attraction outcome was Low Self-Monitoring/Derogation, recording an odds ratio of 1.53. This indicated that respondents who did not emotionally or cognitively manage their extradyadic attraction were 1.5 times more likely to act upon their extradyadic attraction than those who did, controlling for all other factors in the model. The odds ratio of .89 for Relationship Enhancement was less than 1, indicating that for every additional Relationship Enhancement strategy reported, respondents were .89 times less likely to report acting upon their extradyadic attraction, controlling for other factors in the model.
EFFORTS TO MAINTAIN MONOGAMY

Discussion

The purposes of the pilot and Study One were threefold: to provide an initial empirical examination of the phenomenon of monogamy maintenance, to identify and characterize monogamy maintenance strategies among a community sample of adults, and to associate use and lack of use of monogamy maintenance with relationship outcomes.

Three internally consistent dimensions emerged from our work: Proactive Avoidance, Relationship Enhancement, and Low Self-Monitoring/Derogation. These subscales make up the 24-item Monogamy Maintenance Inventory. The MM strategies falling under the Proactive Avoidance dimension were behavioral strategies targeting the attractive other. These strategies were consistent with one’s efforts to avoid physical distance, face-to-face interactions, and conversational intimacies with a specific attractive other, or with members of the opposite sex more widely. The strategies falling under the Relationship Enhancement dimension were those targeting one’s primary partner. These behavioral strategies were consistent with efforts to enrich one’s primary relationship sexually, materially, and emotionally. The strategies falling under the Low Self-Monitoring/Derogation dimension, in contrast to the other dimensions, represented the relative lack of emotional and cognitive strategies targeting oneself in the face of extradyadic attraction. The absence of these strategies reflected a dearth of efforts to castigate the self for experiencing extradyadic attraction, to derogate the attractive alternative, and of not invoking positive and negative emotions and thoughts as a means of warning the self against violating monogamy.
The vast majority of the sample reported using monogamy maintenance strategies during a past or current episode of relationship threat by an attractive alternative. Relationship Enhancement (76.8%) and Proactive Avoidance (74.0%) were both used by approximately three in four participants. Consistent with prior research suggesting that individuals experience pluralistic ignorance regarding infidelity, that is, not seeing oneself as being as susceptible to commit infidelity as the average person (Boon, Watkins, & Sciban, 2014), Low Self-Monitoring/Derogation (69.3%) was also endorsed by a clear majority of respondents. These findings indicate that individuals in committed relationships commonly use behavioural strategies to distance oneself from attractive others and to enhance their primary relationships; yet, they typically underutilize self-directed emotional and cognitive strategies when experiencing extradyadic attraction.

One significant association was found in the current sample between monogamy maintenance and the four relationship outcomes of extradyadic flirtation, sexual infidelity, romantic infidelity, and primary relationship termination. Low Self-Monitoring/Derogation was moderately positively associated with the presence of extradyadic interactions in the form of flirtation with attractive alternatives, whereas the other two subscales did not show significant associations with relationship or infidelity outcomes in this sample. Low Self-Monitoring/Derogation also predicted the presence of respondents acting upon their extradyadic attraction, with an odds ratio of 1.54, whereas the use of Relationship Enhancement was negatively predictive of respondents acting upon their attraction (OR = .89). The association between the lack of management of one’s extradyadic attraction and extradyadic flirtation may indicate a susceptibility and willingness to develop further intimacies with an attractive other. It also may indicate the
lack of a relationship protective response secondary to beliefs that one is not susceptible to infidelity (Boon et al., 2014). Although not statistically significant, Low Self-Monitoring/Derogation was evinced to a marginally greater degree by individuals who eventually engaged in romantic or sexual infidelity or terminated their primary relationships. In contrast, the avoidance of attractive alternative partners and the enhancement of one’s primary relationship were not associated with any relationship outcomes, suggesting that their use is not an effective strategy for maintaining exclusivity to one’s partner, but still represent deliberate efforts to forestall what ultimately might be experienced as overwhelming or uncontrollable.

Study Two: Confirmation of MMI Subtypes in Ongoing Intimate Relationships

The purpose of Study Two was to verify the three-factor structure of the Monogamy Maintenance Inventory (MMI) established in Study One via confirmatory factor analysis (CFA), to identify rates of MMI use in participants’ current relationships, and to examine further the associations between monogamy maintenance factors with relationship outcomes in a new sample (RQ1, RQ2, RQ3).

Method

Participants who were in a male-female romantic relationship completed an anonymous online survey, including measures of current relationship infidelity, and the revised MMI about an episode of extradyadic attraction that took place during their current relationships.

Participants and procedure. Participants were 350 adults recruited using similar procedures as in the Pilot and Study One. Thirteen participants failed to complete any questions on the online survey, and 45 participants were identified as unconscientious
EFFORTS TO MAINTAIN MONOGAMY

responders (failed to answer screening items embedded in the questionnaire correctly), duplicate responders, or ineligible for the study and were subsequently removed from the data file. In addition, five participants indicated they were in non-monogamous relationships and were excluded from further analyses. The final sample included 287 heterosexual U.S. adults (143 women, 144 men), ages 19 to 68 ($M = 34.5, SD = 9.6$), recruited to participate via MTurk®. All were in a committed, monogamous, male-female romantic relationship. Participants identified primarily as Caucasian (77%), Asian/Pacific Islander (8.2%), and Black (6.8%). Half of participants (54.4%) indicated that they were in a married or cohabiting relationship, another 43.9% indicated that they were in a committed dating relationship, and 1.7% reported that they were currently in a dating relationship. The mean relationship length was 87 months ($SD = 94$, range = 0 to 481).

Participants were recruited via advertisements posted on MTurk®. Participants who met the eligibility criteria (age of majority, U.S. or Canadian resident, heterosexual, currently in a romantic male-female relationship, not a participant of the pilot or Study One) were directed to the informed consent form, then the online survey and debriefing form. Participants were asked to indicate whether they were interested in being contacted regarding participation in a follow-up survey in two months’ time to establish test-retest reliability. Participants were compensated via their MTurk® accounts for their participation ($2.00 USD for the initial study, and $1 USD for completing the follow-up).

Measures

The relevant measures for Study Two included similar demographics and infidelity experience questionnaires as Study One, as well as the refined MMI.
Participants completed the MMI with response to a current relationship episode of extradyadic attraction.

**Demographic questionnaire.** Similar to Study One, participants completed a demographic measure that assessed age, gender, sexual orientation, ethnicity, primary language, place of residence, relationship status, sexual experience, and current relationship duration.

**Experiences with infidelity questionnaire.** Similar to Study One, participants were asked to endorse experiences of sexual and romantic infidelity within their current romantic relationships. Eight dichotomous (yes/no) items assessed whether participants had engaged in romantic or sexual infidelity in their current relationships, whether their partners had engaged in romantic or sexual infidelity in their current relationships, and whether participants suspected that their partners had engaged in romantic or sexual infidelity in their current relationships (Thompson & O’Sullivan, 2016b).

**Revised Monogamy Maintenance Inventory (MMI).** The revised list of monogamy maintenance strategies includes 24 items retained from Study One analyses. Participants were asked to endorse the monogamy maintenance strategies in which they engaged (if any) during an episode where they experienced the strongest attraction toward another member of the opposite sex during their current romantic relationship. They were provided with the following prompt: “We are interested in the behaviors that people perform to try to ensure that they maintain monogamy in their relationship with their current romantic partner. For each act, please indicate whether you have engaged in this behavior when you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner.” Participants
were instructed to indicate which MM strategies they had used (if any). Sample items include “turned down a plan that this other person tried to make with me” and “felt guilty that I flirted too much with this other person.” In addition, participants provided the context of the attraction episode, including when it occurred, and whether the attraction was experienced by the participant, the extradyadic person, both, unsure, or if no attraction episode occurred.

Results

Descriptive statistics identified the rates of MMI use. Confirmatory factor analysis then was performed to verify the factor structure of the MMI, and Mann-Whitney tests were conducted to explore the associations between MMI factors and current relationship outcomes.

Descriptive statistics. Consistent with the pilot and Study One findings, the majority (87.5%) endorsed at least one MM strategy during an episode of great extradyadic attraction during their current relationship, whereas 12.5% reported the absence of MM strategy use. Participants used 5.9 unique MM strategies during their episode of attraction on average ($Md = 5$; range = 0-20). The most commonly endorsed MM strategies in this sample included “distanced myself from this other person” (43.2%), “avoided being alone with this other person” (36.9%), and “reminded myself the importance of being faithful” (35.5%; Table 3). In the current sample, 8.4% of participants reported having engaged in romantic infidelity in their current relationships, 8% reported having engaged in sexual infidelity, and 3.5% reported having engaged in both romantic and sexual infidelity, comparable to the Pilot and Study One.
**Data preparation.** Data were screened and conditioned using procedures outlined by Tabachnick and Fidell (2012). The MMI was excluded from the missing data analyses because of the checklist response format. All other data were missing completely at random and were replaced using estimation maximization (Little’s MCAR test $\chi^2 = 1469.4$, df = 1458, $p = .412$). No variable exceeded 5% in missing data. One case of a multivariate outlier was identified and retained after further examination revealed that its inclusion did not affect the analyses. The final sample size was $N = 287$. No respondents omitted responding to the 24 items on the MMI, and all 287 participants were included in the analyses.

**Confirmatory factor analysis.** After data conditioning was complete, a confirmatory factor analysis (CFA) using R® software was used to replicate and confirm the factor structure of the Monogamy Maintenance Inventory established in Study One (see Figure 1). The Satorra-Bentler adjustment was applied to account for non-normally distributed data in a sample of this size. The range of monogamy maintenance strategies reported by individuals in intimate relationships (RQ1) was addressed by examining the adequacy of model fit of the three factors generated via EFA from Study One. Following recommendations by Tabachnick and Fidell (2012), the model fit was assessed via root mean square error of approximation (RMSEA) and standardized root mean square residual, and was found to be adequate, $\chi^2 = 369.81$, df = 249; SRMR = .06; RMSEA = .05. Examination of the modification indices and expected parameter change values did not yield significant, conceptually sound changes to the model, so the original model was retained. Standardized factor loadings by individual items ranged from .29 [“avoided having close relationships with members of the opposite sex (outside of family)]” to
Proactive Avoidance, to .72 (“reminded myself the importance of being faithful”) to Low Self-Monitoring/Derogation. Consistent with Study One’s findings, the final model indicated strong relationships between Low Self-Monitoring/Derogation and Proactive Avoidance ($r = .51, p < .001$) and between Low Self-Monitoring/Derogation and Relationship Enhancement ($r = .44, p < .001$). However, unlike Study 1, Proactive Avoidance and Relationship Enhancement were not significantly correlated ($r = .14, p = .07$).

**Internal consistency.** The internal consistency of items within the total MMI and its subscales were calculated using the Kuder-Richardson-20 adjustment to the Cronbach’s coefficient alpha ($\alpha$). Alpha for the whole MMI was good ($\alpha = .82$) and alphas for the subscales were acceptable (Proactive Avoidance = .77, Relationship Enhancement = .75, Low Self-Monitoring/Derogation = .76).

**Test-retest reliability.** The test-retest reliability of items was calculated using Pearson’s bivariate correlations. The scores for the MMI and each subscale from initial data collection and at two-months follow-up among 131 participants (45.6%) were correlated. Although a large positive correlation was found between reports of MMI use at initial and at two months follow-up, $r = .44, p < .001$, indicating some consistency between MM strategies used across two months, respondents also are endorsing using different strategies during this time than what they had previously attempted. A medium positive correlation was found between reported use of Proactive Avoidance at initial and two months follow-up, $r = .35, p < .001$, and a large positive correlation was found between Low Self-Monitoring/Derogation at initial and two months follow-up, $r = .48, p$
EFFORTS TO MAINTAIN MONOGAMY

< .001. Reported use of Relationship Enhancement at the two time points were not significantly correlated, $r = .16, p = .07$.

**Use of MMI.** Descriptive statistics were generated after the CFA to address RQ2 regarding the extent of MMI use within participants’ current relationships (see Table 3). A majority of the sample (87.5%) endorsed at least one strategy from the MMI, with participants endorsing on average 5.95 strategies during an episode of extradyadic attraction ($Md = 5$, range = 0-20). All subscales were commonly reported, with 75.6% endorsing Proactive Avoidance, 55.4% reporting Relationship Enhancement, and 64.5% reporting Low Self-Monitoring/Derogation. Participants reported using the greatest number of Proactive Avoidance strategies ($M = 2.82$), followed by Low Self-Monitoring/Derogation ($M = 1.80$) and Relationship Enhancement ($M = 1.33$). Most participants used a small number of strategies (degree of skewness > 2.0).

A chi-square goodness-of-fit test comparing the percentage of participants endorsing use of Relationship Enhancement indicated that fewer participants used this type of strategy in Study Two (55.4%) as compared to Study One (76.8%), $\chi^2 (1, n = 287) = 167.02, p < .001$. No significant differences were found between the two samples in the uses of Proactive Avoidance, $\chi^2 (1, n = 287) = .39, p = .53$, or Low Self-Monitoring/Derogation, $\chi^2 (1, n = 287) = 3.16, p = .08$.

**Associations between monogamy maintenance and relationship outcomes.** Mann-Whitney U Tests were calculated to address RQ3 regarding the relationships between the three types of MM strategies and three relationship outcomes: flirting with the attractive other, engaging in a sexual relationship with the extradyadic partner, or engaging in a romantic relationship with the extradyadic partner (Table 4). Relationship
termination was not included as an outcome in the current study as participants were asked to rate on their current romantic relationships. A Bonferroni adjustment was applied to the nine between-group comparisons \( (p = .006) \). Again, a medium-sized difference was found between Low Self-Monitoring/Derogation strategies used by individuals who flirted with attractive extradyadic partners \( (Md = 2, n = 160) \) and by individuals who did not flirt \( (Md = 0, n = 120) \), \( U = 5763, z = -5.89, p < .001, r = .35 \). Individuals who flirted with extradyadic partners also used more Proactive Avoidance strategies \( (Md = 3, U = 7622.0, z = -2.99, p = .003, r = .18) \) and Relationship Enhancement strategies \( (Md = 1, U = 7795.5, z = -2.85, p = .004, r = .17) \) as compared to individuals who did not flirt (Proactive Avoidance: \( Md = 2 \); Relationship Enhancement: \( Md = 0 \)). However, no significant associations were found between sexual and romantic infidelity outcomes and the use of any MMI subscales.

Direct logistic regression was performed to explore the associations between the three types of monogamy maintenance strategies and the likelihood that respondents would report that they had engaged in any type of extradyadic behaviour (flirtation, romantic infidelity, sexual infidelity) as a response to their extradyadic attraction in their ongoing relationships. Seven cases with missing responses regarding infidelity outcomes were excluded casewise \( (N = 280) \). The model contained the three MMI factors as independent variables. The model significantly distinguished between respondents who did and did not report any extradyadic attraction outcome, \( \chi^2 (3, N = 280) = 36.56, p < .001 \). The model explained between 12.2\% (Cox and Snell R square) and 16.5\% (Nagelkerke R squared) of the variance in extradyadic attraction outcome, and correctly classified 68.2\% of cases. Only Low Self-Monitoring/Derogation, \( \chi^2 (1, N = 280) = 22.02 \),
EFFORTS TO MAINTAIN MONOGAMY

$p < .001$), made a unique, statistically significant contribution to the model (OR = 1.54). Consistent with findings from Study One, respondents who did not emotionally or cognitively manage their extradyadic attraction were 1.5 times more likely to act upon their extradyadic attraction than those who did, controlling for all other factors in the model.

Discussion

The main objectives of Study Two were to confirm the three-factor structure of the MMI in an ongoing intimate relationship, to identify the rates of MM strategy use in participants’ current relationships, and to replicate the associations between MMI factors with outcomes in participants’ current relationships (extradyadic flirting, romantic infidelity, sexual infidelity).

The three-factor structure of the 24-item MMI as identified by Study One’s EFA was confirmed via CFA in Study Two. The three-factor structure was supported even while the time frame of the MMI was narrowed from an episode of extradyadic attraction in any past or current relationship to an episode within the current relationship, providing support for the robustness of the model. The current three-factor MMI accounted for 37.8% of the sample variance, indicating that other behavioral or cognitive factors to monogamy maintenance remain unaccounted.

Consistent with both pilot and Study One findings, MMI use was endorsed by the majority of the sample. Again, endorsement of MMI was high in this sample as compared to the previous two studies despite a stricter time frame (current relationship extradyadic attraction compared to a past or present episode of extradyadic attraction). Proactive Avoidance (75.6%) and Relationship Enhancement (55.4%) strategies were used the
majority of respondents. Again, a clear majority of participants endorsed the absence of self-directed emotional and cognitive strategies when facing extradyadic attraction (64.5%), similar to Study One. Participants reported using significantly less Relationship Enhancement strategies in Study Two as compared to Study One. It may be that participants do not readily associate the ways in which they can enhance and nurture their ongoing relationships as a means to avoid infidelity, but perhaps do so in hindsight. In contrast, individuals may find it easier to identify avoidance behaviors as attempts to protect their ongoing relationships. This propensity is reflected in terms of the most commonly endorsed specific strategies in the current sample, which represent Proactive Avoidance (“avoided being alone with this other person” and “distanced myself from this other person”).

In the current sample, the lack of emotional and cognitive management of one’s extradyadic attraction was the most predictive factor in flirting with an attractive other. Low Self-Monitoring/Derogation was once again moderately positively associated with extradyadic flirtation, as were Proactive Avoidance and Relationship Enhancement, although to a lesser degree. Overall, respondents who reported Low Self-Monitoring/Derogation were 1.5 times more likely to act upon their extradyadic attractions than were those who did not. The positive association found between uses of MMI factors and extradyadic flirtation suggests that MMI use reflects increased awareness of relationship threat that an extradyadic attraction poses. This study’s stricter and more recent time constraints may have resulted in more accurate recall of subtle avoidance and relationship enhancement behaviors in which individuals engaged to
maintain monogamy. The number of strategies used from each MMI factor was again not significantly associated with romantic or sexual infidelity in this sample.

General Discussion

The main purpose of this series of studies was to provide an initial comprehensive investigation into how individuals manage their attraction to others when in a committed, monogamy relationship. Past research has examined cognitive and perceptual biases which serve to derogate attractive others when one is in a committed relationship, relationship maintenance strategies directed at one’s partner when facing potential mate poaching attempts, and relationship maintenance strategies to enhance a relationship but not directed specifically at maintaining monogamy in the face of an extradyadic attraction. Monogamy maintenance strategies identified in the current line of research outlined deliberate attempts and lack of attempts by individuals to maintain monogamy in their relationships against the deleterious effects of infidelity, which is viewed as a serious violation of trust within monogamous relationships and is a common precursor to relationship breakup (Amato & Previti, 2003). The current study attempted to identify the role of cognitive, emotional, and behavioral strategies to help connect one’s monogamy intentions to monogamy outcomes as a means of identifying points of intervention. Research addressing how individuals respond to common relationship threats posed by attractive others ultimately may help individuals develop insight and agency in their behaviors. Better understanding of monogamy maintenance may contribute significantly to personal, relational, and clinical interventions aimed at providing strategies to offset risk of infidelity.
Characteristics of Monogamy Maintenance Types

We now know that adults in monogamous relationships use a wide range of behaviors to help offset temptations to engage in infidelity. Eighty-one distinct strategies were endorsed by participants when experiencing extradyadic attraction. The final 24 strategies distilled from the original data pool were consistently conceptualized in three stable factors across two samples. Given the exploratory nature of the current study, it is our hope that the current MMI can provide a strong starting point from which further research can address individuals’ attempts and lack of attempts to protect their monogamous relationships.

Surprisingly, a number of initial inventory items addressing explicit monogamy agreements and the derogation of attractive others did not end up loading strongly onto MMI factors. Discussions of the bounds of one’s relationship can be fraught with conflicts and disagreement (Boekhout et al., 2003), and individuals may not consider establishing explicit monogamy agreements to be worth the potentially negative outcomes. Many individuals also assume monogamy is implied when entering into an intimate relationship, and deem the entrance into a serious relationship itself (i.e., “going steady”) as establishing a monogamy agreement. The derogation of attractive alternatives was included in the preliminary MMI both in the form of outward behaviors that may be perceived as rude or socially disengaging (e.g., *Intentionally ignored the looks from this other person when they were looking at me; Treated this other person rudely*), and in the form of self-directed talk (e.g., *Told myself that this other person was bad for me; Looked for unflattering things in this other person*). These strategies were intentional extensions of previously identified automatic responses to attractive others in experimental contexts;
EFFORTS TO MAINTAIN MONOGAMY

namely, inattention and hostility (Maner et al., 2009; Plant et al., 2010). The outward strategies directed toward the attractive other were infrequently endorsed, indicating that although individuals may engage in stronger forms of derogation with fleeting relationship threats, they typically derogate attractive others in the form of self-directed talk within the social contexts of their lives.

