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Understanding Stigma, Secrecy, and Sex in CNM Relationships

Rhonda Balzarini
The University of Western Ontario

Supervisor
Campbell, Lorne
The University of Western Ontario

Graduate Program in Psychology
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Philosophy
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ABSTRACT

Scholars have posited that the family system is becoming more diversified with increases in same-sex, mixed sex, and consensually non-monogamous relationships. While same-sex and mixed-sex relationships have received considerable attention, public and academic interest in consensually non-monogamous relationships have increased dramatically. Yet despite increased interest, little is known about the ways in which relationships with various partners in non-monogamous relationships differ, whether differences that emerge are influenced by experiences of stigma or the desired role of different partners, whether stigma was driven by one's relationship orientation, and how individual's sexual attitudes impact the decision to pursue consensually non-monogamous arrangements. This article-based dissertation sought to address these lines of inquiry and advance understanding of consensually non-monogamous relationships. Results suggested that meaningful differences emerge across partners in polyamorous relationships, with participants reporting greater acceptance, satisfaction, commitment, investment, and communication for their primary partners, while greater secrecy, quality of alternatives, and proportion of time spent on sex was reported for secondary partners. Likewise, these effects emerged when assessing differences among polyamorists who identified partners as co-primary and non-primary. However, results also suggested that some of these effects, namely secrecy, acceptance, and proportion of time spent on sex, are driven by levels of commitment to various partners, possibly because primary partners meet needs for nurturance, while secondary partners meet needs for eroticism. Lastly, results revealed that relationship orientation influences stigma towards CNM, and that sexual attitudes, erotophobia, and sociosexuality differ based on relationship orientation.

Keywords: Consensual non-monogamy; monogamy; romantic relationships; sex, stigma

CO-AUTHORSHIP STATEMENT

The contents of chapters two and five represent fully-published, peer-reviewed, articles undertaken in collaboration with co-authors, while chapter three, four, six, and seven are under review and were also conducted in collaboration with co-authors. Across all articles, Rhonda N. Balzarini was the primary investigator and took the lead role in all aspects of the research. References are provided below, in the order in which they appear within the dissertation.

Balzarini, R. N., Campbell, L., Kohut, T., Holmes, B. M., Lehmilller, J. J., Harman, J. J., & Atkins, N. (2017). Perceptions of primary and secondary relationships in polyamory. *PLoS ONE*, *12*, 1–20.

Balzarini, R. N., Dharma, C., Kohut, T., Campbell, C., Holmes, B. M., Lehmilller, J. J., & Harman, J. J. (under review). Outcomes of co-primary and non-primary polyamorous relationships: What are the implications of rejecting relationship hierarchies? *Archives of Sexual Behavior*.

Balzarini, R. N., Dobson, K. D., Kohut, T., & Lehmilller, J. J. (under review). The role of relationship acceptance and romantic secrecy on commitment processes and the proportion of time spent on sex. *Archives of Sexual Behavior*.

Balzarini, R. N., Dharma, C., & Kohut, T. (under review). Do different partners in polyamorous relationships fill specific roles? How eroticism and nurturance differ between relationships among polyamorous individuals. *Social Psychology*.

Balzarini, R. N., Shumlich, E., Kohut, T., & Campbell, L. (2018). Dimming the “halo” around monogamy: Re-assessing stigma surrounding consensually non-monogamous romantic relationships as a function of personal relationship orientation. *Frontiers in Psychology*, *9*, 1–12.

Balzarini, R. N., Shumlich, E., Kohut, T., & Campbell, L. (revision submitted). Sexual attitudes, erotophobia, and sociosexual orientation differ based on relationship orientation. *Journal of Sex Research*.

Portions of chapter one and chapter eight were drawn from the above articles.

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CHAPTER ONE: INTRODUCTION AND LITERATURE REVIEW

1. The Slippery Slope of Marriage Equality and Increased Interest in Consensual Non-Monogamy

Consensual non-monogamy refers to intimate relationships between three or more people that are non-exclusive sexually and/or emotionally (Conley, Moors, Matsick & Ziegler, 2013; Grunt-Mejer & Campbell, 2016). Interest in consensual non-monogamy is flourishing (Barker & Langdridge, 2010; Moors, 2017), perhaps in response to increased recognition of same-sex partnerships, which has engendered awareness of alternatives to the Christian dogma of heterosexual monogamy (Rubel & Bogaert, 2015) and has led to increased scrutiny of laws limiting marriage to two partners (see Garnett, 2016). Indeed, the “slippery slope” argument — the idea that the legalization of same-sex marriage will result in the legalization of other non-traditional marriages, such as those between multiple consenting adults (e.g., Balcerzak, 2013; Foust, 2013; Wildmon, 2013; Wong, 2013) — is often used by the alt-right and conservatives during marriage equality debates (Sheff, 2011). To illustrate, consider Stanley Kurtz, a research fellow at the Hoover Institution. When Kurtz was asked about his objection to marriage equality, he replied, “the core issue here is not homosexuality; it is marriage...Up to now, with all the changes in marriage, the one thing we've been sure of is that marriage means monogamy” (Kurtz, 2003, pp. 9). Alternatively, consider that when Barack Obama was challenged on his decision to legalize same sex-marriages, he responded that same-sex marriages have, “incredibly committed monogamous relationships” (Klein, 2013).

As these examples attest, consensual non-monogamy is commonly used as an illustration of unacceptability and sexual deviancy. And, despite this disparagement of non-monogamy, interest and engagement in consensual non-monogamy is on the rise. Thus, for social scientists,

consensual nonmonogamy's increased prevalence raises essential questions: What ill-effects, if any, are associated with engaging in consensual non-monogamy? Does participating in consensual non-monogamy suggest dissatisfaction with one's primary partner? Is participation in consensual non-monogamy indicative of individual differences (e.g., sexual attitudes, sociosexuality, erotophobia-erotophilia) and does one's relationship orientation impact attitudes towards other consensually non-monogamous orientations? The present article-based dissertation addressed these critical gaps in knowledge.

1.1. Beyond Monogamy: Consensual Non-monogamy and Primary Status

The last several decades have seen rapid changes in Western families, with a trend towards increasing diversity of family structures. Longer life spans (United Nations, 2015), along with increases in inter-racial, inter-religious, and same-sex marriages (Rosenfeld & Kim, 2005), and steep fertility declines (Tamura, Murphy, & Simon, 2008; Tamura & Simor, 2017) are examples of the social trends that are changing society. However, the monogamous nuclear family remains a powerful normative ideal in much of the Western world (Conley, Ziegler, Moors, Matsick, & Valentine, 2013; Jetha, 2010), and people who do not follow this norm may be considered deviant, or not even families at all (Bittman & Pixley, 1997; Stacey, 1996). Though monogamy remains the most common romantic relationship arrangement, consensual non-monogamy is prominent with approximately 33% of bisexuals and 4-5% of heterosexuals engaging in some form of consensual non-monogamy (Conley, Ziegler, Moors, Matsick, & Valentine, 2012). Furthermore, over 20% of Americans have practiced some form of consensual non-monogamy in their lifetime (Hauptert, Gesselman, Moors, Fisher, & Garcia, 2017). Accordingly, a non-trivial number of individuals either have or currently are engaging in some form of consensual non-monogamy.