Three studies confirmed that monogamy maintenance is multidimensional and constitutes Proactive Avoidance, Relationship Enhancement, and Low Self-Monitoring/Derogation. The factors and items of the MMI were compared with the scales from which adapted items were drawn, in addition to items generated via expert consultation and pilot testing. Proactive Avoidance and Relationship Enhancement broadly reflect the types of behaviours identified within mate retention, in that Proactive Avoidance is targeted toward the attractive other, whereas Relationship Enhancement is targeted toward one’s primary partner (Buss, 1988; Buss & Shackelford, 1997a; Buss et al., 2008). The seven items falling under Relationship Enhancement were the most similar with those previously identified in the literature. A number of MMI strategies resembled resource display (e.g., “bought my partner a gift”), sexual inducements (e.g., “engaged in sexual acts with my partner”), and appearance enhancement strategies (e.g., “made myself ‘extra attractive’ for my partner”) identified within mate retention (Buss et al., 2008), suggesting that how individuals work to protect their partners from mate poaching is similar to how individuals protect themselves from attractive alternative partners. Low Self-Monitoring/Derogation includes one strategy from the routine and strategic relational maintenance scale (“Told my partner how important they are to me;” Stafford et al., 2000), suggesting that the absence of certain types of relational
EFFORTS TO MAINTAIN MONOGAMY

maintenance may be detrimental to monogamy maintenance. The constellation of
strategies captured under Relationship Enhancement include strategic, partner- and
relationship-directed efforts to protect oneself from committing infidelity, by making the
current primary relationship more attractive to oneself and one’s partner. This
constellation of strategies’ primary focus on resources, sex, and appearance suggests that
monogamy maintenance strategies may involve moderating one’s own mate value.
Further research that addresses sex differences in the use of specific Relationship
Enhancement strategies will clarify whether concerns regarding one’s relative mate value
are relevant in monogamy maintenance.

Two factors (Proactive Avoidance and Low Self-Monitoring/Derogation) were
specific to infidelity threat and contained primarily novel items that were not adapted
from past literature. Proactive Avoidance strategies facilitate maintaining physical and
emotional distance between the individual and a specific attractive extradyadic partner
(e.g., “avoided spending time with this other person”) and to the opposite sex more broadly. The aim of Proactive Avoidance strategies appears to be to avoid developing
greater intimacy and attraction to the members of the opposite sex by eliminating or
restricting opportunities to interact. Given that many attractive extradyadic partners may
exist within an individual’s daily social contexts, such as at work, social, or leisure
activities, avoidance is somewhat limited by social constraints. For example, complete
avoidance strategies, such as “left a gathering where this person was present” and
“avoided working with this person at work or at school,” may not be feasible to
individuals who found themselves in many overlapping social circles with the attractive
other, although complete avoidance of an attractive individual is likely to be a more successful tactic in limiting one’s attraction.

Low Self-Monitoring/Derogation differs from the other two identified factors in its representation of the relative lack of a constellation of self-directed behaviors with the aim of coaxing one’s attention away from an attractive other and toward one’s primary partner. Of the three types, Low Self-Monitoring/Derogation appear to be the most reflective of an unwillingness to entertain the possibility of being susceptible to engaging in infidelity, a tendency to minimize the importance of monogamy, and perhaps a willingness to approach attractive others. The factor represented a relative lack of emotional response for experiencing infidelity threat (e.g., “felt guilty that I flirted too much with this other person”), a relative lack of attempts at manipulating one’s emotions and levels of commitment (e.g., “reminded myself the importance of being faithful”), and a lack of attempts to derogate the attractive other (e.g., looked for unflattering things in this other person”). Individuals who demonstrate Low Self-Monitoring/Derogation may place greater value on social monogamy as compared to other types of monogamy, reflecting a desire to portray an image of monogamy to others regardless of whether exclusivity is actually valued or practiced, while not placing as much value on physical, desirous, or emotional monogamy (Anderson, 2010).

**Extent of Monogamy Maintenance Use**

Monogamy maintenance strategy use is remarkably common. Nine in ten participants across three samples reported using strategies to maintain monogamy to their primary partners. Monogamy maintenance efforts are pervasive, even as dating and married individuals overwhelmingly do not expect to experience infidelity in their
efforts to maintain monogamy (Boon et al., 2014; Buss & Shackelford, 1997b; Watkins & Boon, 2016).

The rates of romantic and sexual infidelity endorsed by the three samples (approximately 8%) are comparable to rates previously reported in the literature (Mark et al., 2011).

Participants in our samples endorsed numerous strategies in response to an episode of extradyadic attraction. The use of multiple monogamy maintenance strategies suggests a number of potential interpretations worthy of further examination: Do individuals use a broad repertoire of behaviors initially in the face of infidelity threat, do they use strategies on an as-needed basis, increasing dosage as needed, or do they use strategies sequentially, rejecting previous attempts when unsuccessful? Our findings indicate that respondents endorsed many similar strategies across a two-month period, and also used different strategies at follow-up, suggesting that individuals likely use and change strategies sequentially, although additional longitudinal research is needed to confirm these initial findings. When comparing between samples, participants tended to recall using more strategies when prompted to think about an episode of extradyadic attraction that may have taken place in the past as compared to a current relationship episode. They may have framed more of their past behaviors in terms of servicing monogamy maintenance in hindsight. In contrast, participants recalled using more Proactive Avoidance strategies when considering a recent or current episode of extradyadic attraction in their current relationship. Individuals may convince themselves that they are trying to avoid the target of their extradyadic attraction, whether such efforts are ultimately successful. The threat associated with extradyadic attraction is likely experienced more acutely when not safely in the past. Future research using diary or
similar methods will help clarify how individuals perceive their behaviors at the moment of responding to potential infidelity threat, as opposed to relying on later recall.

**Associations between Monogamy Maintenance and Infidelity Outcomes**

Our findings indicate that individuals may adjust monogamy maintenance behaviors to the level of relationship threat faced, similar to more implicit derogation of attractive alternatives (Lydon, Meana, Sepinwall, Richards, & Mayman, 1999; Miller & Maner, 2010). Sexual and romantic infidelity and relationship breakup were not significantly associated with monogamy maintenance strategy use across two samples, suggesting that the powerful draw of an attractive other may overwhelm even strong motivations for maintaining monogamy. However, without establishing temporal order, it is unclear whether the lack of association reflects these strategies being ineffective, or perhaps strategies being adopted by individuals who had previously engaged in infidelity as a means of preventing future occurrences. By contrast, extradyadic flirtation was linked to Low Self-Monitoring/Derogation, and somewhat less to Proactive Avoidance and Relationship Enhancement. Flirtation is a more common and less destructive extradyadic behavior than sexual and romantic infidelity. Individuals may not view flirtation as harmful, and may be able to recognize it as an indicator of their own extradyadic interest and relationship risk and respond by subsequently adopting avoidance or relationship enhancing strategies. Future research should examine the temporal order of associations between monogamy maintenance, infidelity outcomes, and relationship quality variables such as satisfaction and commitment to see how and whether monogamy maintenance plays a mediating role in the previously established associations between relationship quality and infidelity.
EFFORTS TO MAINTAIN MONOGAMY

Are more varied attempts to maintain monogamy associated with infidelity? It is important to recall that the number of strategies used likely includes both successful and unsuccessful efforts. The current findings suggest that individuals use strategies that they believe to be most effective in maintaining monogamy and try additional less effective strategies when their initial efforts do not succeed. However, further longitudinal explorations of MM use and its impact on infidelity outcomes are needed.

Limitations and Future Directions

A number of limitations must be noted with regard to the current line of research. Our samples were necessarily limited given the exploratory nature of the line of research (heterosexual, predominantly Caucasian, U.S. residents who were active users of online technology). Future research would benefit from specific explorations of monogamy maintenance in sexual minorities. Differences exist in attitudes toward and expectations for monogamy between heterosexual, homosexual, and bisexual individuals in romantic relationships (Hoff & Beougher, 2008; Hosking, 2013; Mark et al., 2014), and monogamy maintenance cannot be assumed to be valued or enacted similarly across these groups.

Our examinations are, similar to all survey research, limited by the potential for biased or inaccurate recall. Indeed, we found significant differences in recall of monogamy maintenance in a past relationship as compared to current relationships. Furthermore, the strong social norm for monogamy may have influenced participants to respond in a positive or self-enhancing manner. However, the rates of infidelity in our samples were consistent with those from prior research, supporting the validity of our findings.
The current series of studies developed and began the psychometric evaluation of the Monogamy Maintenance Inventory (MMI). Across two samples, the MMI demonstrated good internal consistency, and the dimensions identified were robust across two time frames (past episode of attraction, current relationship episode). However, the MMI would benefit from further evaluations in future studies, including its predictive validity with established scales of relationship qualities (such as the Investment Model; Rusbult et al., 1998) and divergent validity with related scales (such as the Mate Retention Inventory-Short Form; Buss et al., 2008).

The MMI was developed as a checklist measure where participants endorsed the behaviors they had used rather than the frequency of use, which presents additional demand characteristics. The dichotomous response format was chosen to limit fatigue in online survey responding, maximizing the likelihood of conscientious and valid responding (DeVellis, 2012). A large number of initial inventory items \((n = 81)\) compensated for the decreased variability associated with dichotomous items in the exploratory and confirmatory factor analyses, and a consistent and clear factor structure emerged from both analyses. The natural extension of the inventory would be to use its items to develop a measure that would allow for more in-depth assessment of the extent of monogamy maintenance behavior use. Adaptations to the current inventory could be accomplished by asking respondents to endorse each item on a Likert-type scale (e.g., ranging from *never to all the time*), or on a continuous scale (e.g., by asking the number of times a behavior is used during a time period). Examinations of the extent of behavior use allows for more detailed understanding of the contexts of behavior use and the relative effectiveness of different types of behaviors.
EFFORTS TO MAINTAIN MONOGAMY

A large number of initially identified strategies were not included in our exploration of monogamy maintenance. The final inventory presents an efficient, economical, and reliable measure for research. Yet, the final inventory captures only approximately one-third of the variance of monogamy maintenance. Qualitative research using interviews may provide greater understanding of the thought processes and emotional reactions that individuals experience during an episode of extradyadic attraction, such as cognitive dissonance or regret.

Conclusions and Implications

The current line of research has implications for understanding how individuals are strongly motivated to try to protect their relationships from infidelity threat even in cases where they are not ultimately successful. For individuals, educators, and therapists working with couples, these findings emphasize that individuals have an agentic role in maintaining monogamy, and by extension, relationship stability and quality. Use of monogamy maintenance strategies may serve as early warning signs against potential relationship threats. Given how most individuals expect monogamy in relationships and strongly endorse it as a standard (Watkins & Boon, 2016) and the simultaneous ubiquity and appeal of attractive alternatives (Weaver, 2007), a critical chasm exists in our understanding of how to be consistent to monogamy ideals. Educators and therapists should explore the facets of monogamy that are most essential to couples. Educators and therapists also should normalize and destigmatize extradyadic attraction to facilitate discussions between partners about monogamy maintenance. This line of study has implications for programs designed to improve relationship quality and stability for individuals and couples.
EFFORTS TO MAINTAIN MONOGAMY

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EFFORTS TO MAINTAIN MONOGAMY

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   critical examination of popular assumptions about the benefits and outcomes of
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EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


Table 3-1

*Factor Loadings from Exploratory Factor Analysis and Descriptive Statistics for Monogamy Maintenance Inventory*

<table>
<thead>
<tr>
<th>Factor and items</th>
<th>Factor loadings</th>
<th>Communalities</th>
<th>Mean (SD)</th>
<th>% Reporting use</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monogamy Maintenance Inventory (24 items)</td>
<td>7.27 (5.02)</td>
<td>92%</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proactive Avoidance</td>
<td>2.61 (2.45)</td>
<td>74%</td>
<td>.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoided spending time with this other person</td>
<td>.67</td>
<td>.43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turned down spending time with this other person</td>
<td>.53</td>
<td>.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoided being alone with this other person</td>
<td>.52</td>
<td>.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distanced myself from this other person</td>
<td>.49</td>
<td>.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turned down a plan that this other person tried to make with me</td>
<td>.44</td>
<td>.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoided having close relationships with members of the opposite sex (outside of family)</td>
<td>.43</td>
<td>.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deleted their phone number</td>
<td>.42</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removed them from my social media accounts (like Facebook, Instagram, Snapchat)</td>
<td>.40</td>
<td>.16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Avoided finding out more about this other person  .37  .16 
Avoided spending time with members of the opposite sex  .36  .12 
Avoided getting to know this other person better to avoid developing a “crush” on them  .34  .14 

<table>
<thead>
<tr>
<th>Relationship Enhancement</th>
<th>2.57 (2.16)</th>
<th>76.8%</th>
<th>.78</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had a physical relationship with my partner to deepen our bond</td>
<td>.62</td>
<td>.42</td>
<td></td>
</tr>
<tr>
<td>Took my partner out on a date</td>
<td>.61</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>Bought my partner a gift</td>
<td>.59</td>
<td>.32</td>
<td></td>
</tr>
<tr>
<td>Engaged in sexual acts with my partner</td>
<td>.57</td>
<td>.40</td>
<td></td>
</tr>
<tr>
<td>Made sure that I looked nice for my partner</td>
<td>.56</td>
<td>.32</td>
<td></td>
</tr>
<tr>
<td>Told my partner how important they are to me</td>
<td>.55</td>
<td>.38</td>
<td></td>
</tr>
<tr>
<td>Made myself “extra attractive” for my partner</td>
<td>.41</td>
<td>.20</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low Self-Monitoring/Derogation</th>
<th>2.1 (2.05)</th>
<th>69.3%</th>
<th>.78</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felt guilty that I flirted too much with this other person</td>
<td>-.70</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>Reminded myself of the importance of being faithful</td>
<td>-.56</td>
<td>.41</td>
<td></td>
</tr>
<tr>
<td>Told myself that this other person was bad for me</td>
<td>-.55</td>
<td>.38</td>
<td></td>
</tr>
<tr>
<td>Behavior</td>
<td>Correlation</td>
<td>Sig</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Told myself about the potential negative consequences of cheating on my partner</td>
<td>-.54</td>
<td>.37</td>
<td></td>
</tr>
<tr>
<td>Told myself that I needed to commit to my partner</td>
<td>-.50</td>
<td>.32</td>
<td></td>
</tr>
<tr>
<td>Looked for unflattering things in this other person</td>
<td>-.49</td>
<td>.37</td>
<td></td>
</tr>
<tr>
<td>Told myself that I was dependent on my partner</td>
<td>-.41</td>
<td>.17</td>
<td></td>
</tr>
</tbody>
</table>

Note. N = 362.
**Table 3-2**

*Association between Monogamy Maintenance Strategies and Relationship Outcomes*

<table>
<thead>
<tr>
<th>Type</th>
<th>n</th>
<th>Median</th>
<th>Mann-Whitney U</th>
<th>p (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proactive Avoidance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No adverse outcomes</td>
<td>125</td>
<td>2</td>
<td>12710.0</td>
<td>.02</td>
</tr>
<tr>
<td>Some adverse outcomes</td>
<td>237</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship Enhancement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No adverse outcomes</td>
<td>125</td>
<td>2</td>
<td>14337.0</td>
<td>.61</td>
</tr>
<tr>
<td>Some adverse outcomes</td>
<td>237</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low Self-Monitoring/Derogation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No adverse outcomes</td>
<td>125</td>
<td>1</td>
<td>9605.0</td>
<td>.000***</td>
</tr>
<tr>
<td>Some adverse outcomes</td>
<td>237</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $N = 362$. *No adverse outcomes* indicates report of lack of engaging in flirting, sexual or romantic relationship with the extradyadic partner or of terminating the relationship with his or her primary partner. *Some adverse outcomes* indicates report of presence of flirting, sexual or romantic relationship with the extradyadic partner, or of terminating the relationship with his or her primary partner. ***$p < .0083$ (Bonferroni adjustment).*
### Table 3-3

*Descriptive Statistics for Monogamy Maintenance Inventory for Study Two*

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (SD)</th>
<th>%</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monogamy Maintenance Inventory (24 items)</td>
<td>5.95 (4.53)</td>
<td>87.5</td>
<td>.82</td>
</tr>
<tr>
<td>Proactive Avoidance (10 items)</td>
<td>2.82 (2.55)</td>
<td>75.6</td>
<td>.77</td>
</tr>
<tr>
<td>Distanced myself from this other person</td>
<td>.43 (.50)</td>
<td>43.2</td>
<td></td>
</tr>
<tr>
<td>Avoided being alone with this other person</td>
<td>.37 (.48)</td>
<td>36.9</td>
<td></td>
</tr>
<tr>
<td>Avoided spending time with this other person</td>
<td>.34 (.48)</td>
<td>34.5</td>
<td></td>
</tr>
<tr>
<td>Avoided getting to know this other person better to avoid developing a “crush” on them</td>
<td>.32 (.47)</td>
<td>32.1</td>
<td></td>
</tr>
<tr>
<td>Turned down spending time with this other person</td>
<td>.29 (.45)</td>
<td>28.6</td>
<td></td>
</tr>
<tr>
<td>Avoided finding out more about this other person</td>
<td>.28 (.45)</td>
<td>28.2</td>
<td></td>
</tr>
<tr>
<td>Turned down a plan that this other person tried to make with me</td>
<td>.21 (.41)</td>
<td>21.3</td>
<td></td>
</tr>
<tr>
<td>Deleted their phone number</td>
<td>.21 (.41)</td>
<td>21.3</td>
<td></td>
</tr>
<tr>
<td>Avoided having close relationships with members of the opposite sex (outside of family)</td>
<td>.20 (.40)</td>
<td>20.2</td>
<td></td>
</tr>
<tr>
<td>Removed them from my social media accounts (like Facebook, Instagram, Snapchat, etc.)</td>
<td>.16 (.37)</td>
<td>16.0</td>
<td></td>
</tr>
<tr>
<td>Efforts to Maintain Monogamy</td>
<td>Mean (SD)</td>
<td>Median</td>
<td>Correlation</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------</td>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Relationship Enhancement (7 items)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Told my partner how important they are to me</td>
<td>1.33 (1.73)</td>
<td>55.4</td>
<td>.75</td>
</tr>
<tr>
<td>Engaged in sexual acts with my partner</td>
<td>.26 (.44)</td>
<td>25.8</td>
<td></td>
</tr>
<tr>
<td>Had a physical relationship with my partner to deepen our bond</td>
<td>.25 (.43)</td>
<td>24.7</td>
<td></td>
</tr>
<tr>
<td>Made sure that I looked nice for my partner</td>
<td>.21 (.41)</td>
<td>20.6</td>
<td></td>
</tr>
<tr>
<td>Took my partner out on a date</td>
<td>.18 (.38)</td>
<td>17.8</td>
<td></td>
</tr>
<tr>
<td>Bought my partner a gift</td>
<td>.17 (.38)</td>
<td>17.4</td>
<td></td>
</tr>
<tr>
<td>Made myself “extra attractive” for my partner</td>
<td>.15 (.35)</td>
<td>14.6</td>
<td></td>
</tr>
<tr>
<td><strong>Low Self-Monitoring/Derogation (7 items)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reminded myself the importance of being faithful</td>
<td>1.80 (1.93)</td>
<td>64.5</td>
<td>.76</td>
</tr>
<tr>
<td>Told myself that I needed to commit to my partner</td>
<td>.36 (.48)</td>
<td>35.5</td>
<td></td>
</tr>
<tr>
<td>Told myself about the potential negative consequences of cheating on my partner</td>
<td>.33 (.47)</td>
<td>32.8</td>
<td></td>
</tr>
<tr>
<td>Felt guilty that I flirted too much with this other person</td>
<td>.30 (.46)</td>
<td>30.0</td>
<td></td>
</tr>
<tr>
<td>Told myself that this other person was bad for me</td>
<td>.25 (.44)</td>
<td>25.4</td>
<td></td>
</tr>
<tr>
<td>Looked for unflattering things in this other person</td>
<td>.23 (.42)</td>
<td>23.0</td>
<td></td>
</tr>
<tr>
<td>Told myself that I was dependent on my partner</td>
<td>.17 (.38)</td>
<td>17.4</td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 287.*
### Table 3-4

*Association between Monogamy Maintenance Strategies and Infidelity Outcomes*

<table>
<thead>
<tr>
<th>Name</th>
<th>n</th>
<th>Median</th>
<th>Mann-Whitney U</th>
<th>p (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proactive Avoidance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flirt – yes</td>
<td>160</td>
<td>3</td>
<td>7622.0</td>
<td>.003***</td>
</tr>
<tr>
<td>Flirt – no</td>
<td>120</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex – yes</td>
<td>23</td>
<td>3</td>
<td>2710.5</td>
<td>.39</td>
</tr>
<tr>
<td>Sex – no</td>
<td>264</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romance – yes</td>
<td>24</td>
<td>2.5</td>
<td>3050.5</td>
<td>.78</td>
</tr>
<tr>
<td>Romance – no</td>
<td>263</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship Enhancement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flirt – yes</td>
<td>160</td>
<td>1</td>
<td>7795.5</td>
<td>.004***</td>
</tr>
<tr>
<td>Flirt – no</td>
<td>120</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex – yes</td>
<td>23</td>
<td>2</td>
<td>2139.5</td>
<td>.01</td>
</tr>
<tr>
<td>Sex – no</td>
<td>264</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romance – yes</td>
<td>24</td>
<td>1</td>
<td>2556.5</td>
<td>.10</td>
</tr>
<tr>
<td>Romance – no</td>
<td>263</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low Self-Monitoring/Derogation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flirt – yes</td>
<td>160</td>
<td>2</td>
<td>5763.0</td>
<td>.000***</td>
</tr>
<tr>
<td>Flirt – no</td>
<td>120</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex – yes</td>
<td>23</td>
<td>2</td>
<td>2462.0</td>
<td>.12</td>
</tr>
<tr>
<td>Sex – no</td>
<td>264</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romance – yes</td>
<td>24</td>
<td>3</td>
<td>2133.5</td>
<td>.007</td>
</tr>
<tr>
<td>Romance – no</td>
<td>263</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 287. Flirt – yes/no indicates report of engaging in flirting with extradyadic partners; Sex – yes/no indicates report of engaging in a sexual relationship with the extradyadic partner; Romance – yes/no indicates report of engaging in a romantic relationship with the extradyadic partner. *** p < .006 (Bonferroni adjustment).*
EFFORTS TO MAINTAIN MONOGAMY

Avoided spending time with this other person
Turned down spending time with this other person
Avoided being alone with this other person
Distanced myself from this other person
Turned down a plan that this other person tried to make with me
Avoided having close relationships with members of the opposite sex (outside of family)
Deleted their phone number
Removed them from my social media accounts (like Facebook, Instagram, Snapchat, etc.)
Avoided finding out more about this other person
Avoided getting to know this other person better to avoid developing a "crush" on them
Had a physical relationship with my partner to deepen our bond
Took my partner out on a date
Bought my partner a gift
Engaged in sexual acts with my partner
Made sure that I looked nice for my partner
Told my partner how important they are to me
Made myself "extra attractive" for my partner
Felt guilty that I flirted too much with this other person
Reminded myself the importance of being faithful
Told myself that this other person was bad for me
Told myself about the potential negative consequences of cheating on my partner
Told myself that I needed to commit to my partner
Looked for unflattering things in this other person
Told myself that I was dependent on my partner

Figure 3-1. Standardized loadings for the final 24 item Monogamy Maintenance Inventory
Chapter 4
Examination of Potential Demographic, Personality, and Sexual Attitudinal Correlates to Monogamy Maintenance

The results of Study One (Chapter 3) suggest that monogamy maintenance is multidimensional and widely used. In response to the first research question (RQ 1), three types of monogamy maintenance efforts were identified: Proactive Avoidance characterizes attractive other-directed behaviours that serve to maintain physical and emotional distance from an attractive alternative; Relationship Enhancement characterizes partner-directed behaviours that serve to increase the attractiveness of the primary relationship; and Low Self-Monitoring/Derogation characterizes the relative lack of use of self-directed behaviours aimed at redirecting one’s attention and denigrating the alternative in one’s mind. To facilitate ease of publication, closer details regarding the model generated via exploratory factor analysis were excluded from Chapter 3, and are included at the end of this Chapter (see Table 4-1). Across three samples, over nine in ten participants reported using monogamy maintenance efforts, and multiple efforts were typically used, indicating the high prevalence of these behaviours (RQ 2).

Several demographic (religiosity), personality (conscientiousness, agreeableness, neuroticism), and sex attitudinal variables (sexual entitlement, sociosexuality, sexual inhibition) previously found to be predictive of monogamy violations were examined with respect to their associations to monogamy maintenance use (RQ 3). In the current sample, religiosity was extremely positively skewed, with over a third of the sample (38.2%) reporting the lowest possible score on religiosity. Religiosity had been found to be a robust predictor of infidelity permissive attitudes and engagement in extramarital sex
EFFORTS TO MAINTAIN MONOGAMY

(Treas & Giesen, 2000; Whisman, Gordon, & Chatav, 2007). Participants were split into two groups based on religiosity to account for the sample characteristics, for the examination of associations between all other listed variables and each monogamy maintenance factor.

The tested models, which included demographic, personality, and sexual attitudinal variables, did not significantly account for Proactive Avoidance, Relationship Enhancement, or Low Self-Monitoring/Derogation use, in either the religious or nonreligious groups, contrary to the first hypothesis. The findings associated with RQ 3 were not included in the two manuscripts associated with the current dissertation given the lack of coherent theoretical underpinning with which to describe them. Ultimately, although demographic, personality, and sexual attitudinal variables robustly predict infidelity, other variables, including relationship quality and level of relationship threat posed by the extradyadic attraction, were more pertinent in understanding differences in monogamy maintenance use. The relationship dimension findings are outlined in Study Two (Chapter 5).

Monogamy maintenance was not found to be related to emotional or sexual infidelity in the current series of studies (in contrast to Hyp 4). However, Study One was cross-sectional in nature, and causal attributions cannot be made without establishing temporal order of behaviours. Thus, a primary objective of Study Two (Chapter 5) was to examine the associations between earlier use of monogamy maintenance strategies and infidelity outcomes at a follow-up time point. Preliminary findings from Study One provided partial support that individuals may be sensitive to the levels of relationship threat that their extradyadic attraction may pose (Hyp 5), as indicated by the greater use
EFFORTS TO MAINTAIN MONOGAMY

of monogamy maintenance strategies by individuals who were flirtatious toward an extradyadic partner.

Study One established the Monogamy Maintenance Inventory and its subscales, which allowed for examinations of the contexts of its use. Consistent to meta-analytic findings establishing the importance of relationship characteristics in relationship maintenance (Le & Agnew, 2003) and prior research linking low relationship commitment to infidelity (Drigotas, Safstrom, & Gentilia, 1999; Martins et al., 2016), it was expected that relationship characteristics would be a determinant in monogamy maintenance use and infidelity outcomes (RQ 4 and RQ 5). The association between levels of relationship threat posed by an episode of extradyadic attraction and monogamy maintenance efforts also was examined further (RQ 6). Study Two advanced the literature on relationship maintenance and monogamy by examining the relational and extradyadic contexts that incur the most protective responses for individuals in monogamous relationships.
EFFORTS TO MAINTAIN MONOGAMY

References


Table 4-1

Total Variance Explained by Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Parallel Analysis a</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>5.303</td>
<td>21.214</td>
</tr>
<tr>
<td>2</td>
<td>2.369</td>
<td>9.475</td>
</tr>
<tr>
<td>3</td>
<td>1.762</td>
<td>7.048</td>
</tr>
<tr>
<td>4</td>
<td>1.495</td>
<td>5.981</td>
</tr>
<tr>
<td>5</td>
<td>1.312</td>
<td>5.246</td>
</tr>
<tr>
<td>6</td>
<td>1.217</td>
<td>4.869</td>
</tr>
<tr>
<td>7</td>
<td>1.038</td>
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<td>1.318</td>
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a Generated using Monte Carlo PCA for Parallel Analysis. Number of variables = 25, number of subjects = 362, number of replications = 100.
Chapter 5

Article II: Walk the Line: How Successful Are Efforts to Maintain Monogamy in Intimate Relationships?


Formatted as required by the *Archives of Sexual Behavior*.
Abstract

Monogamy, typically defined as sexual and romantic exclusivity to one partner, is a near universal expectation in committed intimate relationships in Western societies. Attractive alternative partners are a common threat to monogamous relationships. However, little is known about how individuals strive to protect their relationships from tempting alternatives, particularly those embedded in one’s social network. The current exploratory study was guided by the Investment Model, which states that satisfaction, investments, and perceived alternatives to a relationship predict commitment, which in turn predicts relationship outcomes. The study aimed to identify relationship and extradyadic attraction characteristics associated with monogamy maintenance efforts, specifically relationship commitment, as predicted by the Investment Model. The efficacy of monogamy maintenance efforts was assessed via sexual and emotional infidelity measures at two-month follow-up. U.S. adults in heterosexual intimate relationships (N = 287; 50.2% male; Mean age = 34.5 years; Mean relationship length = 87 months) were recruited online to complete the survey study. Through structural equation modeling, the Investment Model structure was replicated, and relationship commitment predicted use of relationship enhancing efforts as well as self-monitoring/derogation efforts. Individuals who experienced reciprocated attraction used significantly more avoidance and less self-monitoring/derogation efforts than did those who experienced unreciprocated attraction, possibly reflecting the great relationship threat that reciprocated attraction poses. Ultimately, monogamy maintenance efforts did not significantly predict success in maintaining monogamy at follow-up. These findings have important research, educational, and clinical implications relating to relationship longevity.
EFFORTS TO MAINTAIN MONOGAMY

*Keywords:* monogamy, infidelity, relationship maintenance, Investment Model
Walk the Line: How Successful Are Efforts to Maintain Monogamy in Intimate Relationships?

Monogamy is the standard adopted by the majority of those in committed romantic relationships in Western societies. It is a relationship form that is viewed as optimal and conferred with many social, financial, and legal benefits (Anderson, 2010; Conley, Ziegler, Moors, Matsick, & Valentine, 2012; Shackelford & Buss, 1997; Ziegler, Conley, Moors, Matsick, & Rubin, 2015). Monogamy is commonly defined as sexual and emotional exclusivity to one romantic partner. Over 90% of U.S. heterosexual adults in committed romantic relationships endorse sexual exclusivity as the norm. One study found that 99% of married and 94% of cohabiting heterosexual respondents expected sexual exclusivity for themselves and their partners (Treas & Giesen, 2000). Although similar figures have not been established for emotional exclusivity, emotional betrayal and extradyadic intimate behaviors are commonly considered to be monogamy violations (Thompson & O’Sullivan, 2016a; Weiser, Lalasz, Weigel, & Evans, 2014).

A number of societal changes over recent decades have challenged the practice of monogamy, specifically changes that expose individuals to a range of attractive potential partners. These include high rates of both women and men in the paid work force (Finkel, Hui, Carswell, & Larson, 2014), longer hours spent at work (Blow & Hartnett, 2005; Treas & Giesen, 2000), increased mobilization of work forces, fragmentation of extended family units, and lower rates of marriage (Blow & Hartnett, 2005; Treas & Giesen, 2000). In particular, greater financial independence (Finkel et al., 2014) and greater proportion of one’s day spent at work and outside of the home compared to previous generations is believed to lower interdependence between partners (Blow & Hartnett, 2005), and
increase opportunities to engage in extradyadic relationships (Blow & Hartnett, 2005; Blumstein & Schwartz, 1983; Weaver, 2007).

In addition, there is growing evidence of shifts in Western societal attitudes toward greater permissiveness in relationships and sexuality over the prior few decades, as noted in public attitudes toward premarital sex (Kraaykamp, 2002; Sprecher, Treger & Sakaluk, 2013), casual sex (Kraaykamp, 2002; Petersen & Hyde, 2010; Sprecher et al., 2013), and extramarital sex (Kraaykamp, 2002; Petersen & Hyde, 2010). These shifts indicate growing tolerance for alternative relationship structures, perhaps spurred in part by the rapid uptake of new forms of social media and other technology (Dewing, 2010; Finkel et al., 2014).

Within intimate relationships, individuals are increasingly relying on their partners to serve needs beyond sexual gratification and emotional support, such as higher level needs for autonomy, esteem, and self-actualization (Finkel et al., 2014). However, individuals' investments in time and resources in intimate relationships have not corresponded with the increasing levels of these higher level demands (Finkel et al., 2014). Decreases in both relationship (Agnew & VanderDrift, 2015; Dainton, 2000; Ogolsky & Bowers, 2013) and sexual satisfaction (Klusmann, 2002; McNulty, Wenner, & Fisher, 2016; Sprecher, 2002) are likely to result from this discrepancy in relationship investments and demands, making monogamy an ideal that is increasingly difficult to maintain.

Monogamy remains the cultural norm despite increasing challenges towards this relationship ideal, and the majority of individuals in relationships aim to be sexually and romantically exclusive. Yet, consistent with these sociocultural shifts, rates of infidelity
EFFORTS TO MAINTAIN MONOGAMY

are high. Approximately half of college-aged individuals (46.8%) reported lifetime infidelity (Thompson & O’Sullivan, 2016b), and approximately one-fifth of individuals (23% of men and 19% of women) reported sexual infidelity in their current romantic relationships (Mark, Janssen, & Milhausen, 2011). Infidelity is most commonly understood as the participation in sexual acts with partner(s) outside of one’s committed romantic relationship where an agreement to maintain sexual exclusivity is in place (Hackathorn, Mattingly, Clark, & Mattingly, 2011). Relationship commitment and quality are linked consistently and strongly to violations of monogamy norms. Those in relationships characterized with lower commitment (Feldman & Cauffman, 1999; Maddox Shaw, Rhoades, Allen, Stanley, & Markman, 2013; Mark et al., 2011; Whisman, Gordon, & Chatav, 2007) and those reporting lower sexual and relationship compatibility tend to have higher rates of infidelity (Mark et al., 2011). Infidelity and its concomitant betrayal of trust from the violation of an exclusivity agreement are often associated with a subsequent decrease in relationship commitment, and with a much greater likelihood of relationship breakup (Allen & Atkins, 2012; Amato & Previti, 2003; DeMaris, 2013).

Drawing from the infidelity literature has limited utility for the study of monogamy, however. What are needed are insights into how monogamy is maintained over time in intimate relationships.

Defining and Negotiating Monogamy

A small but growing field of research on monogamy has started to reconcile divergent definitions of monogamy (Conley et al., 2012; Ziegler et al., 2015), to examine monogamy as a harm reduction strategy (Britton et al., 1998; Hearn, O’Sullivan, El-Bassel, & Gilbert, 2005; Warren, Harvey, & Agnew, 2012), and to explore the
EFFORTS TO MAINTAIN MONOGAMY

perceptions of consensual non-monogamy in contrast to monogamy (Conley, Moors, Matsick, & Ziegler, 2013; Conley et al., 2012). Monogamy is typically viewed positively and appears to be multifaceted. Monogamy has been conceptualized to comprise sexual and emotional exclusivity, and more broadly, whether extradyadic attraction is normalized and accepted, and the maintenance of an outward appearance of monogamy in one’s relationship (Anderson, 2010). Monogamous relationships are viewed considerably more positively than are non-monogamous relationships, and are perceived to be safer, more moral, committed, meaningful, passionate, and trusting than are consensual non-monogamous relationships (Conley et al., 2013), despite consensual non-monogamous individuals demonstrating comparable levels of psychological well-being, relationship adjustment and commitment, jealousy, and sexual satisfaction as monogamous individuals (Rubel & Bogaert, 2015).

Yet monogamy is poorly defined within individual relationships, with most individuals relying on implicit assumptions and not explicit communications about relationship boundaries. Approximately half of individuals in dating relationships have not directly discussed expectations for monogamy or what monogamy constitutes for their relationships (Gibson, Thompson, & O’Sullivan, 2016; Watkins & Boon, 2016). Partners often disagree on which behaviors constitute monogamy within a relationship (Boekhout, Hendrick, & Hendrick, 2003). Furthermore, it is unclear whether explicit negotiations of monogamy expectations result in mutually understood and maintained relationship boundaries, and whether this understanding is in turn associated with monogamy maintenance.
The Investment Model

The Investment Model (Rusbult, Martz, & Agnew, 1998; Rusbult, 1980; 1983), an extension of Interdependence Theory (Thibaut & Kelley, 1959), has been used to predict and explain infidelity in dating relationships (Drigotas, Safstrom, & Gentilia, 1999). The Investment Model posits that commitment (i.e., the desire and motivation to continue a relationship) is the primary determinant of relationship longevity or termination, with relationship satisfaction, investments, and the perceived quality of alternatives to the relationship predicting levels of relationship commitment (Rusbult et al., 1998; Rusbult, 1980; 1983). Relationship satisfaction is the balance of positive and negative outcomes received from one’s relationship. Investments are tangible and intangible investments into a relationship that one would lose should the relationship end. Perceived quality of alternatives is what one expects to be able to derive from alternative relationship arrangements should the current relationship end. Satisfaction and investment are positively predictive of commitment, whereas perceived quality of alternatives is negatively predictive of commitment (Le & Agnew, 2003). Investment Model variables have been associated with extradyadic romantic and sexual involvement in dating relationships (Drigotas et al., 1999; Martins et al., 2016), and extradyadic involvement was associated with decreased relationship commitment (Drigotas et al., 1999). The Investment Model may, in turn, provide a useful framework for predicting efforts to maintain monogamy in intimate relationships.

Derogation of Alternatives and Monogamy Maintenance

The derogation of alternatives involves cognitive and perceptual biases that serve to actively minimize the perceived attractiveness of opposite sex alternatives, in service
EFFORTS TO MAINTAIN MONOGAMY

of one’s primary relationship (Ritter, Karremans, & van Schie, 2010). Compared to single individuals, individuals in committed relationships demonstrate negatively biased memory recall of attractive faces (Karremans, Dotsch, & Corneille, 2011), inattention toward attractive opposite sex targets (Maner, Gailliot, & Miller, 2009), automatic self-protective responses toward attractive targets (Plant, Kunstman, & Maner, 2010), and lower ratings of attractiveness toward attractive targets (Johnson & Rusbult, 1989; O’Sullivan & Vannier, 2013).

The derogation of attractive alternatives varies given the level of relationship threat posed by the alternative and by an individual’s level of commitment to their primary relationship (Lydon, Fitzsimons, & Naidoo, 2003; Lydon, Meana, Sepinwall, Richards, & Mayman, 1999). Individuals in highly committed relationships who were informed that an attractive individual showed interest in dating them displayed the strongest derogation of alternatives, demonstrated via lower ratings of the alternative’s attractiveness (Lydon et al., 1999). These findings indicate that mutual attraction by an individual to whom one may be attracted likely represents higher relationship threat.

However, missing from the research literature is information addressing a broader scope of efforts that individuals may employ when facing non-transitory, attractive alternatives to their relationships. The literature has only explored relatively automatic protective responses against fleeting temptations of extradyadic involvement (Johnson & Rusbult, 1989; Karremans et al., 2011; Lydon et al., 1999; Lydon et al., 2003; O’Sullivan & Vannier, 2013; Maner et al., 2009; Plant et al., 2010; Ritter et al., 2010). Information regarding how individuals deliberately respond to potentially more longstanding
EFFORTS TO MAINTAIN MONOGAMY

temptations posing a threat to the maintenance of monogamy is important for generating insights on relationship longevity.

The Current Study

This research examined monogamy maintenance in terms of efforts that individuals employ when facing an episode of extradyadic attraction. Three main purposes guided the current study: (1) to investigate how relationship commitment influences how individuals manage their extradyadic attraction; (2) to identify the efficacy of these efforts; and (3) to examine whether differing levels of threat posed by reciprocated and unreciprocated attraction influence levels of monogamy maintenance.

Although this is an exploratory study of monogamy maintenance, we made a number of directional hypotheses consistent with the Investment Model and prior research. We expected that:

H1a: Relationship satisfaction, investments, and perceived alternatives would predict degree of commitment, replicating the Investment Model structure;
H1b: Relationship commitment would be positively associated with the range of monogamy maintenance efforts used;
H2a: The range of monogamy maintenance strategy use at Time 1 would be negatively associated with sexual and romantic infidelity at a two-month follow-up;
H2b: Infidelity would be negatively associated with commitment at follow-up; and
H3: Extradyadic attraction that is reciprocated by an attractive other would represent higher levels of relationship threat and prompt greater range of
monogamy maintenance efforts as compared to unreciprocated extradyadic attraction.

Group differences in gender, relationship status, and explicit monogamy agreements also were examined to explore their relationships to monogamy maintenance strategy use prior to analyses. Gender had been identified as a pertinent factor that influences infidelity, including rates of participation, desire for extradyadic sex, and permissive attitudes toward infidelity (Blow & Hartnett, 2005). Relationship status (e.g., married, cohabiting, or dating) reflects structural commitment (Lydon et al., 1999), beyond measures of attitudinal commitment. Lastly, whether a couple has an explicit monogamy agreement in place may serve to clarify expectations and intentions between partners and aid in monogamy maintenance.

Method

Participants

Heterosexual U.S. adults were recruited to complete an anonymous online survey for monetary compensation via Amazon®’s Mechanical Turk® (MTurk®), a crowdsourcing website that allows individuals to complete online jobs of their choosing for monetary compensation (Mason & Suri, 2012). Participants were recruited via advertisements posted on MTurk®. Samples recruited via MTurk® are generally more heterogeneous than community, student, or traditionally-recruited online samples (Buhrmester, Kwang, & Gosling, 2011; Casler, Bickel, & Hackett, 2013). Eligibility criteria included being involved in a committed, monogamous male-female romantic relationship. The final sample (N = 287) consisted of 143 women and 144 men with a mean age of 34.5 years (SD = 9.6, range 19-68). Participants identified primarily as
EFFORTS TO MAINTAIN MONOGAMY

White (77.0%), Asian/Pacific Islander (8.0%), and Black (6.6%). Half of participants (54.4%) indicated that they were in a married or cohabiting relationship, another 45.6% indicated that they were in a dating relationship. The mean relationship length was 87.0 months ($SD = 94.0$, range = 0 to 481).

Measures

Participants completed a demographic questionnaire and a measure assessing use of monogamy maintenance efforts when interacting with a potential alternative partner, as well as whether attraction was reciprocated or not. They also completed measures of monogamy expectations, experiences with infidelity, and relationship commitment. Two validity items were embedded within the survey to identify unconscientious responders (e.g., “Pick the answer that starts with the letter B” with four response options). All measures have strong psychometric properties and used successfully in the past.

**Demographic questionnaire.** Participants completed a demographic measure designed for the current study that assessed a range of background information, including age, gender, sexual orientation, ethnicity, religion, educational level, relationship status, sexual experience, and current relationship duration.