But what is consensual non-monogamy? Consensual non-monogamy is a hypernym for non-monogamous relationship orientations that differ based on the degree to which sexual and emotional needs are fulfilled outside of a romantic dyad (Barker & Langdridge, 2010). The three types of consensual non-monogamous relationships often delineated are swinging relationships, open relationships, and polyamorous relationships (Barker, 2011; Matsick, Conley, Ziegler, Moors, & Rubin, 2014; Rubel & Bogaert, 2015). Swinging relationships involve couples who engage in extradyadic sexual activities together, without emotional attachment or love for their extradyadic partners. These relationships are often viewed as a hedonistic form of non-monogamy (Klesse, 2005; Matsick et al., 2014). Open relationships involve extradyadic sex without love and a romantic partner's participation (Adam, 2006; Barker & Langdridge, 2010; Jenks, 1998; Matsick et al., 2014), whereas polyamorous relationships permit loving more than one person, and typically consist of multiple, emotionally-close relationships (Barker & Langdridge, 2010; Matsick et al., 2014). Research suggests consensually non-monogamous relationships have similar relationship quality to those in monogamous relationships (Rubel & Bogaert, 2015), and in some cases, consensually non-monogamous couples have higher relationship quality (e.g., higher sexual satisfaction, Conley, Piemonte, Gusakova, & Rubin, 2018). Even so, research on consensual non-monogamy often focuses on non-monogamy generally, instead of delineating among the different types of consensual non-monogamy (e.g., swinging, open, or polyamorous relationships) or the partner specific outcomes.

Though consensual non-monogamy affords emotional and sexual connections outside of the dyad, the relationship with extradyadic partners varies as a function of one's relationship orientation. For instance, polyamory refers to an identity in which people philosophically agree with and practice multi-partner relationships, with the consent of everyone involved (Conley et

al., 2012; Easton & Hardy, 2009; Rubel & Bogaert, 2015; Taormino, 2008). The nature of polyamorous relationships and how individuals approach these relationships varies from one person partnering with multiple people, to members of a couple dating a third partner (triad), to two couples with each other (quad), to networks of people involved with each other in various configurations (e.g., Klesse, 2006; Munson & Stelboun; 1999b; Pines & Aronson, 1981; Sheff, 2013). However, despite diverse intimate involvements, the majority of polyamorous individuals have two concurrent partners (Wosick-Correa, 2010), and the most common polyamorous relationships are characterized by a primary-secondary relationship configuration (Veaux, 2011). Similarly, swinging and open relationships typically consist of a primary partner, with other partners being considered secondary or tertiary.

A primary relationship is between two partners who typically live together and share finances, who are married, and who have or are raising kids together (Sheff, 2013). Secondary partners, or partners beyond the initial dyad, typically live in separate households, do not share finances (Sheff, 2013), and are afforded relatively less time, energy, and ongoing commitments (Veaux, 2011). There are at least two ways primary-secondary configurations emerge: primary-secondary relationships can occur through circumstance (e.g., an individual has been with one partner or becomes consensually non-monogamous with an initial partner; Weitzman, 2010), or through conscious choice (e.g. an agreement among partners to hold the primary relationship as more significant, or to prioritize the primary relationship over other relationships; Veaux, 2011).

To date, two studies have examined outcomes among primary and secondary partners in consensually non-monogamous relationships. Mogilski and colleagues (2017) reported that primary and secondary partners differ with regards to mate retention efforts and relationship outcomes. More specifically, Mogilski and colleagues (2017) found that individuals in

polyamorous relationships reported higher satisfaction and more mate retention behaviors with their primary compared to their secondary partner. Furthermore, consensually non-monogamous participants were more likely to downplay their sexual experiences and less likely to discuss sexual encounters with their primary partner compared to their secondary partner. In a study conducted by Mitchell and colleagues (2014), the effects of having one's needs met by numerous partners was assessed among polyamorous individuals. Results suggested that need fulfillment and satisfaction was high in both relationships. Furthermore, need fulfillment with one partner negatively predicted the variance in relationship satisfaction with the other partner; but, there was no association between need fulfillment with one partner and commitment to the other (Mitchell, Bartholomew, & Cobb, 2014).

The existing evidence provides essential insights into how primary and secondary relationships differ among individuals in consensually non-monogamous relationships. However, not all consensually non-monogamous relationships consist of primary-secondary relationships. Some polyamorists have rejected the hierarchical terminology of primary-secondary as classifiers for relationships with partners (Sheff, 2013). Ritchie and Barker (2007) reported some of their participants challenged the idea that primary 'couples' were the only way of managing consensually non-monogamous relationships, while Labriola (1999, 2003) noted that three types of polyamorous relationships exist: the primary-secondary model, multiple primary partners, and multiple non-primary partners. This may be particularly true and relevant to polyamorous relationships, as swinging and open relationships are not classified by multiple commitments or emotional connections with extradyadic partners, whereas polyamorous relationships are. When trying to maintain a relationship that is beyond sexual with a secondary partner, it may be more common and perhaps more important to reject primary and secondary status to make secondary

partners feel more accepted and to facilitate interdependence with partners beyond the dyad. However, despite one's attempt to create equal relationship opportunities, differences are likely to still exist as creating equal interdependence across partners may be difficult. As such, Chapter 2 assessed relationship outcomes among primary and secondary partners and Chapter 3 assessed whether effects found among primary and secondary partners replicate among polyamorous individuals who identify their partners as co-primary or consider neither partners primary, and further assessed how many participants among a large sample of polyamorous individuals identify their relationships as primary-secondary, co-primary, and non-primary. Lastly, Chapter 5 evaluated whether different partners in polyamorous relationships filled specific roles and did so among individuals who identify their relationships to be primary-secondary, co-primary, and non-primary.

1.2. Theoretical Background

1.2.1. Stigma and Stigma Management

Stigma refers to a negative attitude toward people displaying a norm-violating characteristic (Dovidio, Major, & Crocker, 2000). While some stigmatized social groups are identifiable by visible attributes, such as skin color, other groups can conceal their identities to appease norms (see Goffman, 1963). A concealable stigmatized identity involves a socially devalued attribute that people can keep hidden (Crocker, Major, & Steele, 1998), such as living with HIV/AIDS, having a history of sexual assault, being previously incarcerated (Pachankis, 2007), or having a secondary partner in a consensually non-monogamous relationship. Concealing stigma can be strenuous because it requires monitoring and attending to aspects of social presentation and lifestyle that are typically overlooked (Cain, 1990). Research has documented an association between concealment and a host of adverse outcomes. More

specifically, the tendency to conceal distressing information from others is associated with more indigent psychological issues (e.g., greater depression, anxiety, suicide ideation), and lower self-esteem, social support, and willingness to seek out psychological services (Barry & Mizrahi, 2005; Beals et al., 2009; Cepeda-Benito & Short, 1998; Ichiyama et al., 1993; Kelly & Achter, 1995; Larson & Chastain, 1990). Extensive research on stigmatized individuals exists in other areas such as educational attainment, depression, and self-esteem (see, e.g., Crandall, Tsang, Harvey, & Britt, 2000; Crocker & Major, 1989, 2003) and with non-traditional relationships (e.g., mixed-race couples, lesbians, and gays; Herek & Capitanio, 1996; Vaquera & Kao, 2005).

Beyond well-being, being stigmatized and responses to stigma (e.g., concealing one's relationship) erode many aspects of a person's social and romantic life. To cope with it, stigmatized individuals use psychological, behavioral, social, economic, or even educational resources (Vaquera & Kao, 2005). In their application of the concept of stigma to Exchange Theory, Gramling and Forsyth (1987) describe different strategies that individuals use for stigma management. Among these strategies, there is "avoiding interaction" as a recourse people use to avoid stigma. In the case of romantic relationships, this can translate into a lower levels of interaction with other people to avoid conflict and the consequences that one may perceive to exist due to the stigma (e.g., as there are no laws protecting consensual non-monogamists from discrimination; Conley et al., 2013). However, this definition does not imply stigma will affect other types of interactions in which only the couple is involved (private and intimate displays of affection). Goffman (1963) emphasized management is only necessary in public when, "distinguishing characteristics are readily visible (e.g., persons of color, heterosexual women) and face the constant task of managing tension when in public." As such, people who perceive

their relationships to be disapproved or socially stigmatized should maintain their relationships in greater secrecy to conceal stigmatized status.