**Monogamy maintenance efforts and reciprocation of extradyadic attraction.** Participants completed the 24-item measure of monogamy maintenance efforts (blind). They indicated whether they had engaged in any of the 24 efforts during an episode of strong attraction towards another member of the opposite sex during their current romantic relationship. The following prompt was provided: “We are interested in the behaviors that people perform to try to ensure that they maintain monogamy in their relationship with their current romantic partner. For each act, please indicate whether
EFFORTS TO MAINTAIN MONOGAMY

you have engaged in this behavior when you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner.” Sample items include “turned down a plan that this other person tried to make with me” and “felt guilty that I flirted too much with this other person.” Higher values indicated greater efforts to maintain monogamy. This measure consists of three subscales: Proactive Avoidance (10 items), which includes efforts to avoid physical distance, face-to-face interactions, and conversational intimacies with a specific attractive other, or with members of the other sex more generally; Relationship Enhancement (7 items), which captures efforts to enrich one’s primary relationship sexually, materially, and emotionally to ensure monogamy is maintained; and Low Self-Monitoring/Derogation (7 items), which represents the relative lack of emotional and cognitive strategies in the face of extradyadic attraction (blind). The internal consistency within the total monogamy maintenance (MM) inventory (\( \alpha = .82 \)) and its subscales (Proactive Avoidance \( \alpha = .78 \), Relationship Enhancement \( \alpha = .75 \), Low Self-Monitoring/Derogation \( \alpha = .76 \)) were considered acceptable to good in the current sample. In addition, participants were asked whether the attraction was reciprocated or unreciprocated (experienced by the participant or the attractive alternative only).

**Monogamy expectations.** Participants completed six items that assess expectations of sexual and romantic monogamy in general, in their current relationship, and perceptions of their partners’ expectations of sexual and romantic monogamy (Thompson & O’Sullivan, 2016b). Items were rated on a 5-point Likert scale, ranging from 1 (Not at all) to 5 (Absolutely always). An additional item assessed whether
participants had established an explicit monogamy agreement with their primary partners (yes, no, not sure).

**Infidelity history.** Participants indicated whether they had engaged in sexual and/or romantic infidelity during the course of their current romantic relationship. They were free to define the term infidelity, consistent with previous research (Watkins & Boon, 2016). Forced choice items assessed whether participants had engaged in romantic (yes/no) or sexual (yes/no) infidelity in their current relationship, whether their partner had engaged in romantic (yes/no) or sexual (yes/no) infidelity in their current relationship, and whether participants suspected that their partner had engaged in romantic (yes/no) or sexual (yes/no) infidelity in their current relationship (Thompson & O’Sullivan, 2016b).

**Relationship commitment.** Participants completed 22 items from a revised version of the Investment Model Scale (Rusbult et al., 1998) with regard to their current primary romantic relationship, with subscales measuring relationship commitment, satisfaction, investment, and alternatives to the relationship. One item on the Investment Model Scale was revised to encompass romantic relationships beyond just dating relationships (from “If I weren’t dating my partner, I would do fine—I would find another appealing person to date” to “If I weren’t with my partner, I would do fine—I would find another appealing person to date.”). The IM Scale consists of seven global items examining relationship commitment, rated on a 9-point Likert scale ranging from *Do not agree at all* (0) to *Agree completely* (8). Relationship satisfaction, relationship investment, and alternatives to the relationship were each measured with five items rated on a 9-point Likert scale ranging from *do not agree at all* (0) to *Agree completely* (8).
EFFORTS TO MAINTAIN MONOGAMY

Higher values indicate greater levels of each dimension. Coefficient alphas for commitment ($\alpha = .85$), satisfaction ($\alpha = .95$), the quality of alternatives ($\alpha = .90$), and investment ($\alpha = .82$) were rated good to excellent in the current sample.

**Procedure**

Those who met the eligibility criteria were directed to the informed consent form, then the online survey and debriefing form. Participants were compensated $2 USD via their MTurk® accounts for their participation.

After two months, all prior respondents were invited to participate in the follow-up study via an advertisement posted on MTurk® that could be viewed only by participants of the initial study. Respondents indicated whether they had the same partner as at the initial assessment. They then completed a subset of the original questionnaires with regard to the prior two months, including monogamy maintenance use, relationship commitment, and experiences with infidelity. Those who indicated that their relationships had dissolved during the interim period were not asked to report relationship commitment at follow-up. Participants were compensated monetarily ($1 USD) via their MTurk® accounts for their participation in the follow-up survey.

**Results**

**Data Screening and Conditioning**

Of the 350 participants recruited, 63 participants were excluded from the analyses because they did not complete the survey, did not meet the eligibility criteria, or were unconscientious or duplicate responders. The final sample consisted of 287 participants. Data were screened and conditioned using procedures outlined by Tabachnick and Fidell (2012). All data were missing completely at random and were replaced using estimation
EFFORTS TO MAINTAIN MONOGAMY

maximization (Little’s MCAR test $\chi^2 = 1469.4$, df = 1458, $p = .412$). No variable exceeded 5% in missing data.

A total of 131 participants (45.6% response rate) completed the follow-up survey two months after initial recruitment. The initial and the follow-up samples did not significantly differ on demographic variables (gender, relationship status, age, ethnicity). Responders and non-responders also did not significantly differ on demographic variables. Data were screened for outliers and conditioned similarly to the initial data set.

The dependent variables (i.e., total monogamy maintenance efforts used and efforts used in each of the three MM factors) were significantly positively skewed, indicating that most individuals used a small number of efforts. We subsequently used nonparametric tests of significance and corrections for non-normality to analyze these data.

**Descriptive statistics.** Two-thirds of participants (61.7%) reported experiencing an episode of extradyadic attraction in their current relationship. The majority ($n = 177; 97.7\%$) of those who reported extradyadic attraction reported engaging in at least one monogamy maintenance strategy ($M = 7.49; SD = 4.4$; range = 0-20). Of these, some type of Proactive Avoidance was most common (90.4%; $M = 3.6$ efforts; $SD = 2.5$), followed by Low Self-Monitoring/Derogation (80.8%; $M = 2.5$ efforts; $SD = 2.0$) and Relationship Enhancement (61.0%; $M = 1.4$ efforts; $SD = 1.7$). In the total sample, 12.9% reported infidelity. Specifically, 8.4% of participants reported having engaged in romantic infidelity in their current relationships, 8% reported having engaged in sexual infidelity, and 3.5% reported having engaged in both romantic and sexual infidelity. Three of the four Investment Model variables were strongly negatively skewed, with the majority of
EFFORTS TO MAINTAIN MONOGAMY

respondents reporting high satisfaction ($M = 7.3; SD = 1.6; range = 1.7-9$), high
investment ($M = 7.4; SD = 1.4; range = 2.7-9$), and high commitment ($M = 7.9; SD = 1.4;
range = 3.4-9$). Log transformations of these variables were used in the relevant analyses.
Perceived quality of alternatives ($M = 3.8; SD = 2.1; range = 1-9$) was normally
distributed.

In the follow-up data ($n = 131$), 67 participants (51.1%) reported experiencing
extradyadic attraction in the prior two months. Most (98.5%) of these reported at least
one monogamy maintenance strategy ($M = 7.7; SD = 4.4; range = 0-19$). Proactive
Avoidance again was the most widely endorsed (87.9%), with a mean of 3.1 efforts ($SD =
2.5$), followed by Low Self-Monitoring/Derogation (84.8%; $M = 2.5; SD = 1.8$) and
Relationship Enhancement (75.8%; $M = 2.1; SD = 1.7$). In the follow-up sample overall,
15.2% of participants reported engaging in infidelity in the prior two months. Romantic
infidelity was more common (11.5%) than was sexual infidelity (9.2%), but 5.3% of
participants reported engaging in both. Six participants (4.6%) reported that their
romantic relationship from the initial time point had dissolved over the past two months.
Satisfaction, investment, and commitment were again strongly negatively skewed, with
the majority of respondents reporting high satisfaction ($M = 7.3; SD = 1.7; range = 1-9$),
high investment ($M = 7.5; SD = 1.2; range = 4.1-9$), and high commitment ($M = 7.9; SD
= 1.7; range = 3.4-9$). As before, log transformations of these variables were used in the
relevant analyses. Perceived quality of alternatives ($M = 4.2; SD = 2.4; range = 1-9$) was
normally distributed.
Preliminary Analyses

A Mann-Whitney U Test was conducted to assess gender differences in the use of MM efforts overall, and in the use of the three MM subtypes. No significant differences were found in men and women’s use of MM overall ($U = 10134.0; z = -.23, p = .82$), Proactive Avoidance ($U = 10198.5; z = -.14, p = .88$), Relationship Enhancement ($U = 9376.5; z = -1.38, p = .17$), and Low Self-Monitoring/Derogation ($U = 10013.5; z = -.41, p = .68$). A Mann-Whitney U Test assessed associations between relationship status and MM use. A statistically significant difference in the number of Low Self-Monitoring/Derogation efforts was found between the two different groups (Grp1, married/cohabiting, $n = 156$; Grp2, dating relationship, $n = 131$), $U = 8679.5, z = -2.3, p = .02$. A subsequent examination of median differences did not reveal any between the groups ($Md$s for Grp1 and Grp2 $= 1.0$). No other significant associations were found between relationship status and strategy use. Kruskall-Wallis H Tests were conducted to examine associations between having a monogamy agreement with one’s partner (yes, no, not sure) and monogamy maintenance efforts (total MM, Proactive Avoidance, Relationship Enhancement, Low Self-Monitoring/Derogation). No significant differences were found between the three groups in any type of efforts used. Overall, gender, relationship status, and monogamy agreement status were not associated with monogamy maintenance.

Post-hoc analyses were conducted to explore the relationships between monogamy maintenance use with age and with relationship length. The relationship between age (in years) and MM use was investigated using Spearman’s rho, as MM use was not normally distributed. There was a small, negative correlation between age and
EFFECTS TO MAINTAIN MONOGAMY

Relationship Enhancement, \( r = -0.15, p < .05 \), with higher age associated with lower levels of Relationship Enhancement efforts. Age was not significantly associated with the other two MM subtypes, nor with overall MM use. Spearman’s rho was used to examine the relationship between relationship length (in months) and MM use. A small, negative correlation was identified between relationship length and Relationship Enhancement, \( r = -0.15, p < .05 \); longer relationship duration was associated with lower levels of Relationship Enhancement efforts. A small, positive correlation was identified between relationship length and Low Self-Monitoring/Derogation, \( r = .14, p < .05 \), with longer relationship duration associated with greater endorsement of Low Self-Monitoring/Derogation.

**Associations between Relationship Commitment and Monogamy Maintenance**

Structural equation modelling was conducted using the Lavaan package in R® software to examine the association between the Investment Model and monogamy maintenance strategy use in episodes of extradyadic attraction. The Yuan-Bentler correction was applied to account for non-normally distributed data in a sample of this size. First, the adequacy of model fit between the Investment Model scale variables and three Monogamy Maintenance Inventory subscales was examined. Following recommendations by Tabachnick and Fidell (2012), the model fit was assessed via robust comparative fit index, robust root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR), and was found to be acceptable to good, \( \chi^2 = 475.57, \text{df} = 21; \text{Robust CFI} = .97; \text{SRMR} = .04; \text{RMSEA} = .08 \). A visual representation of the associations between variable sets is depicted in Figure 1.

Relationship satisfaction \( (r = .30, p < .001) \), investment \( (r = .37, p < .001) \), and
alternatives ($r = -.12, p < .001$) were significantly associated with relationship commitment in the expected directions, replicating the expected model (H1a). Relationship commitment predicted lower levels of Relationship Enhancement use ($r = -.14, p < .05$), contrary to H1b, higher levels of Low Self-Monitoring/Derogation use ($r = .17, p < .05$), and was unrelated to Proactive Avoidance, $r = -.03, p = .76$.

**Monogamy Maintenance as a Predictor of Infidelity at Two-months’ Follow-up**

Structural equation modelling was used to examine the ability of monogamy maintenance at Time 1 to predict reported infidelity outcomes at two-month follow-up. Proactive Avoidance, Relationship Enhancement, Low Self-Monitoring/Derogation, and relationship commitment at T1 were regressed onto the romantic infidelity and sexual infidelity outcomes at T2, which were then regressed onto relationship commitment at T2. Low Self-Monitoring/Derogation at T1 was allowed to covary with the other two monogamy maintenance factors to reflect correlations previously found (blind). Romantic and sexual infidelity outcomes at T2 were also allowed to covary, reflecting the overlap between infidelity types. Commitment at T1 was regressed onto commitment at T2 to control for its effects. The Huber-White robust standard errors correction was applied to maximum likelihood estimation to account for non-normally distributed data in a sample of this size. The model converged after 85 iterations, $\chi^2 = 109.63$, df = 21. The model fit was again assessed via robust comparative fit index, robust root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR), and was found to be good, Robust CFI = .99; SRMR = .03; RMSEA = .05. However, use of monogamy maintenance efforts at T1 was not significantly associated with romantic and sexual infidelity outcomes at T2 (H2a). As predicted, sexual infidelity at T2 was
negatively associated with relationship commitment at T2, \( r = -.33, p < .05 \), replicating previous findings (H2b); the same negative associations were not found between romantic infidelity and relationship commitment at T2.

**Associations between Attraction Context and Monogamy Maintenance**

A Kruskall-Wallis H Test was conducted to examine monogamy maintenance use across four forms of extradyadic attraction. These forms were: unreciprocated attraction of participant (Grp1); unreciprocated attraction of attractive alternative (Grp2); reciprocated attraction (Grp3); reciprocated attraction unknown (Grp4). A significant difference was found across the four groups (Grp1, participant attraction, \( n = 38 \), Grp2, attraction of attractive alternative, \( n = 22 \), Grp3, reciprocated attraction, \( n = 78 \), Grp4, unknown, \( n = 33 \)) in the total use of MM, in Proactive Avoidance, and in Low Self-Monitoring/Derogation (Table 1). Two post hoc between-group comparisons were conducted using Mann-Whitney U tests, and a Bonferroni adjustment was applied to account for increased potential for Type I error (\( p < .025 \)). Significant small to medium-sized group differences were found between participants experiencing unreciprocated and reciprocated attractions (Grp1 and Grp3) in the use of Proactive Avoidance, \( U = 1061.0, z = -2.49, p = .01, r = .23 \), Low Self-Monitoring/Derogation, \( U = 964.5, z = -3.08, p < .01, r = .29 \), and total MM, \( U = 955.5, z = -3.11, p < .01, r = .29 \). Those who reported that the attraction was reciprocated used significantly more monogamy maintenance efforts as compared to those who reported unreciprocated attraction. In contrast, group differences were not found between the two unreciprocated attraction groups (Grp1 and Grp2) in the uses of Proactive Avoidance, \( U = 398.5, z = -.31, p = .76 \), Low Self-
EFFORTS TO MAINTAIN MONOGAMY

Monitoring/Derogation, \( U = 405.5, z = -0.20, p = 0.84 \), or total MM, \( U = 403.0, z = -0.23, p = 0.82 \).

Discussion

The main purpose of the current study was three-fold: to provide an initial investigation into how relationship commitment influences the ways in which individuals manage their attraction to others when in a monogamous relationship, to identify whether these attempts were effective in maintaining monogamy, and to examine attraction contexts that incur more monogamy maintenance efforts. Monogamy maintenance efforts are deliberate attempts by individuals to ensure exclusivity in their relationships when facing temptations away from their primary relationship via extradyadic attraction.

Insights into how individuals respond common relationship threats posed by attractive others and their effectiveness may help individuals to focus on more effective means of maintaining monogamous relationships and reducing vulnerability to infidelity, which is viewed as a serious violation of trust and is a common precursor to relationship distress and breakup (Amato & Previti, 2003; DeMaris, 2013). Better understanding of monogamy maintenance and its limitations may contribute significantly to interventions aimed at developing behavioral efforts to strengthen monogamous relationships.

Relationship Characteristics Associated with Monogamy Maintenance

Adults in monogamous relationships vary in their use of monogamy maintenance depending on their levels of relationship commitment. The multidimensional nature of monogamy maintenance was supported by the finding of differential patterns of use across relationship commitment levels. However, contrary to our hypothesis, Low Self-Monitoring/Derogation was the only factor that was positively associated with
EFFORTS TO MAINTAIN MONOGAMY

relationship commitment. Furthermore, interpretation is complicated by the positive valence of the scale items (e.g., “Reminded myself the importance of being faithful”) and the negative loading of items onto the subscale. We cautiously interpret our findings as indicating that individuals who were more committed to their relationships were more likely to perceive their extradyadic attraction as a threat and respond with self-directed behaviors, such as attempts to manipulate one’s emotions and derogating the attractive other. This finding is consistent with prior research establishing the derogation effect (Lydon et al., 1999; Lydon et al., 2003), and suggests that the derogation effect can extend beyond automatic, implicit processes. Although details regarding the identities of the attractive alternative were not requested of participants in the current study, monogamy maintenance encompasses intentional behavioral efforts that may target non-fleeting extradyadic attraction. In comparison to the other two types of monogamy maintenance, Low Self-Monitoring/Derogation appears to be more reactive and less proactive in nature, aimed at cajoling one’s attention back to the primary relationship when it has already been drawn toward the attractive alternative (e.g., “reminded myself the importance of being faithful,” “told myself that that this other person was bad for me”). The reactive nature of Low Self-Monitoring/Derogation efforts may indicate that individuals who are highly committed to their relationships do not expect to experience extradyadic attraction, and may not respond to the attraction until it is well-developed.

In comparison to Low Self-Monitoring/Derogation, Relationship Enhancement was negatively associated with relationship commitment, which was contrary to our hypothesis, suggesting that individuals who were more committed to their relationships were less likely to report working on improving the quality of the relationship as a
method of avoiding extradyadic involvement. Individuals may perceive their efforts to enhance their relationship as an end to itself, as compared to a means by which to protect their relationships. It also may be that the more committed an individual is to a relationship, the less effort is made to work on one’s relationship even in the face of a potential threat—taking it for granted in a sense. In addition, the items on the Relationship Enhancement subscale may reflect the processes in which individuals engage to enhance or deepen a new relationship, reflecting the process of courtship (e.g., “Had a physical relationship with my partner to deepen our bond”). These behaviors may ultimately reflect a constellation of common courtship behaviors used to establish a monogamous relationship. This explanation is also supported by the findings that increased age and relationship length were weakly correlated with lower use of Relationship Enhancement. Lastly, Proactive Avoidance was not associated with relationship commitment, indicating that these efforts are commonly used regardless of how committed an individual is to their relationship. The aim of Proactive Avoidance strategies is to restrict opportunities to interact with attractive alternative partners to ensure intimacy with attractive others has no chance to develop. Individuals may find themselves constrained by social norms and overlapping social circles in their attempts to avoid interacting with attractive others who may be encountered at work, social, or leisure activities.

Our findings support the use of the Investment Model as a theoretical framework in predicting monogamy maintenance. Prior research has used this framework to predict infidelity (Drigotas et al., 1999; Martins et al., 2016), conflict resolution (Guerrero & Bachman, 2008), and willingness to sacrifice in intimate relationships (Van Lange et al.,
EFFORTS TO MAINTAIN MONOGAMY

1997). The four components of the Investment Model (commitment, satisfaction, investments, perceived quality of alternatives) predicted one another as expected, replicating previous research (Le & Agnew, 2003; Guerrero & Bachman, 2008; Martins et al., 2016), which then was associated with a novel relationship maintenance outcome, in this case, monogamy maintenance.

Of note, no differences in use of monogamy maintenance emerged for gender, relationship status, or whether a couple had an explicit monogamy agreement in place. Thus, monogamy maintenance appears to be a widely-adopted set of behaviors that the majority of individuals in relationships employ in response to extradyadic attraction. The lack of association between relationship status and monogamy maintenance suggests that “structural” commitment, represented by relationship status (married/cohabiting or dating), did not influence monogamy maintenance use as much as “attitudinal” commitment, represented by self-rated levels of commitment (Lydon et al., 1999), and by relationship length. The finding that having an explicit monogamy agreement in place was unrelated to monogamy maintenance use suggests that individuals have internalized norms about maintaining exclusivity.

Monogamy Maintenance and Monogamy Success

Use of some form of monogamy maintenance did not predict later success in resisting romantic or sexual infidelity, contrary to our expectations. Monogamy maintenance efforts were identified by respondents as their attempts to realign interest in a primary partner and avoid an attractive other, but these efforts notably did not appear to be effective in thwarting interest in an attractive other in the current study. Monogamy maintenance previously had been found to be predictive of extradyadic flirtation (blind).
EFFORTS TO MAINTAIN MONOGAMY

Low Self-Monitoring/Derogation efforts were found to be positively associated with flirtation (blind), whereas Relationship Enhancement efforts were negatively associated with flirtation, in patterns consistent with the current findings. Monogamy maintenance appears to be more effective in redirecting individuals from engaging in flirtation, a more subtle and less destructive extradyadic behavior which may lead to infidelity, but other motivations and risk factors may override monogamy maintenance altogether when sexual or romantic infidelity is being considered. It may be that efforts to maintain monogamy were impeded by other characteristics, such as sociosexuality (Feldman & Cauffman, 1999), attachment style (Beaulieu-Pelletier, Philippe, Lecours, & Couture, 2011), or impulsivity (McAlister, Pachana, & Jackson, 2005), that place individuals at higher risk for extradyadic involvement. In addition, we did not assess the behavior of the attractive other or indeed the extent to which the respondent felt drawn toward the other. Some targets of a crush may have been especially persistent upon realizing that they had attracted the respondent. They also may have been difficult to avoid ultimately, given that most extradyadic partners are individuals well-integrated into one’s life prior to involvement.

We found that the range of monogamy maintenance efforts used was unrelated to infidelity. Although used as a measure of increased effort, more varied monogamy maintenance use might not actually translate into greater effectiveness, as the number of strategies used likely includes both successful and unsuccessful efforts. We did not assess the intensity and frequency of MM use. For example, it may be that one strategy, used consistently, is more effective in maintaining monogamy than using a range of strategies
EFFORTS TO MAINTAIN MONOGAMY

inconsistently. Overall, even when the intent is there, monogamy maintenance efforts did not effectively protect monogamy, at least in our sample.

While holding constant initial levels of relationship commitment, individuals who engaged in an extradyadic sexual relationship over the course of two months reported lower relationship commitment at follow-up, consistent with prior findings that infidelity is associated with relationship disruption and breakup (Allen & Atkins, 2012; DeMaris, 2013; Drigotas et al., 1999). Surprisingly, extradyadic romantic involvement was not associated with lower relationship commitment in the current study, contrary to our hypotheses based upon prior research linking emotional infidelity to relationship and personal distress (Carpenter, 2012; Drigotas et al., 1999; Leeker & Carlozzi, 2014). Individuals may find themselves seeking emotional intimacy and support from alternative partners, friendships, and other relationships, while remaining committed to continuing their primary relationships. Past qualitative research has uncovered the multifaceted nature of monogamy, and also how one dimension of monogamy, such as sexual exclusivity, may be valued over another, such as emotional exclusivity, in a committed relationship (Anderson, 2010; Hearn et al., 2005). Our counterintuitive findings highlight the need to examine romantic infidelity as a phenomenon independent of its co-occurrence with sexual infidelity, to explore further distinctions in how these two infidelity forms are conceptualized, and to assess their correlates, outcomes, and motivations.

Monogamy Maintenance as a Response to Relationship Threat

Although most individuals in our sample reported some use of monogamy maintenance efforts, individuals who experienced an episode of reciprocated attraction
EFFORTS TO MAINTAIN MONOGAMY

with an attractive other used the highest variety of efforts, consistent with our hypothesis about greater perceived threat to monogamy posed by reciprocated attraction. Those attracted to individuals within their social circles may experience a tension between efforts to maintain monogamy and social propriety. For example, total avoidance of a work colleague to whom one may be attracted is often not feasible or tolerated, and derogating the attractiveness of a family friend even internally might be expressed in ways that are socially inappropriate.

Those experiencing reciprocated attraction reported twice as many Proactive Avoidance and Low Self-Monitoring/Derogation efforts than did those experiencing unreciprocated attraction. These types of strategies represent efforts aimed at deliberating establishing physical and emotional distance from a potential alternative partner and redirecting one’s own attention back to the primary relationship. Overall, those experiencing extradyadic attraction that appeared to be the most threatening to their existing relationships engaged in greater levels of proactive and reactive efforts to maintain monogamy, aimed at both the attractive other and oneself.

Limitations and Future Directions

A number of limitations must be noted with regard to the current study. Our sample was limited to heterosexual U.S. residents who were active users of online technology. Future research would benefit from specific explorations of monogamy maintenance among sexual minorities, as differences exist in attitudes toward and expectations for monogamy between heterosexual, gay/lesbian, and bisexual individuals in intimate relationships (Hoff & Beougher, 2008; Hosking, 2013; Mark, Rosenkrantz, & Kerner, 2014), and non-U.S. samples or those recruited by other means than online.
EFFORTS TO MAINTAIN MONOGAMY

Similar to all survey research, our examinations are limited by the potential for self-selection, and biased or inaccurate recall. In particular, the strong social norm for monogamy may have increased self-enhancing response patterns regarding extradyadic involvement. We ensured anonymity to aid in the reporting of socially sensitive information. The rates of infidelity in our sample were relatively low, yet consistent with those from prior research (9.1%; Watkins & Boon, 2016), supporting the validity of our findings. Furthermore, the use of a short-term follow-up likely facilitated more accurate recall of behaviors over a specific and shorter time frame. Approximately half (45.6%) of our original sample completed the follow-up survey. Recruitment of the follow-up sample was passive, as the MTurk® job was simply available to those who had completed the original survey, and original respondents were not pursued nor tracked. Although responders did not differ from non-responders in terms of demographic variables, self-selection bias may have excluded certain participants (e.g., those who experienced infidelity) from our follow-up sample. Results should be interpreted in light of this caution.

The small associations found between age and relationship length with monogamy maintenance efforts were unexpected and not predicted, to our knowledge, by findings in existing literature. Given that the current study was exploratory in nature and focused on identifying associations between monogamy maintenance and relationship commitment, we could not explore these associations in greater detail. These findings suggest that many relationship characteristics inform the practices of monogamy, and possibly cohort effects are at play. We welcome future confirmatory and theory-driven explorations into these variables and their associations with monogamy maintenance.
EFFORTS TO MAINTAIN MONOGAMY

Our finding that greater perceived threat to one’s monogamy appears to trigger stronger use of monogamy maintenance replicates prior findings on derogation of attractive alternatives (Lydon et al., 1999; Lydon et al., 2003), and extends such findings to effortful behavioral responses to threats to monogamy. The field would benefit from further research on the contexts of extradyadic attraction that confer the most threat to monogamous relationships and trigger the strongest protective responses, exploring factors such as duration of attraction, anonymity, relationship intimacy, frequency of contact, and degree of social network overlap. In particular, the range of motivations for avoiding the attractive alternative was not assessed in the current study. It also is unclear whether respondents experienced conflicting approach motivations in line with the extraordinary power that attraction can represent that countered those motivating them to avoid the attractive other. Qualitative research using interviews may provide insights into the thought processes, motivations, and emotional reactions that individuals experience during an episode of extradyadic attraction, including negative forms such as cognitive dissonance and regret, as well as positive forms such as increases in self-esteem and sexual arousal. Such research could help to parse out the efforts or combination of efforts that are ultimately most successful or unsuccessful in maintaining monogamy.

Conclusions and Implications

The current study provides an initial examination of the use and efficacy of individuals’ attempts to protect their monogamous relationships from attractive alternatives. As its efficacy in deterring infidelity threat is questionable, monogamy maintenance use may be more usefully conceptualized as warning signs against relationship threat, or attempts to refocus attention on one’s primary partner. Further
EFFORTS TO MAINTAIN MONOGAMY

quantitative and qualitative examinations may help to identify the most effective monogamy maintenance strategies and the ways in which individuals engage in them successfully in service of relationship longevity. Monogamy is widely expected and adopted implicitly by many in intimate relationships, yet individuals commonly face attractive alternatives, revealing discrepancies in their desire and practices to be consistent with monogamy ideals. Educators and therapists should explore the meaning of monogamy to couples and identify which components are most important, while working toward destigmatizing extradyadic attraction as a way to facilitate discussions about monogamy maintenance and threat identification. Ultimately, this study aims to spur further explorations regarding the practices of monogamy and the agentic role that individuals play in improving intimate relationship quality and maintenance.
EFFORTS TO MAINTAIN MONOGAMY

Compliance with Ethical Standards

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: Informed consent was obtained from all individual participants included in the study.
EFFORTS TO MAINTAIN MONOGAMY

References


EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


215
EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


Table 5-1

*Use of Monogamy Maintenance by Context of Extradyadic Attraction*

<table>
<thead>
<tr>
<th>Context</th>
<th>Proactive Avoidance</th>
<th>Relationship Enhancement</th>
<th>Low Self-Monitoring/Derogation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Md</td>
<td>Md</td>
<td>$\chi^2$</td>
</tr>
<tr>
<td>Participant attraction&lt;sup&gt;a&lt;/sup&gt;</td>
<td>38</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Extradyadic partner attraction&lt;sup&gt;b&lt;/sup&gt;</td>
<td>22</td>
<td>3</td>
<td>.5</td>
<td></td>
</tr>
<tr>
<td>Reciprocated attraction&lt;sup&gt;ab&lt;/sup&gt;</td>
<td>78</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Reciprocated attraction – unknown</td>
<td>33</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Kruskal-Wallis $\chi^2$</td>
<td></td>
<td></td>
<td></td>
<td>8.20*</td>
</tr>
</tbody>
</table>

*Note. N = 171. <sup>a</sup>Post-hoc Mann-Whitney U tests indicated significant group differences in uses of Proactive Avoidance, $U = 1061.0$, $z = -2.49$, $p = .01$, Low Self-Monitoring/Derogation, $U = 964.5$, $z = -3.08$, $p < .01$, and total MMI, $U = 955.5$, $z = -3.11$, $p < .01$. <sup>b</sup>Post-hoc Mann-Whitney U tests indicated significant group differences in uses of Low Self-Monitoring/Derogation, $U = 548.0$, $z = -2.61$, $p < .01$, and total MMI, $U = 541.5$, $z = -2.64$, $p < .01$. *$p < .05$. **$p < .01$.*
Figure 5-3. Visual representation of the associations between Investment Model and monogamy maintenance efforts
Appendix A: Monogamy Maintenance Inventory

People in relationships often find themselves being drawn toward or attracted to someone who is not their primary partner. Please recall an episode during your current relationship where you have felt the most strongly drawn to, or experienced the greatest attraction, to another member of the opposite sex who is not your primary partner.

On the following pages are a series of acts or behaviors. In this study, we are interested in the behaviors that people perform to try to ensure that they maintain monogamy in their relationship with their current romantic partner. For each act, please indicate whether you have engaged in this behavior when you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner:

1. Avoided spending time with this other person
2. Turned down spending time with this other person
3. Avoided being alone with this other person
4. Distanced myself from this other person
5. Turned down a plan that this other person tried to make with me
6. Avoided having close relationships with members of the opposite sex (outside of family)
7. Deleted their phone number
8. Removed them from my social media accounts (like Facebook, Instagram, Snapchat, etc.)
9. Avoided finding out more about this other person
10. Avoided getting to know this other person better to avoid developing a "crush" on them
EFFORTS TO MAINTAIN MONOGAMY

11. Had a physical relationship with my partner to deepen our bond
12. Took my partner out on a date
13. Bought my partner a gift
14. Engaged in sexual acts with my partner
15. Made sure that I looked nice for my partner
16. Told my partner how important they are to me
17. Made myself "extra attractive" for my partner
18. Felt guilty that I flirted too much with this other person
19. Reminded myself the importance of being faithful
20. Told myself that this other person was bad for me
21. Told myself about the potential negative consequences of cheating on my partner
22. Told myself that I needed to commit to my partner
23. Looked for unflattering things in this other person
24. Told myself that I was dependent on my partner

Researchers can calculate one overall measure of monogamy maintenance by taking the mean of all the items from the scale. Alternatively, researchers can calculate the following monogamy maintenance subscales by taking a mean of the items in the subscale:

Proactive Avoidance: Items 1 through 10
Relationship Enhancement: Items 11 through 17
Low Self-Monitoring/Derogation: Items 18 through 24
Chapter 6

Do Levels of Commitment and Relationship Threat Interact?: Testing the Calibration Paradigm

The results of Study Two (Chapter 5) illustrated two major points regarding monogamy maintenance. First, like other relationship outcomes, including relationship breakup (Le & Agnew, 2003), sacrifice in close relationships (Van Lange et al., 1997), and post-conflict communication (Guerrero & Bachman, 2008), monogamy maintenance efforts were predicted by relationship commitment, and the use of the Investment Model was supported for this new construct (RQ 4). Second, despite individuals’ monogamy maintaining intentions, their efforts were not predictive of monogamy violations outcomes at two-months follow-up (RQ 5).

In addition, findings from both Studies One and Two provided preliminary support that individuals’ use of monogamy maintenance is proportional to the levels of relationship threat that their extradyadic attraction may pose (Hyp 5). In Study One, individuals who were flirtatious toward an attractive alternative used a greater variety of monogamy maintenance efforts, compared to those who were not flirtatious. In Study Two, those experiencing an episode of reciprocated attraction used significantly more monogamy maintenance efforts than did those experiencing unreciprocated attraction episodes.

Additional analyses were conducted to address RQ 6 and to test the calibration paradigm (Lydon, Fitzsimons, & Naidoo, 2003; Lydon, Meana, Sepinwall, Richards, & Mayman, 1999), which allowed for potentially more comprehensive assessment of relationship commitment by combining structural commitment (represented by
EFFORTS TO MAINTAIN MONOGAMY

relationship status) and attitudinal commitment (represented by self-reported commitment level). Respondents in Study Two ($N = 287$) were divided into two groups based on structural (*married/cohabiting, dating*) and attitudinal (*absolute, not absolute*) commitment. Consistent with Lydon and colleagues’ paradigm (Lydon et al., 2003; Lydon et al., 1999), participants were then sorted into three separate groups for analyses: *high commitment* ($n = 70$), which comprised married/cohabiting individuals who reported absolute commitment; *moderate commitment* ($n = 107$), which comprised both married/cohabiting individuals who reported not absolute commitment, and dating individuals who reported absolute commitment; and *low commitment* ($n = 91$), which comprised dating individuals who reported not absolute commitment.

When the three commitment groups were compared on their uses of Proactive Avoidance, Relationship Enhancement, and Low Self-Monitoring/Derogation, they did not significantly differ in their uses overall. However, when examining only those who reported experiencing an episode of extradyadic attraction ($n = 161$), group differences were found, with the high ($Md = 3$, $n = 37$) and moderate ($Md = 3$, $n = 67$) commitment groups reporting significantly greater uses of strategies in the Low Self-Monitoring/Derogation factor, compared to the low commitment group ($Md = 1$, $n = 57$), $\chi^2 = 9.74$, $p < .01$. Significant differences were not found between those who were highly and moderately committed to their relationships. These findings indicated that in partial support of our hypothesis (Hyp 6), those who were high in either structural or attitudinal commitment used a greater variety of self-targeted efforts in response to their extradyadic attraction, as compared to those who were low in both structural and attitudinal
commitment, and that these differences were not observed in those not experiencing extradyadic attraction.

The final hypothesis (Hyp 7) predicted that those in the high commitment group would use a greater range of monogamy maintenance efforts when experiencing extradyadic attraction posing higher threat to their relationships, as compared to when they experience lower relationship threats, and as compared to those in the moderate or low commitment groups. Study Two findings indicated that reciprocated extradyadic attraction was perceived as posing a greater threat than unreciprocated extradyadic attraction and incurred greater monogamy maintenance efforts. A two-way between-groups MANOVA was conducted on the subsample experiencing an episode of extradyadic attraction (n = 160), with independent variables commitment (high, moderate, low) and extradyadic attraction context (reciprocated, unreciprocated), and Proactive Avoidance, Relationship Enhancement, Low Self-Monitoring/Derogation use as the three continuous dependent variables. No significant multivariate effects were identified for the three factors, contrary to the hypothesis. The main effects of commitment on Low Self-Monitoring/Derogation use and extradyadic attraction context on Proactive Avoidance and Low Self-Monitoring/Derogation uses were confirmed. These results indicated that high relationship commitment was associated with greater self-directed attraction management efforts, experiencing reciprocated attraction was associated with greater self- and attractive other-directed management and avoidance efforts, and these two variables did not interact to better explain use of monogamy maintenance.
EFFORTS TO MAINTAIN MONOGAMY

The findings contained in the previous two chapters advanced the literature on relationship maintenance and monogamy by establishing the primacy of relationship characteristics in understanding monogamy maintenance efforts in committed relationships and supported the use of the Investment Model in conceptualizing monogamy maintenance efforts. The context of extradyadic attraction also matters, with individuals using a greater range of monogamy maintenance behaviour in response to reciprocated attraction by attractive alternatives. Ultimately, monogamy maintenance efforts were not reflected in greater success in maintaining monogamy, contrary to expectations. In the final chapter, possible purposes served by the use of monogamy maintenance efforts are explored in some depth, as well as potential methodological limitations that may have obscured how these strategies operate.
References


EFFORTS TO MAINTAIN MONOGAMY

Chapter 7

General Discussion

Despite being a commonly held expectation in intimate relationships, monogamy is difficult to maintain for a significant portion of the population (Adimora et al., 2002; Adimora, Schoenbach, & Doherty, 2007). Violations against the monogamy norm in relationships have been amply explored (Blow & Hartnett, 2005); yet, comprehensive examinations of how individuals act to protect exclusivity within relationships are missing. The current dissertation comprised two in-depth investigations designed to address the significant gap in the literature with respect to monogamy maintenance. In doing so, a comprehensive inventory of monogamy maintenance behaviours was developed, which was validated and applied to explore behaviours that individuals in committed, monogamous relationships use in response to episodes of extradyadic attraction. In addition, monogamy maintenance efforts were tested using the Investment Model, and their uses were predicted by this widely-adopted theoretical framework for predicting relationship maintenance. Understanding the behaviours that individuals use in their attempts to protect their relationships, the contexts which elicit these behaviours, and the ultimate outcomes of these behaviours contribute to efforts to determine how individuals are successful and unsuccessful in maintaining their agreements of monogamy to their partners. The findings in the current dissertation provide the first a vital first step in informing clinical, educational, and personal interventions to bolster intimate relationships and improve quality of life.

Results from Study One (Chapter 3) revealed three broad types of efforts with which a general sample of adults tried to protect their relationships and themselves from
EFFORTS TO MAINTAIN MONOGAMY

monogamy violations: Proactive Avoidance (i.e., attractive other-directed avoidance behaviours to limit developing intimacy), Relationship Enhancement (i.e., partner and self-directed efforts to bolster the primary relationship), and Low Self-Monitoring/Derogation (i.e., relative absence of self-directed efforts to redirect one’s attention away from the attractive alternative and toward one’s primary relationship).

Overall, this research made clear that monogamy maintenance efforts are widely adopted, with approximately nine in ten respondents reporting use of at least one behaviour in an episode of extradyadic attraction during their current relationship. Multiple strategies were typically reported, and all three types of monogamy maintenance efforts were commonly endorsed. The novel findings from the current dissertation identified monogamy maintenance efforts as a common tool within many individuals’ toolbox of relationship maintenance strategies.

Although Study One (Chapter 3) identified the types of behaviours used to maintain monogamy, little was known about the factors influencing who, when, and in which relationships monogamy maintenance efforts would be enacted. Consequently, Study Two (Chapter 5) and the transition texts (Chapters 4 and 6) provided an initial exploration into the factors most pertinent to understanding why certain individuals engage in greater monogamy maintenance, and which types, as compared to others. Demographic, personality, sexual attitudinal, extradyadic attraction context, and relationship variables were tested. The findings indicated that extradyadic attraction episodes that were reciprocated, that is, where both the individual and the attractive other were attracted to one another, engendered greater uses of Proactive Avoidance and Low Self-Monitoring/Derogation behaviours as compared to unreciprocated episodes.
EFFORTS TO MAINTAIN MONOGAMY

Relationship quality, specifically relationship commitment, was positively associated with Low Self-Monitoring/Derogation and negatively associated with Relationship Enhancement use. Individuals who reported higher commitment to their relationships tended to endorse a wider variety of Low Self-Monitoring/Derogation and a narrower variety of Relationship Enhancement strategies, suggesting greater self-focused efforts to redirect their attention back to their primary partners as a means of protecting exclusivity, and to not identify their efforts to bolster their primary relationships as a means to protect exclusivity.

Contrary to expectations and a robust body of literature addressing predictors of infidelity, demographic, personality, and sexual attitudinal variables were not associated with any of the monogamy maintenance types, suggesting that infidelity and monogamy may be orthogonal constructs, operating differently. In addition, gender, relationship status, and monogamy agreement status were not associated with monogamy maintenance. Overall, the level of threat posed by an episode of extradyadic attraction and relationship commitment were the most pertinent factors in understanding individuals' greater uses of monogamy maintenance efforts.

Study Two (Chapter 5) also extended the initial findings of Study One (Chapter 3), which indicated a lack of association between monogamy maintenance use and monogamy success, by examining monogamy maintenance efforts and infidelity outcomes at two-month follow-up. Contrary to expectations, monogamy maintenance use was not predictive of romantic and sexual infidelity outcomes at follow-up. Even if the intention to maintain monogamy was present, other unexplored personal characteristics or other variables may impede protective efforts, including motivations to maintain
EFFORTS TO MAINTAIN MONOGAMY

monogamy, perceptions of attractive others, and the context of one’s relationship with the attractive other. For example, the role of depletion of self-regulatory resources (via unrelated cognitive demands, or consumption of alcohol; Abrams & Wilson, 1983; Baumeister & Heatherton, 1996) upon monogamy maintenance is unclear. Depletion can impede individuals’ restrictions of undesired or inappropriate sexual behaviours (Gailliot & Baumeister, 2007); yet, it can also promote the willingness to sacrifice in one’s close relationships (Righetti, Finkenauer, & Finkel, 2013). Additionally, emerging research has explored the role of resistance to mate guarding in women, suggesting that perception of one’s partner’s behaviours are associated with one’s own relationship protective (or destructive) behaviours (Cousins, Fugère, & Riggs, 2015).