According to stigma management and minority stress theory, couples who perceive their relationships to be disapproved of from friends and family, and the degree to which they maintain their relationship in secrecy as a means to hide or conceal aspects of their stigmatized status, should impact downstream relationship outcomes, such as one's interdependence with their partner (e.g., commitment to the relationship), because their attempts to manage stigma (e.g., hiding aspects of their relationship from others) may impact their ability to include each other in themselves. Furthermore, because individuals who perceive their relationships not to be accepted and thus maintain their involvement in secrecy may have limited ability to express affection and interest in their partners, they may pursue or even be restricted to private and intimate moments, resulting in relationships that may be more sexually driven. In light of previous research and the theoretical rationale outlined, one of the goals of the present series of articles was to assess whether primary and secondary partners differed in their reports of secrecy (attempts to hide their stigmatized relationship status), acceptance from friends and family, commitment processes, and sexual activity (Chapter 2 and Chapter 3); and if so, to assess whether secrecy and acceptance were driving the effects of commitment and proportion of time spent on sex with partners (Chapter 4).

1.2.2. Stigma Towards Consensually Non-Monogamous Relationships

In Western cultures, monogamy is normative (Conley et al., 2013; Jetha, 2010) and is perceived to be ubiquitous and superior to other relationship orientations (Peace, 2012; Pratto & Stewart, 2012; Ryan & Jetha, 2010; Witherspoon, 2016). The unquestioned assumption of monogamy's normalcy and naturalness, referred to as mononormativity (Pieper & Bauer, 2005),

results in monogamous unions being unquestioned while relationships that deviate from monogamy are subordinated and stereotyped (Pratto & Stewart, 2012). Indeed, several studies suggest that individuals who deviate from monogamy experience stigma and discrimination. In an illustrative study, Conley and colleagues (2013) asked participants to rate general characteristics of a couple described in a vignette as “sexually non-monogamous.” Compared to a monogamous couple, participants rated the consensually non-monogamous couple less positively across relationship-relevant domains (e.g., trust, passion) and relationship-irrelevant domains (e.g., pays taxes on time, teeth flossing). Moreover, both monogamists and non-monogamists rated monogamists more favorably than non-monogamists.

However, given that variation exists between consensually non-monogamous groups (Rubin, Moors, Ziegler, & Conley, 2014), it is unclear whether these effects replicate when distinguishing among different non-monogamous orientations. Essentially, collapsing each orientation into one category (consensual non-monogamy) may have blurred the boundaries between naturally occurring in-groups and out-groups, likely resulting in participants feeling less inclusion and belonging to the more general consensual non-monogamous category (Pickett & Brewer, 2005). This criticism has been echoed by other scholars who offered supportive commentaries, along with methodological and theoretical suggestions to improve this research (see Blaney & Sinclair, 2013; Day, 2013; Grunt-Mejer & Campbell, 2016; Hegarty, 2012; Salvatore, 2013). In addition to the critiques raised, the pattern of stigma towards consensually non-monogamous relationships and “halo effect” surrounding monogamous relationships reported by Conley and colleagues (2013), is at odds with the view that people typically favor members from their own groups over members of other groups (Mullen, Brown & Smith, 1992). To address these issues, in Chapter 6, stigma towards consensual non-monogamy and the halo

effect surrounding monogamy was re-examined, using a more appropriate measure of stigma (desired social distance), in a methodological context that differentiated between various types of consensually non-monogamous relationships and took into consideration participant's orientation. Furthermore, given that we know little about what predicts the stigma associated with consensually non-monogamous relationships, Chapter 6 assessed whether attitudes towards consensually non-monogamous orientations and monogamy are associated with beliefs about STI's/AIDS and promiscuity, as evidence suggests people who practice CNM are perceived to be more likely to spread STIs (see Johnson, Giuliano, Herselman, & Hutzler, 2015), and stigma may stem from these beliefs, especially among those who are monogamous and are not familiar with consensual non-monogamy.

Given the distinctions between different forms of consensually non-monogamous relationships, some research has examined differences in attitudes *towards* these relationship orientations. In this research, swingers were perceived more negatively than people in other consensually non-monogamous relationships (e.g., polyamorists), potentially reflecting stigma towards strictly sexual relationships (Matsick et al., 2013), or stigma towards promiscuity and perceptions that people in consensually non-monogamous relationships are more inclined to have unsafe sex (Conley et al., 2013; Johnson et al., 2015). Despite different attitudes held towards people practicing different types of consensually non-monogamous relationships, it is unclear if the psychosexual characteristics of people engaging in these different consensually non-monogamous relationships actually differ in a manner consistent with these attitudinal distinctions, and with the definitional distinctions that have been assigned in the literature. What little is known suggests some personality dimensions, such as openness to experience and conscientiousness, positively predict willingness to engage in consensual non-monogamy

(Moors, Selterman, & Conley, 2017), while the dimension of sociosexuality predicts the desire to engage in extradyadic sex (Seal, Agostinelli, & Hannett, 1994), as well as consensually non-monogamous experiences (Rodrigues, Lopes, & Smith, 2017). As such, Chapter 7 assessed whether attitudes towards sex, sociosexuality, and erotophilia-erotophobia differed as a function of one's relationship orientation.

1.2.3. Investment Model

Interdependence theory is concerned with how individuals in relationships influence each other and the nature of their interaction in obtaining valued outcomes (Kelley, 1978; Kelly & Thibaut, 1979; Thibaut & Kelley, 1959). The Investment Model (Rusbult, 1980) stemmed from interdependence theory and is used to predict commitment and the persistence of relationships based on one's satisfaction level, investment size, and quality of alternatives (Rusbult & Buunk, 1993). *Satisfaction level* is derived from one's evaluation of whether their partner meets or exceeds their standards (Rusbult, 1983) and whether positive (compared to negative) affect is experienced through encounters with a partner (Rusbult, Agnew, & Ariaga, 2012). To the degree that one's expectations are met or exceeded, and positive affect is experienced, satisfaction increases, thus strengthening relationship commitment (Segal & Fraley, 2015). *Investment size* reflects the direct (e.g., monetary) and indirect resources (e.g., time invested, cognitive interdependence, plans for the future) that represent the ways one is bound to the relationship. Greater investments enhance commitment through increased costs of relationship termination (Rusbult & Buunk, 1993; Segal & Fraley, 2015). *Quality of alternatives* refer to the degree to which people believe that their needs could be fulfilled in another relationship or alone (Ariaga, 2013; Drigotas & Rusbult, 1992). If individuals believe important needs could be fulfilled outside of their current relationship, this will result in greater quality of alternatives (Rusbult et

al., 1998). Thus, better quality alternatives drive decreases in commitment. While the Investment Model has received extensive support, one aspect of commitment processes that has received relatively little research attention concerns the effects of perceived relationship marginalization on individuals' romantic involvements.

The robustness of the Investment Model's specified factors in predicting commitment is well established (see Le & Agnew, 2003), though researchers have just begun to examine factors beyond those included in the Investment Model that could influence commitment processes. Research suggests perceptions of how others feel about one's relationship appears to be especially important, such that perceived approval of family and friends is positively associated with commitment (Sprecher & Feilmlee, 1992). Moreover, constructs that can be classified under of social network approval, including social support (Sprecher, 1988), social prescription (Cox, Wexlet, Rusbuly, & Gaines, 1997), and subjective norms (Etcheverry & Agnew, 2004), have all been shown to explain variance in commitment beyond that accounted for by satisfaction, alternatives, and investments. In other related work, perceived marginalization and romantic secrecy have been found to negatively predict commitment (Lehmiller & Agnew, 2006; Lehmiller, 2009). This research suggests that experiences of being in a marginalized relationship, and managing the stigma associated with such could influence commitment processes. As such, Chapters 2-4 assessed commitment processes, perceived disapproval and relationship secrecy, and how these constructs influence relationship outcomes, such as the proportion of time spent on sex, among individuals in polyamorous relationships. More specifically, Chapter 2 assessed whether commitment processes differed among those in primary-secondary relationships and whether there were carryover effects across partners (e.g., does greater satisfaction with a secondary partner influence participants commitment to their primary?). Chapter 3 assessed

whether commitment processes differed among individuals who identified both of their partners to be primary, and among individuals who do not consider any partners as primary. While Chapter 4 assessed whether perceived marginalization and secrecy influenced commitment and the proportion of time spent on sex.