Of particular note, these findings indicated that monogamy maintenance efforts did not appear to be effective in differentiating between those who maintained monogamy to their partners and those who were unsuccessful. However, as robust predictors of infidelity were not found to be significantly associated with monogamy maintenance in the current dissertation, future research may find it necessary to identify more valid measures of monogamy success than lack of infidelity.

Limitations

These studies contained a number of limitations related to design, sample, procedure, measurement, and statistical analyses, which are addressed below in turn. Key areas for future research follow.

Design Limitations

In the current dissertation, participants were asked to recall behaviours they had used in service of monogamy maintenance. Similar to all survey research, our findings
EFFORTS TO MAINTAIN MONOGAMY

are limited by potentially biased or inaccurate recall inherent in self-reports. The current dissertation aimed to compensate for the limitations of the self-report survey methodology by employing multiple time periods and directing respondents to answer in reference to specific attraction episodes. The current findings suggest that the extradyadic attraction episode referenced may be associated with participants’ recall and framing of behaviours as monogamy maintaining. In particular, participants recalled using greater numbers of Relationship Enhancing behaviours in service of monogamy maintenance when recalling a lifetime episode as opposed to a current relationship episode of extradyadic attraction, indicating that the time of recall may be pertinent to individuals’ interpretations of their own intentions. The field will benefit from more nuanced examinations of the contexts of extradyadic attraction, such as duration of attraction, anonymity, relationship intimacy, frequency of contact, and degree of social network overlap, which will extend our understanding of how participants try to remain faithful to their partners.

Despite the utility of the monogamy maintenance measure that was developed, the quantitative approach to studying monogamy maintenance behaviours may have missed subtle nuances in individuals’ motivations in engaging in monogamy maintenance. Qualitative explorations using interview methods will provide greater insight into the thought processes, motivations, and emotional responses of individuals when approaching and/or avoiding attractive alternatives. Specifically, qualitative investigations into the phenomenon of extradyadic attractions would enrich both the fields of monogamy and infidelity research. Preliminary research investigating “crushes” held by women in committed relationships indicate that crushes are a common
EFFORTS TO MAINTAIN MONOGAMY

phenomenon, and are typically perceived as having either no effect or positive effects on their primary relationships, although some women reported experiencing lower sexual and relationship satisfaction as a result of their crushes (Mullinax, Barnhart, Mark, & Herbenick, 2016). These qualitative findings also identified a number of strategies with which women managed their crushes, some of which aligned with efforts identified within the current dissertation, such as avoiding thinking about their feelings, attempts to focus on what they like about their partners, setting boundaries, and avoiding the attractive other. Their findings also differed from the current dissertation, with a number of women selectively disclosing to their partners about their extradyadic attraction, and some women fantasizing and masturbating to thoughts of their crushes. These findings illustrate that extradyadic attraction may be perceived as benign and even exciting, and not necessarily threatening. In addition, interesting preliminary work had identified sexual scripts with regard to dating individuals’ attempts to avoid sexual intercourse, but focused on sexual resistance against their dating partners, not attractive alternatives (Afifi & Lee, 2000; LaPlante, McCormick, & Brannigan, 1980; McCormick, 1979). Although these investigations were quantitative in nature, the identification of potential sexual scripts of responses to extradyadic attractions would enrich our understanding of norms which may facilitate or impede monogamy maintenance.

Participant perceptions may have influenced their patterns of responding. Although participants were encouraged to endorse as many (or no) behaviours as were relevant, they may have perceived pressure or social desirability demands to report at least some monogamy maintenance efforts in the inventory as compared to reporting that they did nothing to protect exclusivity. Some participants may have provided the most
EFFORTS TO MAINTAIN MONOGAMY

obvious, stereotyped monogamy maintenance strategies for the sake of perceived compliance with the investigators. Participant responses may also be influenced by positive biases in perceiving how we behave in our relationships (Endo, Heine, & Lehman, 2000). Socially desirable and positively biased responding then may contribute to the lack of association between monogamy maintenance and infidelity outcomes. Throughout data collection, a number of participants commented in the open-ended responses during the pilot study and contacted the primary investigator via email proactively to provide the feedback that they did not use any of the outlined monogamy maintenance behaviours. Some participants endorsed or commented that they did not engage in behaviours to maintain monogamy as they did not experience extradyadic attraction. Receiving this feedback during the pilot and first studies led to the inclusion of a “did not experience extradyadic attraction” option for participants for the subsequent study, which is hoped to have ameliorated some of the aforementioned concerns for Study Two (Chapter 5).

Another design limitation may be the amount of time elapsed between initial data collection and follow-up in Study Two (Chapter 5) may not have been sufficient to sample the influence of monogamy maintenance efforts upon infidelity outcomes in committed relationships. The choice of a two-month period in between initial data collection and follow-up was made by consulting the relevant literature, and by considering the logistical limitations of survey research with a sample recruited online. Specifically, two months was used in prior examinations of predicting dating infidelity and breakup at follow-up from initially measured levels of Investment Model variables (Drigotas, Safstrom, & Gentilia, 1999; Miller, 1997). However, it must be noted that the
sample characteristics of these two prior studies differ significantly from those of the current dissertation, with younger daters of relatively short relationship duration comprising both Drigotas and colleagues (1999) and Miller’s (1997) studies. Two months may not have been sufficient to measure the phenomena of resisting enduring attractions or relationship threats, especially for individuals in long term committed relationships, which characterizes much of the current sample.

Infidelity was used as the outcome measures of interest for two reasons: infidelity is intuitively viewed as the opposite of monogamy, and the presence of strong monogamy norms which are often poorly defined and often inconsistent between partners (Warren, Harvey, & Agnew, 2012). Infidelity and consensual non-monogamy (CNM) are the only deviations from monogamy that have received empirical examination. Infidelity is more common than CNM and confers greater risks personally, sexually, and relationally (Allen & Atkins, 2012; Conley, Moors, Ziegler, & Karathanasis, 2012; DeMaris, 2013; Feldman & Cauffman, 1999; Lehmliler, 2015), and can be argued to be the only violation from monogamy norms as CNM relationships do not adhere to those norms. In addition, monogamy norms are both vague and pervasive. Those who engage in extradyadic sexual behaviours may still consider themselves to be a monogamous person who has lapsed, as reviewed in detail earlier (Anderson, 2010; Hearn, O’Sullivan, El-Bassel, & Gilbert, 2005; Oswalt & Wyatt, 2011; Towner, Dolcini, & Harper, 2015). When monogamy is assumed as the default and best relationship configuration, individuals may assume that their relationships are exclusive by default, as opposed to exclusive by nature of agreements made or actions within a romantic relationship (Anderson, 2010; Ziegler et
EFFORTS TO MAINTAIN MONOGAMY

al., 2015). Thus, the use of monogamy (as opposed to infidelity) as an outcome measure would likely subject the results to greater social desirability and response bias.

Despite the choice made to use infidelity outcomes, infidelity is imperfect as a measure for understanding monogamy maintenance for a number of reasons, and likely provides an incomplete view of its uses and benefits. Firstly, infidelity typically is understood as extradyadic sexual intercourse (Thompson & O’Sullivan, 2016). In contrast, individuals tend to conceptualize monogamy beyond sexual monogamy, including emotional, desirous, and social monogamy (Anderson, 2010; Ziegler et al., 2015). In addition, given the likely multidimensional nature of monogamy, it is unknown whether the lack of infidelity is either a necessary, incomplete, or sufficient condition for monogamy. For example, a number of participants in the pilot study endorsed broader social avoidance as a means to maintain monogamy within their relationships, such as avoiding spending time with the opposite sex, and spending all of their free time with their partners. Infidelity outcome measures are unlikely to adequately reflect the breadth of monogamy strategies used. Self-report infidelity measures also are subject to socially desirable responding as a stigmatized sexual behaviour. Lastly, the current dissertation was unable to validate whether respondents were successful in avoiding infidelity (yes or no). Ultimately, the lack of associations found between monogamy maintenance efforts and infidelity may have been confounded by the imprecise nature of the outcome variable.

Theoretically, the current dissertation supported the Investment Model as a means to conceptualize monogamy maintenance efforts. The calibration paradigm was also tested, which aimed to extend the Investment Model by hypothesizing that relationship
protective behaviours would be sensitive to levels of relationship commitment and levels of perceived relationship threat. Our findings did not identify an interaction between commitment and relationship threat levels in the use of monogamy maintenance. An experiment would more fully test the calibration paradigm by controlling for relationship commitment and perceived relationship threat. Ultimately, an experiment for this dissertation was not feasible given the foundational work that was first needed in understanding the range of monogamy maintenance behaviours and their association with relationship quality. Future work into monogamy maintenance and any interactional effects will benefit from incorporating experimental design. For example, participants in committed relationships could be asked to endorse monogamy maintenance behaviours after reading hypothetical vignettes where they are asked to place themselves in situations of different relationship threat levels, such as interacting with individuals of the opposite sex varying in attractiveness (highly attractive, moderately attractive, not attractive) and reciprocated attraction (reciprocated, unreciprocated).

Sample and Procedural Limitations

Sample limitations in the current dissertation arose from the medium used for recruitment and the exploratory nature of the studies. The three samples recruited for the current dissertation were derived from Amazon®’s MTurk®, a crowdsourcing website. Participants were likely active and more skilled users of the Internet, as compared to the general population. Furthermore, although validity checks were built into the surveys, workers on MTurk® were completing the surveys for financial compensation and would have been motivated to minimize their completion times, leading to potentially less conscientious responding.
EFFORTS TO MAINTAIN MONOGAMY

The recruitment criteria for all three samples included: 1) Canadian or U.S. resident, 2) age of majority, 3) currently involved in a romantic relationship, and 4) heterosexual. Although Canadian and U.S. participants were sought during recruitment, MTurk®’s North American workers are predominantly based in the U.S., and no Canadian participants were recruited for study samples. Participants were recruited for a study about their romantic relationships, and those who may be experiencing doubts about their relationships may have been less likely to participate in the study, introducing volunteer bias. A small number of individuals engaging in consensual non-monogamy participated in the studies, and were ultimately excluded from analyses based on the current dissertation’s focus on monogamous relationships, as well as the lack of statistical power to conduct meaningful analyses.

The current dissertation limited the samples to heterosexual participants. The limitation to heterosexual individuals reflected the exploratory nature of the current dissertation, and prior research establishing differences in attitudes toward, practice of, and expectations for monogamy between heterosexual, homosexual, and bisexual individuals in romantic relationships (Hoff & Beougher, 2008; Hosking, 2013; Mark, Rosenkrantz, & Kerner, 2014). Monogamy maintenance in sexual minorities’ relationships likely will differ from heterosexual relationships, as previous research has established that explicit monogamy agreements are typical in the relationships of gay men (Hoff & Beougher, 2008; Hosking, 2013). The samples comprised largely of Caucasian participants (over 70%) who were in longer term relationships or marriages (over 65%), and generalizability of the study findings to the broader North American population may be limited.
Measurement Limitations

The measures used in the current dissertation, including the Monogamy Maintenance Inventory being developed, were self-report in design. Although anonymous online data collection can help to reduce socially desirable responding (Joinson, 1999), demand characteristics and social desirability likely have influenced how respondents completed the surveys. In particular, respondents may have been motivated to under-report their attraction to an alternative other and their engagement in infidelity. Attraction to alternative others was commonly endorsed (61.7%), and the reported infidelity rates across the studies of the current dissertation were comparable to recent reported rates of infidelity (Mark, Janssen, & Milhausen, 2011), alleviating some of these concerns. As self-report measures of monogamy maintenance may provide a biased and incomplete view of monogamy maintenance efforts, future research may benefit from using different types of measures, and by relying on different reporters. For example, the Monogamy Maintenance Inventory may be further operationalized and used to rate behaviours of individuals by trained observers in field research at settings likely to trigger monogamy maintenance behaviours, such as dance clubs, or by partners. The use of event sampling or diary methods can facilitate more accurate recall over a predetermined, shorter period of time, and experimental manipulations can control for the influences of confounding variables, as previously outlined.

The Monogamy Maintenance Inventory was developed as a checklist measure where participants endorsed the presence of individual behaviour use. The dichotomous response format was chosen to limit fatigue in online survey responding, maximizing the likelihood of conscientious and valid responding (DeVellis, 2012). A large number of
initial inventory items \((n = 81)\) compensated for the decreased variability associated with dichotomous items in the exploratory and confirmatory factor analyses, and a consistent and clear factor structure emerged from both analyses. The natural extension of the inventory would be to use its items to develop a measure which would allow for more in-depth assessment of the extent of monogamy maintenance behaviour use. This can be done by asking respondents to endorse each item on a Likert-type scale (e.g., ranging from \textit{never} to \textit{all the time}), or on a continuous scale (e.g., by asking the number of times a behaviour is used during a time period). The current dissertation identified that individuals typically used multiple strategies to maintain monogamy, but was not able to identify the context and extent to which these strategies were used (e.g., used once and abandoned when ineffective, or used consistently over all interactions with an attractive alternative). Examinations of the extent of behaviour use allows for more detailed understanding of the contexts of behaviour use and the relative effectiveness of different types of behaviours.

The Monogamy Maintenance Inventory items were arranged in random order to control for potential order effects. However, the order of individual measures was not randomized, and it is possible that respondents were primed to answer items based on the measures that came before in a way that is not controlled within these studies. This may potentially add error variance and bias into participant data.

The current dissertation relied on participants’ self-definition of romantic and sexual infidelity as an outcome measure. Single, dichotomous items were used for infidelity outcome measures to minimize survey completion time and respondent fatigue (e.g., “I have been sexually involved with at least one other person who was not with my
EFFORTS TO MAINTAIN MONOGAMY

primary partner over the past two months”). Allowing respondents to self-define infidelity is consistent with the approach in recent research (Watkins & Boon, 2016) and findings that adults demonstrate some variability in their definitions of infidelity (Thompson & O’Sullivan, 2016). Furthermore, subjective definitions of infidelity permit respondents to take into consideration idiosyncratic terms they may have discussed with their partners. However, allowing for self-definitions of infidelity outcomes ultimately introduces inconsistencies and greater variability within the analyses, in particular regarding emotional infidelity, which is more variably interpreted between persons (Thompson & O’Sullivan, 2016). The subjectivity and variability in infidelity definitions may have contributed to the null results when using monogamy maintenance to predict infidelity outcomes.

Statistical Limitations

Statistical analyses in the current dissertation were primarily nonparametric to manage the non-normal distributions of a number of variables, including key predictor variables (religiosity and relationship commitment) and the dependent variables (monogamy maintenance factors). Nonparametric analyses were chosen for interpretation after conducting comparable parametric analyses with transformed variables, to facilitate interpretation and to represent more faithfully the characteristics of the samples. Although many key analyses in Studies One (Chapter 3) and Two (Chapter 5) were significant, nonparametric analyses are less sensitive than comparable parametric analyses (Tabachnick & Fidell, 2012), and may have failed to identify meaningful group differences.
A number of additional statistical decisions were made to account for the non-normal distribution of most variables of interest. Transformations were applied to some personality and sexual attitudinal variables to facilitate parametric model testing, and the transformed variables all approached normality. The variable chosen (sociosexuality, sexual narcissism, agreeableness, conscientiousness) were moderately skewed and were deemed acceptable for transformations as their scales were not central to interpretation (Tabachnick & Fidell, 2012). For two key variables (religiosity and commitment), extreme skew was demonstrated in the sample, and splitting into two groups was most reflective of the nature of the data. Religiosity was split into not religious and at-all-religious to reflect the extreme positive skew in the variable, whereas commitment was split into fully committed and not fully committed to reflect the extreme negative skew. However, dividing these two continuous variables into categorical variables likely reduced the variability within these variables, and the analyses conducted upon these smaller subsamples also demonstrate less power to reject the null hypothesis.

Conclusions and Implications

The current dissertation generated new knowledge related to our understanding of how individuals endeavor to maintain monogamy to their partners, which situations incur greater efforts, and whether these efforts are useful in reaching their goal. Monogamy is a widely held expectation in heterosexual intimate relationship (Anderson, 2010; Conley et al., 2013; Watkins & Boon, 2016); yet, violations of monogamy are common (Adimora et al., 2002; Adimora, Schoenbach, & Doherty, 2007). Violations of monogamy have strong detrimental consequences on relationship functioning and continuance (Amato & Previti, 2003; Betzig, 1989; DeMaris, 2013; Feldman & Cauffman, 1999b; Hall & Fincham,
EFFORTS TO MAINTAIN MONOGAMY

2006; Scott, Rhoades, Stanley, Allen, & Markman, 2013). This dissertation has important implications in understanding the gap between monogamy intentions and outcomes, and by extension, relationship quality and maintenance.

The current dissertation provided a much-needed quantitative examination of monogamy using a validated measure, building upon the burgeoning qualitative literature on monogamy (Anderson, 2010; Conley et al., 2013; Conley et al., 2012; Emmers-Sommer, Warber, & Halford, 2010; Oswalt & Wyatt, 2011; Schmookler & Bursik, 2007). The developed Monogamy Maintenance Inventory provides the first psychometrically-sound and theoretically-based measurement of monogamy maintenance efforts to be used in future research. The current findings also complement and expand upon the well-established phenomenon of the derogation of attractive alternatives (Johnson & Rusbult, 1989; Lydon, Meana, Sepinwall, Richards, & Mayman, 1999; Ritter, Karremans, & van Schie, 2010) by examining behavioural, emotional, and cognitive monogamy maintenance efforts that may be used by individuals facing both fleeting and longer-lasting attractive alternatives to their relationships.

The most significant implication resulting from this research on intimate relationships and relationship maintenance is in its translations to personal, counselling, educational, and research applications emphasizing communication and negotiation of monogamy standards. Although monogamy is widely expected, partners often disagree on what is understood to be within the acceptable bounds of individual relationships. In the contexts of intimate relationships and counselling, explicit discussions by partners about what each prefer will help to increase mutual understanding, and decrease likelihood of unintentional monogamy violations and relationship distress. Negotiations
EFFORTS TO MAINTAIN MONOGAMY

ten may allow partners to come to mutually satisfactory boundaries for developing intimacy and trust.

Monogamy maintenance efforts comprise multiple facets – behavioural, cognitive, emotional, and social – and partners likely differ in their uses of these behaviours. Identifying different types of monogamy maintenance behaviours is the initial step to understanding which strategies may be most effective in maintaining different types of monogamy – be it sexual, emotional, social, or desirous. By exploring the different facets of monogamy, partners also can identify better what types of monogamy are central to their relationship well-being, while allowing greater permissiveness in other realms which are not as central. For example, a couple may decide to rely on close friends for emotional intimacy while remaining sexually exclusive.

Normalizing and destigmatizing extradyadic attraction will serve to facilitate general discussions and discussions between partners about relationship maintenance for those who wish to maintain a monogamous relationship. Individuals may not discuss crushes or other kinds of extradyadic attraction they experience with others due to fears that they will be perceived as a bad partner, an abnormal or immoral person, or worse. They also may not discuss them with their partners out of fear of hurting their partners.

Monogamy maintenance efforts may serve as warning signs against relationship threat and identify the need to refocus attention on primary partner. The majority of adults across three samples had experienced extradyadic attraction, indicating that extradyadic attraction is typical in heterosexual intimate relationships. Yet, most assume that they will not be affected by or engage in infidelity (Watkins & Boon, 2016). By
EFFORTS TO MAINTAIN MONOGAMY

knowing that most are susceptible to finding others attractive, and by knowing what behaviours tend to arise when one is attracted to another person, motivated individuals can choose to proactively protect their primary relationships from external threats instead of ignoring their existence.

By investigating the experience of monogamy maintenance and its interplay with personal and contextual factors, counselors, practitioners, educators, and individuals can better and more comprehensively understand the maintenance of valued relationships. A greater understanding then can help to inform clinicians and counselors working with couples struggling with relationship conflict and monogamy violations, and aid in the development and improvement of programs which serve to improve communication and relationship protective skills.
EFFORTS TO MAINTAIN MONOGAMY

General Discussion References


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EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


EFFORTS TO MAINTAIN MONOGAMY


Appendices

Appendix A. Mechanical Turk® Recruitment Message – Study One

Recruitment for survey on relationships (30 minutes)

We are based at the University of New Brunswick in Fredericton, Canada and conduct research on romantic relationships. We are currently recruiting participants for research looking at behaviours influencing heterosexual romantic relationships. You will earn $1.25 for your time. To find out more please click below.

To participate you need to be:

- A Canadian or U.S. resident
- The age of majority in your state/province of residence
- Currently involved in a romantic relationship
- Heterosexual
Appendix B. Consent Form – Study One

You are invited to participate in a research study being conducted by Brenda Lee (Ph.D. Candidate), under the supervision of Dr. Lucia O’Sullivan, at the University of New Brunswick in Fredericton, Canada. This project is on file with the Research Ethics Board, University of New Brunswick (REB #2016-107).

Why is this research being done? This is the first part of a three-part study assessing people’s romantic relationships. Specifically, we are interested in how adults maintain their primary romantic relationships.

What do you want me to do? You will be asked to take part in an online survey that will take about 30 minutes to complete. You will be asked a variety of questions about your background, current relationship, relationship and sexual history, and romantic and sexual behaviours. There are also two easy questions included in the survey that let us know that you are a real person and not a spam bot. You must answer these questions correctly to be compensated for completing the study. The questions are labeled to let you know which ones they are. Please complete the study in a private setting where you are unlikely to be interrupted.