1.2.4. Eroticism and Nurturance

We possess basic needs that are naturally satisfied by romantic relationships, such as the need for emotional support and sexual gratification (Hazan & Shaver, 1994). As such, two central components of romantic relationships are their ability to provide nurturance and security and to provide passion and meet erotic needs. However, it can be challenging to find a partner that meets both of these needs, in part because the experience of passion and the development of nurturance follow different time courses in a relationship (Tennov, 1979; Winston, 2004), with passionate love prominent in the early stages of a relationship, and companionate love emerging in the later stages as passionate love diminishes (Hatfield, Traupmann, & Sprecher, 1984; Sprecher & Regan, 1998). As a result, individuals in relationships are often stuck trying to balance their need for security and their need for passion (Hazan & Shaver, 1994), but it can be a lot to get these diverse needs met by the same partner. Beyond the difficulties associated with time course constraints, scholars have recently noted that modern marriages suffer from “suffocation” (Finkel, Hui, Carswell, & Larson, 2014), or from unrealistic expectations of a partner to meet vast needs. Compared to the previous generations, individuals are now expecting their marriage to fulfill higher-order needs like happiness and personal fulfillment, while modern economic and social challenges make it difficult for couples to invest the time and energy in the marriage that is needed to fulfill all needs (Finkel et al., 2014).

To “oxygenate” marriage and thus increase relational quality, Finkel and colleagues (2014) propose two possible solutions— couples could increase the amount of time and effort invested in their relationship or alter their expectations about marriage and relationships. More specifically, as individuals maintain the hope that marriage will be a critical source of personal fulfillment and will meet needs for passion and nurturance, individuals could either invest more into their relationship to make this a reality or could look to others to fulfill some of their needs (Finkel et al., 2014). Consistent with this line of reasoning, Conley and Moors (2014) maintain that consensually non-monogamous relationships offer the opportunity to diversify need fulfillment, with different partners meeting different needs. Given the time course constraints of passionate and companionate processes in relationships, wherein passion declines and nurturance increases over time, it is possible individuals in consensually non-monogamous relationships maintain primary relationships (instead of breaking up with a partner for alternative options/the secondary partner) and pursue secondary relationships to meet their needs for both nurturance and passion. As such, Chapter 5 assessed whether primary partners met more nurturant needs and less erotic needs compared to secondary partners.

1.3. Sociodemographic Variables

Men (compared to women) express more permissive and instrumental sexual attitudes (Bailey, Gaulin, Agyei, & Gladue, 1994; Kurdek, 1991; Hendrick, Hendrick, Slapion-Foote, & Foote, 1985), desire multiple sexual partners (Fenigstein & Preston, 2007), and are more apt to view monogamy as a sacrifice (Green, Valleriani, & Adam, 2016; Schmookler & Bursik, 2007). However, research presents mixed evidence for the impact of gender on engagement in non-monogamy. For example, Rubin and colleagues (2014) reported no significant differences between gender, as well as sexual orientation, race, and age among individuals in monogamous

and CNM relationships (Rubin et al., 2014). However, in another recent study, while the proportion of people who reported having engaged in a CNM relationship did not differ by age, education level, income, religion, geographic region, political affiliation, and race, it did vary by gender and sexual orientation. In this research, men (compared to women) and people who identified as either gay, lesbian, or bisexual (compared to those who identified as heterosexual) were more likely to report prior participation in a CNM relationship (Hauptert et al., 2017). This suggests that gender and sexual orientation may play a role in decisions to seek out non-monogamous relationships, in the preference for relationships to fulfill sexual purposes, and in sexual attitudes. As such, Chapter 5 assessed the effects of gender and sexual orientation when examining the role a partner plays (either nurturant or erotic) and Chapter 7 examined sexual attitudes, erotophilia, and sociosexuality.

Beyond gender and sexual orientation, there are other demographic variables of particular interest given the questions posed across the articles. More specifically, differences in commitment processes, secrecy, acceptance, and the proportion of time spent on sex could be influenced by one's relationship length and cohabitation status with their partners, with those living together and having been together longer inevitably acquiring more investments, lower secrecy, higher acceptance, and less time spent on sex, for example. As such, Chapters 2-4 assessed effects of interest while controlling for relationship length and cohabitation status.

Additionally, research has found that participants who held more favorable attitudes towards monogamy, politically conservative beliefs, and fundamentalist religious beliefs, were more likely to have negative attitudes towards polyamory (Hutzler, Giuliano, Herselman, & Jonhson, 2014; Johnson, Giuliano, Herselman, & Hutzler, 2015). As such, Chapter 6 sought to assess stigma towards various consensually non-monogamous and monogamous targets while

controlling for political and religious affiliation to explore whether political or religious affiliation impacted social distance ratings, along with judgments for STI risk and promiscuity.

1.4. Sexual Identity and Orientation

Sexual identity and orientation are often differentiated in sexuality research, such that identity reflects how one sees themselves whereas sexual orientation encompasses the dimensions of sexual identity, romantic and sexual attraction, and sexual behavior (Grollman, 2010; IOM, 2011; Katz-Wise, 2015; Klein, Sepekoff, & Wolf, 1985). Similar to this delineation, relationship identity and relationship orientation can be distinguished, wherein one can identify as monogamous or consensually non-monogamous, though may not actually practice such or currently be in a relationship; or wherein one can identify with and engage in relationship practices consistent with this orientation (e.g., maintaining multiple emotionally close relationships if polyamorous). Across the studies included in this article-based dissertation, the inclusion criteria for participants differed based on the hypotheses tested. When relationship outcomes were assessed, (Chapters 2-5) individuals who both identify with and are currently in consensually non-monogamous or monogamous relationships were included. This was necessary to observe partner differences across multiple relationship orientations, to draw comparisons between engagement in monogamous and consensually non-monogamous relationships, and to allow for generalizable conclusions to be inferred. However, in instances where attitudes towards or attitudes among those who are consensually non-monogamous were of interest (Chapters 6-7), the criteria were altered to include those who self-identify with the relationship orientations being assessed regardless of current relationship status. For example, as our rationale for stigma is based on one identifying with a relationship orientation, we sought to determine how stigma

towards consensually non-monogamous and monogamous targets differed based on the orientation in which individuals identify with.

1.5. Aims of Integrated Article

The present article-based dissertation has six primary aims and one secondary aim: (1) to clarify whether polyamorous participants report differences in relationship processes (e.g., commitment and investment) as well as perceived stigma (e.g., lack of acceptance, increased secrecy) with partners (e.g., do participants ratings for primary and secondary partners differ?); (2) to determine if primary-secondary partner configurations were dissimilar from co-primary and non-primary polyamorous relationships; (3) to assess whether secrecy and acceptance predicted sexual and relational functioning; (4) to determine if the role of one's involvement (e.g., nurturing vs. erotic) differs across partners in consensually non-monogamous relationships; (5) to evaluate the halo effect surrounding monogamy and correlates that may predict stigma towards consensual non-monogamy; and (6) to gauge whether sexual attitudes, sociosexuality, and erotophobia-erotophilia varied across consensually non-monogamous relationships, as some research has suggested. An examination of relevant demographic variables and their impact on results was a secondary goal and is discussed further in relevant chapters.