Are there any benefits to participating? You will receive $1.25 via your Mechanical Turk® account for completing this survey. You can also choose to receive a summary of the findings of this research by providing your e-mail at the end of the survey.

Are there any risks? We do not expect that you will experience any discomfort during the study. If you do feel uncomfortable, you can stop the study or skip the questions that make you uncomfortable. Participation in the study is completely voluntary. If at any time you feel you do not wish to participate for any reason, you may stop answering questions without loss of compensation. However, we ask that you do answer the question that confirms that you are a human and not a spam bot.

Are my answers anonymous? Yes. Your worker ID and IP address will be connected to your survey responses to allow for compensation and response screening. We do not have access to any other identifying information (e.g., your name, address). If you choose to provide your e-mail address it will not be connected with your survey responses.

How do you keep my answers private? Only the researchers will have access to the information you give on the questionnaire. Amazon and Mechanical Turk® will not have access to your survey answers. The consent forms are kept separate from the survey and stored on a secure database. No identifying information will be attached to your survey responses; your survey will be given a study number only. If you are asked to provide contact information, it will only be used to send you compensation. Any contact information will be stored separately from your consent form and survey data. Only a summary of the overall results will be shared in possible future presentations and/or publications of the survey data. The website that hosts the survey is on a secure server.
All data will be securely stored on a password protected computer and in a locked cabinet in a secure research office for seven years as per ethical process, and then be destroyed in full.

**How can I get more information about this research project?** If you have any questions before, during, or after the study, or if you would like to learn more about this research project, please feel free to contact the primary researcher (Brenda Lee, Brenda.Lee@unb.ca) or her supervisor (Dr. Lucia F. O’Sullivan, osullivan@unb.ca, 1 (506) 458-7693). If you would prefer to speak with an individual not directly involved in this research, please contact the director of the Ethics Review Committee for the Department of Psychology (Dr. Ryan Hamilton, r.hamilton@unb.ca, 1 (506) 453-5030).

If you wish to receive a summary of the results of this study once it is complete, please type your email address in the space provided. Your e-mail address will not be connected to your survey responses.

Email address: ________________________________

By clicking the “Submit” button at the bottom of this page I am agreeing to the following statement: I have read the above description and volunteer to participate in this study. I understand that I can decide to discontinue my participation or not to provide any personal information at any time without question and without penalty.

© Submit
Appendix C. Demographics questionnaire

Are you at or above the age of majority in the state/province in which you currently reside? This means that you are the age at which you can legally consent to participate (at least 18 in some states and provinces, 21 in others).

__ Yes
__ No

Where do you currently live?
__ USA
__ Canada
__ Other

Which best describes your gender? (please select one)
__ male
__ female
__ transgender
__ no answer

Which of the following best describes your current relationship status?
__ Married / living with partner
__ In a committed relationship with one person
__ In a committed relationship with more than one person
__ In an open relationship
__ Dating but not committed to one person
__ Single and not dating
__ No answer

If currently in a relationship, is your primary partner:
__ Male
__ Female
__ Transgender

Which of the following best describes your sexual orientation?
__ Heterosexual (Straight)
__ Gay
__ Lesbian
__ Bisexual
__ Asexual
__ Questioning
__ Unlabelled
__ Unsure
__ Prefer not to disclose
__ Other (specify): ____________________
How old are you? __ years

How would you best describe your ethnicity?
__ Asian / Pacific Islander
__ Caucasian/White
__ First Nations / Aboriginal / Native American
__ African American/Black
__ Latino/a / Hispanic
__ Bi-racial/Multi-racial
__ Other (specify): ___________________

What language do you use primarily?
__ English
__ French
__ Spanish
__ Other

How would you best describe your religious beliefs?
__ Agnostic
__ Atheistic
__ Buddhist
__ Christian: Catholic
__ Christian: Mormon
__ Christian: Protestant
__ Christian: Other (please specify below)
__ Hindu
__ Jewish
__ Muslim
__ None
__ Other: (please specify)

What is the highest level of education you have completed?
__ Some school without high school diploma
__ High school or equivalent
__ Some college/university education
__ Completed college/university
__ Post-graduate Degree
__ Other: please specify: __________________

How long (in months) have you been involved in your current romantic relationship? If you are involved in more than one romantic relationship, please name the length of the relationship which you consider your primary romantic relationship.

___
To help us keep out spam bots please answer the following question correctly. Pick the answer that is NOT a food.

__ Apple
__ Bread
__ Umbrella
__ Ice cream

How many dating relationships have you had over your lifetime? ___

What is the longest dating relationship you have had before your current relationship(s)?
__ months

Questions about your partner:

How would you best describe your partner’s religious beliefs?
__ Agnostic
__ Atheistic
__ Buddhist
__ Christian: Catholic
__ Christian: Mormon
__ Christian: Protestant
__ Christian: Other (please specify below)
__ Hindu
__ Jewish
__ Muslim
__ None
__ Other: (please specify)

How religious do you think your partner is? (check one)
__ Not at all religious
__ A little bit religious, but not much
__ Somewhat religious
__ Very religious

How often does your partner attend religious services?
__ Never
__ Less than once a month
__ Once a month or more, but less than once a week
__ Once a week or more
__ Unsure
Appendix D. Ineligible for Participation Form

Thank you for your interest in our research. Unfortunately, you are not eligible to participate in the current study.

If you are interested in learning more about the research on sexuality and relationships, the following websites are an excellent place to start:

- The Psychology of Human Sexuality: http://www.lehmiller.com/

If you have any questions or comments please feel free to contact either Brenda Lee (brenda.lee@unb.ca) or Dr. Lucia O’Sullivan (osulliv@unb.ca). Any concerns about this study may be addressed to Dr. Ryan Hamilton (r.hamilton@unb.ca), Chair of the Department of Psychology Ethics Committee.
Appendix E. Monogamy Expectations in Current Relationship

The following questions refer to (1) 'romantic exclusivity', which means romantic involvement with each other ONLY, and (2) 'sexual exclusivity', which means sexual involvement with each other ONLY. By 'romantic', we mean any kind of close affection/intimate connection, and by 'sexual', we mean any form of physically arousing contact, such as kissing, oral sex, or intercourse.

Overall, to what extent do you expect romantic exclusivity from a romantic partner?

1   2   3   4   5
Not at all            Absolutely always

Overall, to what extent do you expect sexual exclusivity from a romantic partner?

1   2   3   4   5
Not at all            Absolutely always

In your current relationship, do you expect romantic exclusivity from your romantic partner?

1   2   3   4   5
Not at all            Absolutely always

In your current relationship, do you expect sexual exclusivity from your romantic partner?

1   2   3   4   5
Not at all            Absolutely always

In your current relationship, do you think your partner expects romantic exclusivity from you?

1   2   3   4   5
Not at all            Absolutely always

In your current relationship, do you think your partner expects sexual exclusivity from you?

1   2   3   4   5
Not at all            Absolutely always

In your current relationship, do you and your primary partner have an understanding (even if you have never talked about it openly) that neither of you will be romantically or sexually involved with others during your relationship?

__ yes
__ no
__ not sure
How successful (if at all) do you expect you will be in being monogamous to your partner (over the course of your relationship)?
__0 – Not at all successful
__1 – Small chance of being successful
__2 – Moderate chance of being successful
__3 – Fairly high chance of being successful
__4 – Very high chance of being successful

How successful (if at all) do you expect your partner will be in being monogamous to you (over the course of your relationship)?
__0 – Not at all successful
__1 – Small chance of being successful
__2 – Moderate chance of being successful
__3 – Fairly high chance of being successful
__4 – Very high chance of being successful

Pilot study only:

In this study, we are interested in the factors and strategies (efforts, actions, tactics) that help individuals to maintain monogamy in their relationship with their romantic partner. In your current relationship, what factors and strategies have helped you to stay monogamous to your partner (if any)? Helpful strategies may include things that you do or say, to yourself or others, while helpful factors include things that your partner does, or the circumstances of your relationship. Please be as specific as possible and to list as many factors and strategies as you can.

(Open ended response)
Appendix F. Experiences with Infidelity

Despite having some type of agreement or understanding with their partner, many people develop some type of sexual or romantic involvement (ranging from a brief one-time encounter to a long-term relationship) with another person. Which is true for you and your partner? (Check all that apply)

__ I have been romantically involved with at least one other person during my relationship with my primary partner
__ I have been sexually involved with at least one other person during my relationship with my primary partner
__ My partner has been romantically involved with at least one other person (other than myself) during our relationship
__ My partner has been sexually involved with at least one other person (other than myself) during our relationship
__ I believe (but do not know for sure) that my partner has been romantically involved with at least one other person during our relationship
__ I believe (but do not know for sure) that my partner has been sexually involved with at least one other person during our relationship
__ Neither I nor my partner has been romantically involved with at least one other person during our relationship
__ Neither I nor my partner has been sexually involved with at least one other person during our relationship

To help us keep out spam bots please answer the following question correctly. Pick the answer that starts with the letter B.
__ Apple
__ Bread
__ Umbrella
__ Ice cream
Appendix G. Monogamy Maintenance Items for Pilot of Study One

People in relationships often find themselves being drawn toward or attracted to someone who is not their partner. Please recall the episode in your life where you have felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who was not your partner at the time.

If this episode occurred in the past, how long ago did this episode occur? (Please provide your closest estimate)
__ months

Is this attraction still ongoing?
__ yes
__ no

In this episode of your life, where you have felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who was not your partner at the time:
__ I was attracted to or interested in this person
__ This person was attracted to or interested in me
__ Both this person and I were attracted to or interested in each other
__ I was attracted to or interested in this person, although I am unsure if they were attracted to or interested in me.

On the following pages are a series of acts or behaviours. In this study, we are interested in the behaviours that people perform to try to ensure that they maintain monogamy in their relationship with their romantic partner. For each act, please indicate whether you have engaged in this behaviour when you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner:

1. Called or text messaged my partner to let them know what I am doing.
2. Brought my partner with me for a social event where this other person would be present.
3. Attended a party with my partner so I can avoid talking to this other person.
4. Bought my partner a gift.
5. Took my partner out on a date.
6. Had a physical relationship with my partner to deepen our bond.
7. Engaged in sexual acts with my partner.
8. Compared my partner relative to the flaws of this other person.
9. Made sure that I looked nice for my partner.
10. Made myself “extra attractive” for my partner.
11. Showed my partner my communications with this other person, such as on my cell phone.
12. Spent all my free time with my partner.
13. Reassured my partner that I would never cheat on them.
14. Reassured my partner that I have never cheated on them.
15. Told my partner how important they are to me.
16. Told my partner that I was dependent on them.
17. Asked my partner to marry me.
18. Wore my partner’s jewelry or clothing to signify that I was taken.
19. Talked with my partner about finding this other person attractive.
20. Discussed with my partner what we considered to be acceptable sexual behaviours with other individuals.
21. Discussed with my partner whether we considered having friends of the opposite sex to be acceptable.
22. Discussed with my partner whether or not it is acceptable to make new friends of the opposite sex.
23. Made myself less attractive when spending time with this other person.
24. Mentioned my partner to this other person without being asked.
25. Told this other person how much my partner and I were in love.
26. Bragged about my relationship to this other person.
27. Kissed or hugged my partner in front of this other person.
28. Held my partner’s hand when this other person was around.
29. Put my arm around my partner in front of this other person.
30. Did not attend a party where this other person would be present.
31. Left a gathering where this other person was present.
32. Avoided consuming alcohol around this other person.
33. Intentionally ignored the looks from this other person when they were looking at me.
34. Got my friends to discourage them.
35. Treated this other person rudely.
36. Gave this other person dirty looks when they looked at me.
37. Turned down a plan that this other person tried to make with me.
38. Avoided making eye contact with this other person.
39. Avoided spending time with this other person.
40. Avoided getting to know this other person better to avoid developing a “crush” on them.
41. Avoided disclosing information about myself to this other person.
42. Avoided working with this other person at work or at school.
43. Avoided showing interest in this other person.
44. Avoided calling or text messaging this other person.
45. Avoided finding out more about this other person.
46. Avoided being alone with this other person.
47. Avoided talking with this other person at a party or function.
48. Stood or sat further away from this other person.
49. Turned down spending time with this other person.
50. Avoided having an intimate or emotional conversation with this other person.
51. Distanced myself from this other person.
52. Avoided greeting this other person with hugs or kisses.
53. Avoided or minimized the amount of affection I show this other person.
54. Walked away from this other person.
55. Stopped doing an activity or hobby where this other person would be.
56. Deleted their phone number.
57. Removed them from my social media accounts (like Facebook, Instagram, Snapchat, etc.)
58. Stopped spending time with mutual friends of this other person.
59. Changed my work situation to avoid spending time with this other person.
60. Felt guilty that I flirted too much with this other person.
61. Told myself that I could not live without my partner.
62. Told myself that I needed to commit to my partner.
63. Masturbated to relieve the sexual tension.
64. Told myself that I was dependent on my partner.
65. Told myself that this other person was bad for me.
66. Intentionally spent time with only friends of my gender.
67. Looked for unflattering things in this other person.
68. Tried to think about something else when thoughts of this other person come up.
69. Tried to do something to take my mind off thoughts of this other person.
70. Reminded myself the importance of being faithful.
71. Talked to my friends about being attracted to this other person.
72. Talked to my family members about being attracted to this other person.
73. Talked to someone else (not friends or family members) about being attracted to this other person.
74. Asked for advice from my friends.
75. Asked for advice from my family members.
76. Asked for advice from someone else (not friends or family members).

People in relationships often find themselves being drawn toward or attracted to someone who is not their partner at the time. Regardless of whether you tried to maintain monogamy in your relationship with that partner, did you do the following:

__ flirt with the person you felt drawn towards or attracted to who was not your partner at the time
__ engage in a sexual relationship with that person
__ engage in a romantic relationship with that person
__ terminate your relationship with your romantic partner at the time
__ other: please specify
Appendix H. Monogamy Maintenance Behaviours Retained for Study One (after pilot work)

People in relationships often find themselves being drawn toward or attracted to someone who is not their partner. Please recall the episode in your life where you have felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who was not your partner at the time.

If this episode occurred in the past, how long ago did this episode occur? (Please provide your closest estimate in months. Enter 0 if the episode is ongoing.)
__ months

Is this attraction still ongoing?
__ yes
__ no

In this episode of your life, where you have felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who was not your partner at the time:
__ I was attracted to or interested in this person
__ This person was attracted to or interested in me
__ Both this person and I were attracted to or interested in each other
__ I was attracted to or interested in this person, although I am unsure if they were attracted to or interested in me.

People in relationships often find themselves being drawn toward or attracted to someone who is not their partner at the time. Regardless of whether you tried to maintain monogamy in your relationship with that partner, did you do the following:

__ flirt with the person you felt drawn towards or attracted to who was not your partner at the time
__ engage in a sexual relationship with that person
__ engage in a romantic relationship with that person
__ terminate your relationship with your romantic partner at the time

On the following page are a series of acts or behaviours. In this study, we are interested in the behaviours that people perform to try to ensure that they maintain monogamy in their relationship with their primary romantic partner. For each act, please indicate whether you have engaged in this behaviour when you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who was not your primary partner at the time:

1. Called or text messaged my partner to let them know what I am doing.
2. Brought my partner with me for a social event where this other person would be present.
3. Attended a party with my partner so I can avoid talking to this other person.
4. Bought my partner a gift.
5. Took my partner out on a date.
6. Had a physical relationship with my partner to deepen our bond.
7. Engaged in sexual acts with my partner.
8. Compared my partner relative to the flaws of this other person.
9. Made sure that I looked nice for my partner.
10. Made myself “extra attractive” for my partner.
11. Showed my partner my communications with this other person, such as on my cell phone.
12. Spent all my free time with my partner.
13. Reassured my partner that I would never cheat on them.
14. Reassured my partner that I have never cheated on them.
15. Told my partner how important they are to me.
16. Told my partner that I was dependent on them.
17. Asked my partner to marry me.
18. Wore my partner’s jewelry or clothing to signify that I was taken.
19. Talked with my partner about finding this other person attractive.
20. Discussed with my partner what we considered to be acceptable sexual behaviours with other individuals.
21. Discussed with my partner whether we considered having friends of the opposite sex to be acceptable.
22. Discussed with my partner whether or not it is acceptable to make new friends of the opposite sex.
23. Made myself less attractive when spending time with this other person.
24. Mentioned my partner to this other person without being asked.
25. Told this other person how much my partner and I were in love.
26. Bragged about my relationship to this other person.
27. Kissed or hugged my partner in front of this other person.
28. Held my partner’s hand when this other person was around.
29. Put my arm around my partner in front of this other person.
30. Did not attend a party where this other person would be present.
31. Left a gathering where this other person was present.
32. Avoided consuming alcohol around this other person.
33. Intentionally ignored the looks from this other person when they were looking at me.
34. Got my friends to discourage them.
35. Gave this other person dirty looks when they looked at me.
36. Turned down a plan that this other person tried to make with me.
37. Avoided making eye contact with this other person.
38. Avoided spending time with this other person.
39. Avoided getting to know this other person better to avoid developing a “crush” on them.
40. Avoided disclosing information about myself to this other person.
41. Avoided working with this other person at work or at school.
42. Avoided showing interest in this other person.
43. Avoided calling or text messaging this other person.
44. Avoided finding out more about this other person.
45. Avoided being alone with this other person.
46. Avoided talking with this other person at a party or function.
47. Stood or sat further away from this other person.
48. Turned down spending time with this other person.
49. Avoided having an intimate or emotional conversation with this other person.
50. Distanced myself from this other person.
51. Avoided greeting this other person with hugs or kisses.
52. Avoided or minimized the amount of affection I show this other person.
53. Walked away from this other person.
54. Stopped doing an activity or hobby where this other person would be.
55. Deleted their phone number.
56. Removed them from my social media accounts (like Facebook, Instagram, Snapchat, etc.)
57. Stopped spending time with mutual friends of this other person.
58. Changed my work situation to avoid spending time with this other person.
59. Felt guilty that I flirted too much with this other person.
60. Told myself that I could not live without my partner.
61. Told myself that I needed to commit to my partner.
62. Masturbated to relieve the sexual tension.
63. Told myself that I was dependent on my partner.
64. Told myself that this other person was bad for me.
65. Intentionally spent time with only friends of my gender.
66. Looked for unflattering things in this other person.
67. Tried to think about something else when thoughts of this other person come up.
68. Tried to do something to take my mind off thoughts of this other person.
69. Reminded myself the importance of being faithful.
70. Talked to my friends about being attracted to this other person.
71. Talked to my family members about being attracted to this other person.
72. Talked to someone else (not friends or family members) about being attracted to this other person.
73. Asked for advice from my friends.
74. Asked for advice from my family members.
75. Asked for advice from someone else (not friends or family members).
76. Tried to spice up my relationship to make it fresh and exciting.
77. Reminded myself of the positive parts in my current relationship.
78. Told myself about the potential negative consequences of cheating on my partner.
79. Avoided having close relationships with members of the opposite sex (outside of family).
80. Avoided spending time with members of the opposite sex.
81. Avoided communicating with ex-partners.
Appendix I. Monogamy Maintenance Inventory

People in relationships often find themselves being drawn toward or attracted to someone who is not their primary partner. Please recall an episode during your current relationship where you have felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your primary partner.

If this episode occurred in the past, how long ago did this episode occur? (Please provide your closest estimate in months. Enter 0 if the episode is ongoing. Enter 999 if you have never experienced an episode of attraction toward or from another member of the opposite sex.)

__ months

In this episode, where you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner:
__ I am/was attracted to or interested in this person
__ This person is/was attracted to or interested in me
__ Both this person and I am/were attracted to or interested in each other
__ I was attracted to or interested in this person, although I am unsure if they were attracted to or interested in me.
__ I have never experienced an episode of attraction with another member of the opposite sex during my current relationship.

On the following pages are a series of acts or behaviours. In this study, we are interested in the behaviours that people perform to try to ensure that they maintain monogamy in their relationship with their current romantic partner. For each act, please indicate whether you have engaged in this behaviour when you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner:

1. Avoided spending time with this other person
2. Turned down spending time with this other person
3. Avoided being alone with this other person
4. Distanced myself from this other person
5. Turned down a plan that this other person tried to make with me
6. Avoided having close relationships with members of the opposite sex (outside of family)
7. Deleted their phone number
8. Removed them from my social media accounts (like Facebook, Instagram, Snapchat, etc.)
9. Avoided finding out more about this other person
10. Avoided getting to know this other person better to avoid developing a "crush" on them
11. Had a physical relationship with my partner to deepen our bond
12. Took my partner out on a date
13. Bought my partner a gift
14. Engaged in sexual acts with my partner
15. Made sure that I looked nice for my partner
16. Told my partner how important they are to me
17. Made myself "extra attractive" for my partner
18. Felt guilty that I flirted too much with this other person
19. Reminded myself the importance of being faithful
20. Told myself that this other person was bad for me
21. Told myself about the potential negative consequences of cheating on my partner
22. Told myself that I needed to commit to my partner
23. Looked for unflattering things in this other person
24. Told myself that I was dependent on my partner

The following questions refer to your reactions to and interactions with people of the opposite sex, who are not your partner.