1.6. References

- Adam, B. D. (2006). Relationship innovation in male couples. *Sexualities, 9*, 5–26.
- Arriaga, X. B. (2013). An interdependence theory analysis of close relationships. In J. A. Simpson & L. Campbell (Eds.), *The Oxford handbook of close relationships* (pp. 39–65). Oxford, UK: Oxford University.
- Bailey, J. M., Gaulin, S., Agyei, Y. & Gladue, B. A. (1994). Effects of gender and sexual orientation on evolutionary relevant aspects of human mating psychology. *Journal of Personality and Social Psychology, 66*, 1081–1093.
- Balcerzak, A. (2013). Mike Huckabee: “I’m neither a homophobe nor a hater,” but gay marriage is just like polygamy. *Huffington Post*. Retrieved from http://www.huffingtonpost.com/2013/07/01/mike-huckabee-gay-marriage-polygamy_n_3530188.html
- Barker, M., & Langdridge, D. (2010). Whatever happened to nonmonogamies? Critical reflections on recent research and theory. *Sexualities, 13*, 748–772.
- Barry, D. T., & Mizrahi, T. C. (2005). Guarded self-disclosure predicts psychological distress and willingness to use psychological services among East Asian immigrants in the United States. *Journal of Nervous and Mental Disease, 193*, 535–539.
- Beals, K. P., Peplau, L. A., & Gable, S. L. (2009). Stigma management and well-being: The role of perceived social support, emotional processing, and suppression. *Personality and Social Psychology Bulletin, 35*, 867–879.
- Bittman, M. & Pixley, J. (1997). *The double life of the family*. Sydney, AU: Allen & Unwin.
- Burris, C. T. (2013). Torn between two lovers? Lay perceptions of polyamorous individuals. *Psychology and Sexuality, 5*, 258–267.

- Cain, R. (1991). Stigma management and gay identity development. *Social Work, 36*, 67–73.
- Cepeda-Benito, A., & Short, P. (1998). Self-concealment, avoidance of psychological services, and perceived likelihood of seeking professional help. *Journal of Counseling Psychology, 45*, 58–64.
- Conley, T. D., Moors, A. C., Matsick, J. L., & Ziegler, A. (2013). The fewer the merrier?: Assessing stigma surrounding consensually non-monogamous romantic relationships. *Analyses of Social Issues and Public Policy, 13*, 1–30.
- Conley, T. D., & Moors, A. C. (2014). More oxygen please! How polyamorous relationship strategies might oxygenate marriage. *Psychological Inquiry, 25*, 56–63.
- Conley, T. D., Piemonte, J. L., Guskova, S., & Rubin, J. D. (2018). Sexual satisfaction among individuals in monogamous and consensually non-monogamous relationships. *Journal of Social and Personal Relationships, 35*, 509–531.
- Conley, T. D., Ziegler, A., Moors, A. C., Matsick, J., & Valentine, B. (2012). A critical examination of popular assumptions about the benefits and outcomes of monogamous relationships. *Personality and Social Psychology Review, 2*, 124–141.
- Cox, C. L., Wexler, M. O., Rusbult, C. E., & Gaines, S. O., Jr. (1997). Prescriptive support and commitment processes in close relationships. *Social Psychology Quarterly, 60*, 79–90.
- Crandall, C. S., Tsang, J., Harvey, R. D., & Britt, T. W. (2000). Group identity-based self-protective strategies: The stigma of race, gender, and garlic. *European Journal of Social Psychology, 30*, 355–381.
- Crocker, J., & Major, B. (1989). Social stigma and self-esteem: The self-protective properties of stigma. *Psychological Review, 96*, 608–630.

- Crocker, J., & Major, B. (2003). The self-protective properties of stigma: Evolution of a modern classic. *Psychological Inquiry, 14*, 232–237.
- Dovidio, J. F., Major, B., & Crocker, J. (2000). Stigma: Introduction and overview. In T. F. Heatherton, R. E. Kleck, M. R. Hebl, & J. G. Hull (Eds.), *The social psychology of stigma* (pp. 1–28). New York, NY: Guilford.
- Drigotas, S. M., & Rusbult, C. E. (1992). Should I stay or should I go?: A dependence model of breakups. *Journal of Personality and Social Psychology, 62*, 62–87
- Easton, D., & Hardy, J. W. (2009). *The ethical slut* (2nd ed.). Berkeley, CA: Ten Speed Press.
- Etcheverry, P. E., & Agnew, C. R. (2004). Subjective norms and the prediction of romantic relationship state and fate. *Personal Relationships, 11*, 409–428.
- Finkel, E. J., Hui, C. M., Carswell, K. L., & Larson, G. M. (2014). The suffocation of marriage: Climbing Mount Maslow without enough oxygen. *Psychological Inquiry, 25*, 1–41.
- Gaines, J., & Stanley, O. (2001). Coping with prejudice: Personal relationship partners as sources of socioemotional support for stigmatized individuals. *Journal of Social Issues, 57*, 113–128.
- Garnett, R. W. (2016). Case closed. *Politics, Religion, & Ideology, 17*, 310–312
- Giddens, A. (1992). *The transformation of intimacy*. Cambridge, England: Polity Press.
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Englewood Cliffs, NJ: Prentice-Hall.
- Gramling, R., & Forsyth, C. J. (1987). Exploiting stigma. *Sociological Forum, 2*, 401–415.
- Green, A., Valleriani, J., & Adam, B. (2016). Marital monogamy as ideal and practice: The detraditionalization thesis in contemporary marriages. *Journal of Marriage and Family, 78*, 416–430.

- Grollman, E. (2010). What is “sexual identity”? Is it the same as sexual orientation? Kinsey Confidential. Retrieved from <https://kinseyconfidential.org/sexual-identity-sexual-orientation/>
- Grunt-Mejer, K., & Campbell, C. (2016). Around consensual nonmonogamies: Assessing attitudes toward nonexclusive relationships. *Journal of Sex Research, 53*, 45–53.
- Foust, M. (2013). If gay marriage is legalized, polygamy is next, briefs warn. *Baptist Press*. Retrieved from <http://www.bpnews.net/39916/if-gay-marriage-is-legalized-polygamy-is-nextbriefs-warn>
- Haag, P. (2011a). *Marriage confidential: The post-romantic age of workhorse wives, royal children, undersexed spouses, and rebel couples who are rewriting the rules*. New York, NY: Harper Collins Publishers.
- Haag, P. (2011b). Options for your mediocre marriage. *CNN*. Retrieved from <http://edition.cnn.com/2011/LIVING/06/02/marriage.with.issues/index.html>
- Hatfield, E., Traupmann, J., & Sprecher, S. (1984). Older women’s perceptions of their intimate relationships. *Journal of Social and Clinical Psychology, 2*, 108–124.
- Hauptert, M., Gesselman, A., Moors, A., Fisher, H., & Garcia, J. (2017). Prevalence of experiences with consensual non-monogamous relationships: Findings from two nationally representative samples of single Americans. *Journal of Sex and Marital Therapy, 43*, 424–440.
- Hazan, C., & Shaver, P. R. (1994). Attachment theory as an organizational framework for research on close relationships. *Psychological Inquiry, 5*, 1–22.
- Hegarty, P. (2012). Deconstructing the ideal of fidelity: A view from LGB psychology. *Analyses of Social Issues and Public Policy, 13*, 31–33.

- Hendrick, S., Hendrick, C., Slapion-Foote, M. J., & Foote, E. H. (1985). Gender differences in sexual attitudes. *Journal of Personality and Social Psychology*, 48, 1630–1642.
- Herek, G. M., & Capitano, J. P. (1996). “Some of my best friends”: Intergroup contact, concealable stigma, and heterosexuals’ attitudes toward gay men and lesbians. *Personality and Social Psychology Bulletin*, 22, 412–424
- Hutzler, K. T., Giuliano, T. A., Herselman, J. R., & Johnson, S. M. (2016). Three’s a crowd: Public awareness and (mis)perceptions of polyamory. *Psychology and Sexuality*, 7, 69–87.
- Ichiyama, M.A., Colbert, D., Laramore, H., Heim, M., Carone, K., & Schmidt, J. (1993). Self-concealment and correlates of adjustment in college students. *Journal of College Student Psychotherapy*, 7, 55–68.
- IOM (Institute of Medicine). (2011). *The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding*. Washington, DC: National Academies Press.
- Jenks, R. J. (1998). Swinging: A review of literature. *Archives of Sexual Behavior*, 27, 507–521.
- Johnson, S. M., Giuliano, T. A., Herselman, J. R., & Hutzler, K. T. (2015). Development of a brief measure of attitudes towards polyamory. *Psychology & Sexuality*, 6, 325–339.
- Johnson, D. J., & Rusbult, C. E. (1989). Resisting temptation: Devaluation of alternative partners as a means of maintaining commitment in close relationships. *Journal of Personality and Social Psychology*, 57, 967–980.
- Katz-Wise, S. L. (2015). Sexual fluidity in young adult women and men: Associations with sexual orientation and sexual identity development. *Psychology & Sexuality*, 6, 189–208.

- Kelly, A. E., & Achter, J. A. (1995). Self-concealment and attitudes toward counseling in university students. *Journal of Counseling Psychology, 42*, 40–46.
- Klein, F., Sepekoff, B., & Wolf, T. J. (1985). Sexual orientation: A multi-variable dynamic process. *Journal of Homosexuality, 11*, 35–49.
- Klein, R. (2013). Obama: “I think same-sex couples should be able to get married.” *ABC News*. Retrieved from <http://abcnews.go.com/blogs/politics/2012/05/obama-comes-out-i-think-samesex-couples-should-be-able-to-get-married/>
- Klesse, C. (2006). Polyamory and its ‘others’: Contesting the terms of non-monogamy. *Sexualities, 9*, 565–583.
- Kurdek, L. A. (1991). Correlates of relationship satisfaction in cohabiting gay and lesbian couples: Integration of contextual, investment, and problem-solving models. *Journal of Personality and Social Psychology, 61*, 910–922.
- Kurtz, S. (2003). Beyond gay marriage: The road to polyamory. *Weekly Standard*. Retrieved from http://pages.pomona.edu/~vis04747/h21/readings/Kurz_Beyond_gay_marriage.pdf
- Labriola, K. (1999). Models of open relationships. *Journal of Lesbian Studies, 3*, 217–225.
- Labriola, K. (2003). Models of Open Relationships. Retrieved from <http://www.cat-and-dragon.com/stef/poly/Labriola/open.html>
- Larson, D. G., & Chastain, R. L. (1990). Self-concealment: Conceptualization, measurement, and health implications. *Journal of Social and Clinical Psychology, 9*, 439–455.
- Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta-analysis of the Investment Model. *Personal Relationships, 10*, 37–57.
- Lehmiller, J. J. (2009). Secret romantic relationships: Consequences for personal and relational well-being. *Personality and Social Psychology Bulletin, 35*, 1452–1466.

- Lehmiller, J. J., & Agnew, C. R. (2006). Marginalized relationships: The impact of social disapproval on romantic relationship commitment. *Personality and Social Psychology Bulletin, 32*, 40–51.
- Matsick, J. L., Conley, T. D., Ziegler, A., Moors, A. C., & Rubin, J. D. (2014). Love and sex: Polyamorous relationships are perceived more favourably than swinging and open relationships. *Psychology and Sexuality, 5*, 339–348.
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*, 674–697.
- Mitchell, M., Bartholomew, K., & Cobb, R. (2014). Need fulfillment in polyamorous relationships. *Journal of Sex Research, 51*, 329–339.
- Mogilski, J. K., Memering, S. L., Welling, L. L., & Shackelford, T. K. (2017). Monogamy versus consensual non-monogamy: Alternative approaches to pursuing a strategically pluralistic mating strategy. *Archives of Sexual Behavior, 46*, 407–417.
- Moors, A. C., Matsick, J. L., Ziegler, A., Rubin, J. & Conley, T. D. (2013). Stigma toward individuals engaged in consensual non-monogamy: Robust and worthy of additional research. *Analyses of Social Issues and Public Policy, 13*, 52–69.
- Moors, A. C., Selterman, D., & Conley, T. D. (2017). Personality correlates of desire to engage in consensual non-monogamy among lesbian, gay, and bisexual individuals. *Journal of Bisexuality, 4*, 418–434.
- Mullen, B., Brown, R., & Smith, C. (1992). Intergroup bias as a function of salience, relevance, and status: An integration. *European Journal of Social Psychology, 22*, 103–122

- Munson, M., & Stelboun, J. P. (1999). *The lesbian polyamory reader: Open relationships, non-monogamy, and casual sex*. Binghamton, NY: Haworth Press.
- Oswalt, S. B., & Wyatt, T. J. (2011). Sexual orientation and differences in mental health, stress, and academic performance in a national sample of U.S. college students. *Journal of Homosexuality, 58*, 1255–1280.
- Page, E. H. (2004). Mental health services experiences of bisexual women and bisexual men: An empirical study. *Journal of Bisexuality, 4*, 137–160.
- Pachankis, J. E. (2007). The psychological implications of concealing a stigma: A cognitive-affective-behavioral model. *Psychological Bulletin, 133*, 328–345.
- Pickett, C. L., & Brewer, M. B. (2005). The role of exclusion in maintaining ingroup inclusion. In D. Abrams, M. A. Hogg, & J. M. Marques (Eds.), *The social psychology of inclusion and exclusion* (pp. 89–112). New York, NY: Psychology Press.
- Ritchie, A., & Barker, M. (2007). Hot bi babes and feminist families: Polyamorous women speak out. *Lesbian and Gay Psychology Review, 8*, 141–151.
- Rodrigues, D., Lopes, D., & Smith, C. V. (2016). Caught in a “bad romance”? Reconsidering the negative association between sociosexuality and relationship functioning. *Journal of Sex Research, 54*, 1118–1127.
- Rosenfeld, M. J., & Kim, B. S. (2005). The independence of young adults and the rise of interracial and same-sex unions. *American Sociological Review, 70*, 541–562.
- Rubel, A. N., & Bogaert, A. F. (2015). Consensual nonmonogamy: Psychological well-being and relationship quality correlates. *Journal of Sex Research, 52*, 961–982.

- Rubin, J. D., Moors, A. C., Matsick, J. L., Ziegler, A., & Conley, T. D. (2014). On the margins: Considering diversity among consensually non-monogamous relationships. *Journal für Psychologie, 22*, 1–23.
- Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology, 16*, 172–186.
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology, 45*, 101–117.
- Rusbult, C. E., Agnew, C., & Arriaga, X. (2012). The investment model of commitment processes. In P. Van Lange, A. Kruglanski, & E. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 218–232). London, England: Sage
- Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships, 10*, 175–204.
- Rusbult, C. E., Johnson, D. J., & Morrow, G. D. (1986). Predicting satisfaction and commitment in adult romantic involvements: An assessment of the generalizability of the investment model. *Social Psychology Quarterly, 49*, 81–89.
- Salvatore, J. (2013). Back to basics in the assessment of stigma: Commentary on Conley et al. (2012). *Analyses of Social Issues and Public Policy, 13*, 45–48.
- Schmookler T, & Bursik K. (2007). The value of monogamy in emerging adulthood: a gendered perspective, *Journal of Social and Personal Relationships, 24*. 819–835.
- Seal, D. W., Agostinelli, G., & Hannett, C. A. (1994). Extradyadic involvement: Moderating effects of sociosexuality and gender. *Sex Roles, 31*, 1–22.

- Sheff, E., & Hammers, C. (2011). The privilege of perversities: Race, class and education among polyamorists and kinksters. *Psychology & Sexuality, 2*, 198–223.
- Sheff, E. (2013). *The polyamorists next door: Inside multiple partner relationships and families*. Lanham, MD: Rowman and Littlefield.
- Sprecher, S. (1988). Investment Model, equity, and social support determinants of relationship commitment. *Social Psychology Quarterly, 51*, 318–328.
- Sprecher, S., & Felmlee, D. (1992). The influence of parents and friends on the quality and stability romantic relationships: A three-wave longitudinal investigation. *Journal of Marriage and the Family, 54*, 888–900.
- Sprecher, S. & Regan, P.C. (1998). Passionate and companionate love in courting and young married couples. *Sociological Inquiry, 68*, 163–185.
- Stacey, J. (1996). *In the name of the family: Rethinking family values in the postmodern age*. Boston, MA: Beacon Press.
- Tamura, R., Murphy, K. M., & Simon, C. J. (2008). Fertility decline, baby boom, and economic growth. *Journal of Human Capital 2*, 262–302.
- Tamura, R., & Simon, C. (2016). Secular fertility declines, baby booms, and economic growth: International evidence. *Macroeconomic Dynamics, 21*, 1601–1672.
- Taormino, T. (2008). *Opening up*. San Francisco, CA: Cleis Press.
- Tennov, D. (1979). *Love and limerence: The experience of being in love*. New York, NY: Stein & Day.
- Wildmon, T. (2013). Marriage equality fight pushes country down slippery slope of polygamy, incest. *Christian Post*. Retrieved from <http://www.christianpost.com/news/marriage-equality-fightpushes-country-down-slippery-slope-of-polygamy-incest-100957/>

Winston, R. (2004). *Human*. London, England: Dorling Kindersley.