1. In what ways do you adjust your behaviour (if at all) when you find someone around you attractive?

2. When someone other than your partner makes clear that they are attracted to you, in what ways do you adjust your behaviour (if at all)?

3. Some reasons why people flirt include to communicate sexual attraction, for enjoyment, or to test whether someone is attracted to them for potential future romance. What are the reasons you flirt (or flirt back) with people of the opposite sex?

4. When someone attractive other than your partner flirts with you, how often do you flirt back?

0   1   2   3   4
Never   Half of the time   Always
Appendix K. Investment Model Scale

Satisfaction Level Facet and Global Items

1. Please indicate the degree to which you agree with each of the following statements regarding your current relationship (circle an answer for each item).

(a) My partner fulfills my needs for intimacy (sharing personal thoughts, secrets, etc.)

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<tbody>
<tr>
<td>Don’t Agree At All</td>
<td>Agree Slightly</td>
<td>Agree Moderately</td>
<td>Agree Completely</td>
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(b) My partner fulfills my needs for companionship (doing things together, enjoying each other’s company, etc.)

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<td>Agree Slightly</td>
<td>Agree Moderately</td>
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(c) My partner fulfills my sexual needs (holding hands, kissing, etc.)

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<td>Don’t Agree At All</td>
<td>Agree Slightly</td>
<td>Agree Moderately</td>
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(d) My partner fulfills my needs for security (feeling trusting, comfortable in a stable relationship, etc.)

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<td>Agree Slightly</td>
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(e) My partner fulfills my needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.)

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<td>Don’t Agree At All</td>
<td>Agree Slightly</td>
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2. I feel satisfied with our relationship (please circle a number).

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3. My relationship is much better than others’ relationships.

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4. My relationship is close to ideal.

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5. Our relationship makes me very happy.

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6. Our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.

   0  1  2  3  4  5  6  7  8
Do Not Agree At All  Agree Somewhat  Agree Completely

Quality of Alternatives Facet and Global Items

1. Please indicate the degree to which you agree with each statement regarding the fulfillment of each need in alternative relationships (e.g., by another dating partner, friends, family).

   (a) My needs for intimacy (sharing personal thoughts, secrets, etc.) could be fulfilled in alternative relationships

   0  1  2  3
Don’t Agree At All  Agree Slightly  Agree Moderately  Agree Completely

   (b) My needs for companionship (doing things together, enjoying each other’s company, etc.) could be fulfilled in alternative relationships

   0  1  2  3
Don’t Agree At All  Agree Slightly  Agree Moderately  Agree Completely

   (c) My sexual needs (holding hands, kissing, etc.) could be fulfilled in alternative relationships

   0  1  2  3
Don’t Agree At All  Agree Slightly  Agree Moderately  Agree Completely

   (d) My needs for security (feeling trusting, comfortable in a stable relationship, etc.) could be fulfilled in alternative relationships

   0  1  2  3
Don’t Agree At All  Agree Slightly  Agree Moderately  Agree Completely

   (e) My needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.) could be fulfilled in alternative relationships

   0  1  2  3
Don’t Agree At All  Agree Slightly  Agree Moderately  Agree Completely

2. The people other than my partner with whom I might become involved are very appealing (please circle a number).

   0  1  2  3  4  5  6  7  8
Do Not Agree At All  Agree Somewhat  Agree Completely

3. My alternatives to our relationship are close to ideal (dating another, spending time with friends or on my own, etc.).

   0  1  2  3  4  5  6  7  8
Do Not Agree At All  Agree Somewhat  Agree Completely
4. If I weren’t with my partner, I would do fine—I would find another appealing person to date.

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5. My alternatives are attractive to me (dating another, spending time with friends or on my own, etc.).

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6. My needs for intimacy, companionship, etc., could easily be fulfilled in an alternative relationship.

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**Investment Size Facet and Global Items**

1. Please indicate the degree to which you agree with each of the following statements regarding your current relationship (circle an answer for each item).

(a) I have invested a great deal of time in our relationship

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<td>Don’t Agree At All</td>
<td>Agree Slightly</td>
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(b) I have told my partner many private things about myself (I disclose secrets to him/her)

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(c) My partner and I have an intellectual life together that would be difficult to replace

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(d) My sense of personal identity (who I am) is linked to my partner and our relationship

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(e) My partner and I share many memories

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2. I have put a great deal into our relationship that I would lose if the relationship were to end (please circle a number).

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<td>3. Many aspects of my life have become linked to my partner (recreational activities, etc.), and I would lose all of this if we were to break up.</td>
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<tr>
<td>4. I feel very involved in our relationship—like I have put a great deal into it.</td>
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<td>5. My relationships with friends and family members would be complicated if my partner and I were to break up (e.g., partner is friends with people I care about).</td>
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<td>6. Compared to other people I know, I have invested a great deal in my relationship with my partner.</td>
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**Commitment Level Items**

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<th>Item</th>
<th>Scale</th>
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<tbody>
<tr>
<td>1. I want our relationship to last for a very long time (please circle a number).</td>
<td>0 1 2 3 4 5 6 7 8</td>
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<tr>
<td>2. I am committed to maintaining my relationship with my partner.</td>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>3. I would not feel very upset if our relationship were to end in the near future.*</td>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>4. It is likely that I will date someone other than my partner within the next year.*</td>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>5. I feel very attached to our relationship—very strongly linked to my partner.</td>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>6. I want our relationship to last forever.</td>
<td>0 1 2 3 4 5 6 7 8</td>
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</table>
7. I am oriented toward the long-term future of my relationship (for example, I imagine being with my partner several years from now).

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<tr>
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* Reverse scored items
Appendix L. The Religious Commitment Inventory 10 (RCI-10)

Please rate the following items:

1. I often read books and magazines about my faith.
   1  2  3  4  5
   Not at all true of me  Moderately true of me  Totally true of me

2. I make financial contributions to my religious organization.
   1  2  3  4  5
   Not at all true of me  Moderately true of me  Totally true of me

3. I spend time trying to grow in understanding of my faith.
   1  2  3  4  5
   Not at all true of me  Moderately true of me  Totally true of me

4. Religion is especially important to me because it answers many questions about the meaning of life.
   1  2  3  4  5
   Not at all true of me  Moderately true of me  Totally true of me

5. My religious beliefs lie behind my whole approach to life.
   1  2  3  4  5
   Not at all true of me  Moderately true of me  Totally true of me

6. I enjoy spending time with others of my religious affiliation.
   1  2  3  4  5
   Not at all true of me  Moderately true of me  Totally true of me

7. Religious beliefs influence all of my dealings in life.
   1  2  3  4  5
   Not at all true of me  Moderately true of me  Totally true of me

8. It is important to me to spend periods of time in private religious thought and reflection.
   1  2  3  4  5
   Not at all true of me  Moderately true of me  Totally true of me

9. I enjoy working in the activities of my religious organization.

278
10. I keep well informed about my local religious group and have some influence in its decisions.
Appendix M. Big Five Inventory

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please choose a number for each statement to indicate the extent to which you agree or disagree with that statement.

1  2   3    4   5

Strongly Disagree  Neither Agree nor disagree  Strongly Agree

I see myself as someone who…

1. is talkative
2. tends to find fault with others
3. does a thorough job
4. is depressed, blue
5. is original, comes up with new ideas
6. is reserved
7. is helpful and unselfish with others
8. can be somewhat careless
9. is relaxed, handles stress well
10. is curious about many different things
11. is full of energy
12. starts quarrels with others
13. is a reliable worker
14. can be tense
15. is ingenious, a deep thinker
16. generates a lot of enthusiasm
17. has a forgiving nature
18. tends to be disorganized
19. worries a lot
20. has an active imagination
21. tends to be quiet
22. is generally trusting
23. tends to be lazy
24. is emotionally stable, not easily upset
25. is inventive
26. has an assertive personality
27. can be cold and aloof
28. perseveres until the task is finished
29. can be moody
30. values artistic, aesthetic experiences
31. is sometimes shy, inhibited
32. is considerate and kind to almost everyone
33. does things efficiently
34. remains calm in tense situations
35. prefers work that is routine
36. is outgoing, sociable
37. is sometimes rude to others
38. makes plans and follows through with them
39. gets nervous easily
40. likes to reflect, play with ideas
41. has few artistic interests
42. likes to cooperate with others
43. is easily distracted
44. is sophisticated in art, music, or literature
Appendix N. Sexual Narcissism Scale – Sexual Entitlement Subscale

Please rate the following items:

1. I feel I deserve sexual activity when I am in the mood for it

   1   2   3   4   5

   Strongly Disagree   Strongly Agree

2. I am entitled to sex on a regular basis

   1   2   3   4   5

   Strongly Disagree   Strongly Agree

3. I should be permitted to have sex whenever I want it

   1   2   3   4   5

   Strongly Disagree   Strongly Agree

4. I would be irritated if a dating partner said no to sex

   1   2   3   4   5

   Strongly Disagree   Strongly Agree

5. I expect sexual activity if I go out with someone on an expensive date

   1   2   3   4   5

   Strongly Disagree   Strongly Agree
Appendix O. The Revised Sociosexual Orientation Inventory (SOI–R)

Please respond honestly to the following questions:

1. With how many different partners have you had sex within the past 12 months?
   0  1  2  3  4  5–6  7–9  10–19  20 or more

2. With how many different partners have you had sexual intercourse on one and only one occasion?
   0  1  2  3  4  5–6  7–9  10–19  20 or more

3. With how many different partners have you had sexual intercourse without having an interest in a long-term committed relationship with this person?
   0  1  2  3  4  5–6  7–9  10–19  20 or more

4. Sex without love is OK.
   1  2  3  4  5  6  7  8  9
   Strongly disagree        Strongly agree

5. I can imagine myself being comfortable and enjoying “casual” sex with different partners.
   1  2  3  4  5  6  7  8  9
   Strongly disagree        Strongly agree

6. I do not want to have sex with a person until I am sure that we will have a long-term, serious relationship.
   1  2  3  4  5  6  7  8  9
   Strongly disagree        Strongly agree

7. How often do you have fantasies about having sex with someone with whom you do not have a committed romantic relationship?
   1 – never
   2 – very seldom
   3 – about once every two or three months
   4 – about once a month
   5 – about once every two weeks
   6 – about once a week
   7 – several times per week
   8 – nearly every day
   9 – at least once a day

8. How often do you experience sexual arousal when you are in contact with someone with whom you do not have a committed romantic relationship?
   1 – never
   2 – very seldom
3 – about once every two or three months
4 – about once a month
5 – about once every two weeks
6 – about once a week
7 – several times per week
8 – nearly every day
9 – at least once a day

9. In everyday life, how often do you have spontaneous fantasies about having sex with someone you have just met?
   1 – never
   2 – very seldom
   3 – about once every two or three months
   4 – about once a month
   5 – about once every two weeks
   6 – about once a week
   7 – several times per week
   8 – nearly every day
   9 – at least once a day
Appendix P. The Sexual Inhibition and Sexual Excitation Scale– Sexual Inhibition 2 subscale (SIS2)

In this questionnaire you will find statements about how you might react to various sexual situations, activities, or behaviors. Obviously, how you react will often depend on the circumstances, but we are interested in what would be the most likely reaction for you. Please read each statement carefully and decide how you would be most likely to react. Then circle the number that corresponds with your answer. Please try to respond to every statement. Sometimes you may feel that none of the responses seems completely accurate. Sometimes you may read a statement which you feel is ‘not applicable’. In these cases, please circle a response which you would choose if it were applicable to you. In many statements you will find words describing reactions such as ‘sexually aroused’, or sometimes just ‘aroused’. With these words we mean to describe ‘feelings of sexual excitement’, feeling ‘sexually stimulated’, ‘horny’, ‘hot’, or ‘turned on’. Don’t think too long before answering, please give your first reaction. Try to not skip any questions. Try to be as honest as possible.

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<td>Disagree</td>
<td>Strongly Disagree</td>
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1. If I am masturbating on my own and I realize that someone is likely to come into the room at any moment, I will lose my arousal/erection.
2. If I can be heard by others while having sex, I am unlikely to stay sexually aroused.
3. If I am having sex in a secluded, outdoor place and I think that someone is nearby, I am not likely to get very aroused.
4. If I can be seen by others while having sex, I am unlikely to stay sexually aroused.
5. If I realize there is a risk of catching a sexually transmitted disease, I am unlikely to stay sexually aroused.
6. If there is a risk of unwanted pregnancy, I am unlikely to get sexually aroused.
7. If my new sexual partner does not want to use a condom/safe-sex product, I am unlikely to stay aroused.
8. If having sex will cause my partner pain, I am unlikely to stay sexually aroused.
9. If I discovered that someone I find sexually attractive is too young, I would have difficulty getting sexually aroused with him/her.
10. If I feel that I am being rushed, I am unlikely to get very aroused.
11. If I think that having sex will cause me pain, I will lose my arousal/erection.
Appendix Q. Debriefing Form

Thank you for taking the time to complete the study on the behaviours used to maintain one’s relationship. In particular, we are interested in understanding adults’ reactions to potential threats to maintaining monogamy in their primary relationship.

Infidelity is the violation of a spoken or unspoken agreement to be romantically and sexually exclusive to one’s partner. Infidelity is a leading cause of relationship discord and termination. Although couples generally report expectations to maintain monogamy, many men and women report engaging in some form of infidelity at least once in their lives.

The study you just completed is helping to advance the literature on monogamy by examining behaviours used by those to protect their relationships against infidelity. This study will inform future researchers define and help educators and practitioners working with individuals in intimate relationships.

If you are interested in learning more about the research on infidelity and relationships, the following websites are an excellent place to start:


- The Psychology of Human Sexuality: http://www.lehmiller.com/

Thank you again for taking the time to complete this study. If you have any questions or comments please feel free to contact either Brenda Lee (Brenda.Lee@unb.ca) or Dr. Lucia O’Sullivan (osulliv@unb.ca). If you would prefer to speak with an individual not directly involved in this research, please contact the director of the Ethics Review Committee for the Department of Psychology (Dr. Ryan Hamilton, r.hamilton@unb.ca, 1 (506) 453-5030).
Appendix R. Mechanical Turk® Recruitment Message – Study Two

Recruitment for survey on relationships (45 minutes)

We are based at the University of New Brunswick in Fredericton, Canada and conduct research on romantic relationships. We are currently recruiting participants for research looking at behaviours influencing heterosexual romantic relationships. You will earn $2 for your time. To find out more please click below.

To participate you need to be:
- A Canadian or U.S. resident
- The age of majority in your state/province of residence
- Are currently involved in a romantic relationship
- Heterosexual
Appendix S. Consent Form – Study Two

You are invited to participate in a research study being conducted by Brenda Lee (Ph.D. Candidate), under the supervision of Dr. Lucia O’Sullivan, at the University of New Brunswick in Fredericton, Canada. This project is on file with the Research Ethics Board, University of New Brunswick (REB #2016-107).

**Why is this research being done?** This is the second part of a three-part study assessing people’s romantic relationships. Specifically, we are interested in how adults maintain their primary romantic relationships.

**What do you want me to do?** You will be asked to take part in an online survey that will take about 45 minutes to complete. You will be asked a variety of questions about your background, current relationship, relationship and sexual history, and romantic and sexual behaviours. There are also two easy questions included in the survey that let us know that you are a real person and not a spam bot. You must answer these questions correctly to be compensated for completing the study. The questions are labeled to let you know which ones they are. Please complete the study in a private setting where you are unlikely to be interrupted.

You will be asked to indicate whether you would like to potentially participate in a follow-up survey, which will take about 20 minutes to complete. If you indicate that you would like to participate in the follow-up survey, we may randomly select you to complete a similar survey in two months’ time.

**Are there any benefits to participating?** You will receive $2 via your Mechanical Turk® account for completing this survey. You can also choose to receive a summary of the findings of this research by providing your e-mail at the end of the survey. If you complete the follow-up survey, you will receive an additional $1 via your Mechanical Turk® account.

**Are there any risks?** We do not expect that you will experience any discomfort during the study. If you do feel uncomfortable, you can stop the study or skip the questions that make you uncomfortable. Participation in the study is completely voluntary. If at any time you feel you do not wish to participate for any reason, you may stop answering questions without loss of compensation. However, we ask that you do answer the question that confirms that you are a human and not a spam bot.

**Are my answers anonymous?** Yes. Your worker ID and IP address will be connected to your survey responses to allow for compensation and response screening. We do not have access to any other identifying information (e.g., your name, address). If you choose to provide your e-mail address it will not be connected with your survey responses. We will contact you through your worker ID to complete the follow-up survey if you indicate interest in the current survey.
How do you keep my answers private? Only the researchers will have access to the information you give on the questionnaire. Amazon and Mechanical Turk® will not have access to your survey answers. The consent forms are kept separate from the survey and stored on a secure database. No identifying information will be attached to your survey responses; your survey will be given a study number only. If you are asked to provide contact information, it will only be used to send you compensation. Any contact information will be stored separately from your consent form and survey data. Only a summary of the overall results will be shared in possible future presentations and/or publications of the survey data. The website that hosts the survey is on a secure server. All data will be securely stored on a password protected computer and in a locked cabinet in a secure research office for seven years as per ethical process, and then be destroyed in full.

How can I get more information about this research project? If you have any questions before, during, or after the study, or if you would like to learn more about this research project, please feel free to contact the primary researcher (Brenda Lee, Brenda.Lee@unb.ca) or her supervisor (Dr. Lucia F. O’Sullivan, osulliv@unb.ca, 1 (506) 458-7693). If you would prefer to speak with an individual not directly involved in this research, please contact the director of the Psychology Ethics Committee (Dr. Ryan Hamilton, r.hamilton@unb.ca, 1 (506) 453-5030).

If you wish to receive a summary of the results of this study once it is complete, please type your email address in the space provided. Your e-mail address will not be connected to your survey responses.

Email address: ____________________________________________

By clicking the “Submit” button at the bottom of this page I am agreeing to the following statement: I have read the above description and volunteer to participate in this study. I understand that I can decide to discontinue my participation or not to provide any personal information at any time without question and without penalty.

Submit
Appendix T. Experiences with Infidelity at Two Months’ Follow-up—Study Two

Despite having some type of agreement or understanding with their partner, many people develop some type of sexual or romantic involvement (ranging from a brief one-time encounter to a long-term relationship) with another person. Which is true for you and your partner over the past two months? (Check all that apply)

__ I have been romantically involved with at least one other person who was not my primary partner over the past two months

__ I have been sexually involved with at least one other person who was not with my primary partner over the past two months

__ My partner has been romantically involved with at least one other person (other than myself) over the past two months

__ My partner has been sexually involved with at least one other person (other than myself) over the past two months

__ I believe (but do not know for sure) that my partner has been romantically involved with at least one other person over the past two months

__ I believe (but do not know for sure) that my partner has been sexually involved with at least one other person over the past two months

__ Neither I nor my partner has been romantically involved with at least one other person over the past two months

__ Neither I nor my partner has been sexually involved with at least one other person over the past two months
Appendix U. Monogamy Maintenance over Past Two Months for Study Two

People in relationships often find themselves being drawn toward or attracted to someone who is not their primary partner. Please recall an episode over the past two months where you have felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner.

How long ago did this episode occur? (Please provide your closest estimate in days. Enter 0 if the episode is ongoing. Enter 999 if you have never experienced an episode of attraction toward or from another member of the opposite sex.)  __ days

In this episode, where you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner:
__ I am/was attracted to or interested in this person
__ This person is/was attracted to or interested in me
__ Both this person and I are/were attracted to or interested in each other
__ I was attracted to or interested in this person, although I am unsure if they were attracted to or interested in me.
__ I have not experienced an episode of attraction with another member of the opposite sex during the past two months.

On the following pages are a series of acts or behaviours. In this study, we are interested in the behaviours that people perform to try to ensure that they maintain monogamy in their relationship with their current romantic partner. For each act, please indicate whether you have engaged in this behaviour OVER THE PAST TWO MONTHS when you felt the most strongly drawn to, or experienced the greatest attraction to another member of the opposite sex who is not your partner:

1. Avoided spending time with this other person
2. Turned down spending time with this other person
3. Avoided being alone with this other person
4. Distanced myself from this other person
5. Turned down a plan that this other person tried to make with me
6. Avoided having close relationships with members of the opposite sex (outside of family)
7. Deleted their phone number
8. Removed them from my social media accounts (like Facebook, Instagram, Snapchat, etc.)
9. Avoided finding out more about this other person
10. Avoided getting to know this other person better to avoid developing a "crush" on them
11. Had a physical relationship with my partner to deepen our bond
12. Took my partner out on a date
13. Bought my partner a gift
14. Engaged in sexual acts with my partner
15. Made sure that I looked nice for my partner
16. Told my partner how important they are to me
17. Made myself "extra attractive" for my partner
18. Felt guilty that I flirted too much with this other person
19. Reminded myself the importance of being faithful
20. Told myself that this other person was bad for me
21. Told myself about the potential negative consequences of cheating on my partner
22. Told myself that I needed to commit to my partner
23. Looked for unflattering things in this other person
24. Told myself that I was dependent on my partner
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Three Contents

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2006-2011           B.A, Psychology, University of British Columbia

Publications

Lee, B.H., & O’Sullivan, L.F. Walk the line: How successful are efforts to maintain monogamy in intimate relationships? *Archives of Sexual Behavior*. Accepted pending revisions for publication.


Conference Presentations