Witherspoon, R. G. (2016). Stigmatization of polyamory: Perceptions, predictors, and clinical implications. *Research Gate*. Retrieved from https://www.researchgate.net/publication/318431816_Stigmatization_of_Polyamory_Perceptions_Predictors_and_Clinical_Implications

Wong, C. M. (2013). Gay marriage will lead to polygamy, pedophilia, and hate crime claims against pastors: Jerome Corsi. *Huffington Post*. Retrieved from https://www.huffingtonpost.com/2013/07/24/gay-marriage-jerome-corsi_n_3645009.html

Wosick-Correa, K. (2010). Agreements, rules, and agentic fidelity in polyamorous relationships. *Psychology & Sexuality, 1*, 44–61.

United Nations (2015). World Population Ageing. *Department of Economic and Social Affairs, Population Division*. Retrieved from http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Report.pdf

Vaquera, E., & Kao, G. (2005). Private and public displays of affection among interracial and intraracial adolescent couples. *Social Science Quarterly, 86*, 484–508.

Veaux, F. (2011). Care and feeding of polyamorous secondary relationships. *More Than Two*. Retrieved from <https://www.morethantwo.com/primarysecondary.html>

CHAPTER TWO: PERCEPTIONS OF PRIMARY AND SECONDARY RELATIONSHIPS IN POLYAMORY (Published in PLoS ONE)

2.1. Introduction

While monogamy remains the most common romantic relationship arrangement in North America, consensual non-monogamy (CNM) is prominent, with estimates derived from internet samples suggesting that approximately 4-5% of individuals are currently involved in some form of consensually non-monogamous relationship (Rubin, Moors, Matsick, Ziegler, & Conley, 2014), and other research suggesting that approximately one in five people have previously been a part of a CNM relationship at some point during their lifetime (Hauptert, Gesselman, Moors, Fisher, & Garcia, 2017). CNM relationships are those in which partners explicitly agree that they or their partners can enter romantic and/or sexual relationships with other people (Conley, Moors, Matsick, & Ziegler, 2013a; Conley, Ziegler, Moors, Matsick, & Valentine; 2013b). CNM relationships can take many forms, but the focus of the present research is polyamory, which refers to an identity in which people philosophically agree with and/or practice multi-partner relationships, with the consent of everyone involved (Conley et al., 2013b; Easton & Hardy, 2009; Rubel & Bogaert, 2015; Taormino, 2008). Although the term polyamory indicates permission to engage in sexual or romantic relationships with more than one partner, the nature of these relationships and how individuals approach them can vary from one person partnering with multiple people, to members of a couple dating a third (triad), to two couples in a relationship with each other (quad), to networks of people involved with each other in various configurations (Klesse, 2006; Munson & Stelboun, 1999; Pines & Aronson, 1981; Sheff, 2013).

Polyamory includes many different styles of intimate involvements, however, most polyamorous-identified individuals report having two concurrent partners (Wosick-Correa,

2010), and one of the most commonly discussed polyamorous relationship configurations is characterized by a distinction between primary and secondary relationships (Veaux, 2011; Veaux, Hardy, & Gill, 2014). In this configuration, a primary relationship is between two partners who typically share a household (live together) and finances, who are married (if marriage is desired), and/or who have or are raising children together (if children are desired; Klesse, 2006). Partners beyond the primary relationship are often referred to as non-primary partners or 'secondary' partners. A secondary relationship often consists of partners who live in separate households and do not share finances (Klesse, 2006). In general, secondary partners are afforded relatively less time, energy, and priority in a person's life than are primary partners. Furthermore, a secondary relationship often consists of less ongoing commitments, such as plans for the future (Veaux, 2011; Veaux et al., 2014). It is worth noting that much of differences discussed here have been speculated to exist, though primarily in non-empirical sources (e.g., popular blogs), and have not been empirically tested.

Primary-secondary relationships can occur through circumstance (e.g. an individual has been in a relationship with one partner and has developed greater interdependence with that partner than others), or through conscious choice (e.g. a commitment to hold the primary relationship as more significant, or to prioritize the primary relationship over other relationships) (Veaux, 2011; Veaux et al., 2014). Importantly, not all polyamorists have primary relationships with additional secondary partners, and some polyamorists categorically reject the hierarchical distinctions implied by primary-secondary relationships (Sheff, 2013). Although much has been said and written about the primary-secondary distinction in polyamory, very little of it has come from empirical research. As such, research is needed to determine whether our most basic assumptions about these relationships hold true. For example, are there indeed reliable

differences between primary and secondary relationships, such that those who identify a partner to be primary are in fact more likely to live with this partner and to report greater relationship duration with that partner? Beyond this, we also seek to assess whether reliable differences emerge on important relationship outcomes, such as commitment, communication, and sexual frequency. Due to the mixed feelings towards primary-secondary relationships within the polyamory community (Sheff, 2013), and vast differences in relationship configuration, we therefore limited our sample to polyamorous individuals who personally identified one partner to be primary and another partner to be non-primary.

2.1.1. Previous Research on CNM and Goals of Current Research

The emphasis on romantic and sexual commitments distinguishes polyamory from other types of consensual non-monogamy, such as swinging (Jenks, 1985; Kimberly & Hans, 2017) or “open” relationships (Hyde & DeLamater, 2000; Kurdek & Schmitt, 1985) – relationships in which partners agree on sexual relations with others, either as a couple or independently, but operate with minimal emotional and romantic capacity (Conley et al., 2013a; Conley et al., 2013b). Despite this distinction, most research exploring polyamory collapses polyamory under the broad category of CNM with these other relationship types (though it is important to note that forming committed relationships with multiple partners is quite distinct from having fleeting relationships or casual sex partners on the side). Research shows that individuals in CNM relationships are as equally satisfied with and committed to their relationships as individuals in monogamous relationships (Conley et al., 2013b). Additionally, consensually non-monogamous and monogamous couples do not differ in reports of relationship quality (e.g., satisfaction, sexual frequency, jealousy, longevity) or psychological well-being (e.g., happiness, depression) (Rubel & Bogaert, 2015). These studies, therefore, suggest that CNM relationships do not significantly

differ from monogamous relationships on a number of relationship quality indicators. However, as polyamory involves more intimate involvements than other forms of CNM, meaningful relationship processes may extend to partners beyond the initial dyad, a similarity that may not be expected in open relationships or swinging. More specifically, in open relationships or swinging arrangements, we would not expect substantial commitment or investment to occur with partners beyond the initial dyad because these relationships are typically premised around sex. However, as polyamory extends beyond sexual connection, individuals may report that commitment does exist with partners beyond the initial dyad. Current research is just beginning to explore potential differences in the relationship dynamics an individual has with multiple partners (Mogilski, Memering, Welling, & Shackelford, 2017). For example, Mogilski and colleagues (2017) found no significant differences between relationship satisfaction ratings of monogamous partners and CNM primary partners, however, the difference between ratings of monogamous partners and CNM secondary partners was marginally significant, such that CNM participants reported higher relationship satisfaction with their primary partner than with their secondary partner. There were some important limitations, however, in their study: the number of individuals with two or more partners was small (e.g. $n = 76$) and the sample involved CNM participants without distinguishing among the different types of CNM. In this case, the authors collapsed across the various forms of non-monogamy (i.e., swinging, open relationships, and polyamory) without providing details about how many of these participants fell into each CNM category. Investigating how polyamorous individuals think, feel, and behave within their different romantic relationships is essential for developing an understanding of the psychological processes involved in the maintenance of multiple simultaneous romantic relationships.

2.1.2. Relationship Acceptance and Secrecy

Approximately 25.8% of individuals who practice polyamory have experienced discrimination (Cox, Fleckenstein, & Bergstrand, 2013; Fleckenstein, Bergstrand, & Cox, 2012). While previous research has highlighted the fact that polyamory is not widely accepted and is a socially stigmatized relationship configuration (Moors, Matsick, Ziegler, Rubin, & Conley, 2013), to our knowledge no research has empirically tested whether individuals with more than one romantic partner perceive a lack of acceptance from family and friends, and further, whether this acceptance varies across relationships.

One important source of relationship acceptance is the family (Sprecher & Felmlee, 1992). Because polyamory challenges the monogamous “ideal” relationship, polyamorists may recognize that sanctions exist for those who do not comply with these conventions. More specifically, Goffman (1963, 1969) suggests that in an attempt to maintain compatibility between personal and social identities, individuals who are subject to stigma may employ strategies to reduce the possibility that others will notice their involvement in discredited behavior (Peck & Dolch, 2001). This task is accomplished by *passing*, or the “management of undisclosed discrediting information about [the] self” (Goffman, 1963), and by *covering*, which is the “effort to keep the stigma from looming large” (Peck & Dolch, 2001). Because primary relationships are more likely to be partnerships in which the couple has been together for a longer period of time, are more likely to be married, and more likely to live together, it is conceivable that these relationships could be more likely to *pass* for monogamous partnerships or *cover* an individual’s polyamorous identity than secondary relationships, providing one potential reason for more acceptance from family for primary relationships. We hypothesized that in polyamorous relationships, the mean amount of perceived acceptance from family for primary relationships

would be greater than the mean amount of acceptance for secondary relationships (Hypothesis 1).

Additionally, it is likely that the expectations from important peers (e.g., friends) lean towards cultural monogamy norms given their pervasiveness (Henrich, Boyd, & Richerson, 2012). We therefore hypothesized that the mean amount of perceived acceptance from friends for primary relationships would also be greater than the mean amount of acceptance for secondary relationships (Hypothesis 2). While we expect primary relationships to receive greater acceptance from family and friends, contrary to family, individuals can select their friends and may be likely to select friends who are either similar to or more accepting of their relationships. We thus predicted that family would be perceived as less accepting of secondary relationships than friends (Hypothesis 3).

Furthermore, the desire to comply with customs and norms, or to avoid stigma, could result in greater secrecy about polyamorous relationships, particularly, when it comes to relationship partners beyond the primary relationship members. We therefore hypothesized that in polyamorous relationships, the mean amount of romantic secrecy would be greater for secondary relationships than the mean amount of romantic secrecy reported for primary relationships (Hypothesis 4). While stigma towards CNM has been documented at the general level (i.e., that people typically favor monogamy), no research to this point has assessed how polyamorous individuals experience stigma in their relationships, and whether acceptance and secrecy was experienced in all relationships, or in fact predicted by the status of the relationship (i.e., whether one is primary or secondary).

2.1.3. Relationship Investment and Commitment Processes

Interdependence theory posits that individuals initiate and maintain relationships because of the benefits of interactions in a relationship (Blau, 1967; Holmes, 1961; Rusbult, 1993). As relationships develop, the interaction amongst partners yields outcomes in the forms of rewards (e.g. sexual pleasure, relationship satisfaction, security), and costs (e.g. increased responsibility, distress or anxiety, despair, fear) (Rusbult & Buunk, 1993). Rusbult's Investment Model (Rusbult, 1980, 1983), based on Interdependence Theory, proposes that motivation to maintain a relationship is the product of four variables: (1) *investment size*, or the direct and indirect resources (e.g., time invested, cognitive interdependence, plans for the future) that represent the ways one is bound to the relationship; (2) *satisfaction*, or how rewarding the relationship is; (3) *quality of alternatives*, or the degree to which one believes that one's needs could be fulfilled in another relationship; and (4) *commitment*, or the subjective representation of dependency, experienced as a feeling of psychological attachment to the partner and desire to maintain the relationship (Rusbult & Buunk, 1993). Relationship commitment typically arises when one is highly invested and satisfied and perceives that there are no better options to one's current relationship. Commitment, in turn, promotes relationship persistence.

In polyamorous relationships, anecdotal evidence suggests primary partners may afford certain rewards because primary partners can share in major life decisions and can help to promote greater levels of interdependence (e.g., joint finances, cohabitate, etc.) (Sheff, 2013). Some experiences and behaviors that are more common among primary partnerships, such as relationship approval and the ability to exist as a publicly recognized couple (especially when secrecy in other relationships is salient) may be additionally rewarding. In contrast, other experiences and behaviors that are likely more common among secondary relationships may have relationship deterring effects, such as maintaining a romantic bond in social climates that

marginalize and devalue polyamorous relationships. For these reasons, we further expected that it should be more difficult to develop interdependence in secondary relationships compared to primary relationships.

A practical matter to also consider is the degree to which one invests in and is therefore able to commit to a relationship, given that many investments are, by their nature, limited. More specifically, if the primary partner is the recipient of many of the investments typical in traditional relationship trajectories (moving in together, getting married, having children, etc.), there are simply fewer resources left to invest into relationships with secondary partners, and thus, fewer opportunities to become truly interdependent. Additionally, previous research utilizing the Investment Model Scale found that individuals in marginalized relationships invest significantly less than individuals in nonmarginalized relationships (Lehmiller & Agnew, 2006). Taken together, we predicted that the mean amount of investments for primary relationships would be greater than the mean amount of investments reported in secondary relationships (Hypothesis 5).

Additionally, it has been suggested that denying or hiding a relationship can decrease relationship satisfaction because it can represent a devaluing of the relationship (Berzon, 1988), and creates anxiety about the relationship itself (Jordan & Deluty, 2000). Keeping a relationship secret is also linked to elevated reports of physical and psychological stress (Lehmiller, 2009), another factor that might be expected to lower relationship quality. Recent research has also found that within CNM relationships, participants reported higher overall relationship satisfaction with primary compared to secondary relationships and considered their primary partner to be more desirable as a long-term mate than their secondary partner (Mogilski et al., 2017). Thus, we predicted that individuals in polyamorous relationships would be more satisfied

with primary relationships than secondary relationships (Hypothesis 6). That said, to the degree that individuals have chosen to stay with a primary partner while pursuing other alternatives (as opposed to leaving that relationship entirely), we predicted that the perceived quality of alternatives would be lower for assessments of primary compared to secondary relationships (Hypothesis 7). More specifically, individuals in polyamorous relationships should be less likely to desire leaving the primary partner for another equivalent relationship, and somewhat more likely to desire leaving a secondary partner for another equivalent relationship. Lastly, to the extent that the above predictions are true—that primary relationships are indeed associated with greater satisfaction and investments and fewer alternatives—this would be expected to translate to greater commitment for primary compared to secondary relationships, consistent with the central prediction of the Investment Model (Hypothesis 8). Additional reasoning for this hypothesis comes from other research finding that marginalization is a negative predictor of commitment (Lehmiller & Agnew, 2006). Given that secondary relationships are thought to be more marginalized than primary relationships, we would expect commitment to the former to be lower than commitment to the latter.

2.1.4. Relationship Communication

Communication is an extremely valuable skill in any relationship, but particular importance is placed on communication in the context of polyamorous and other CNM relationships. Polyamorists actively sustain their engagements with multiple partners through an ideology that emphasizes open and honest communication (Sheff, 2013). To facilitate this communication, most individuals practicing polyamory report making agreements, or freely chosen rules with their partners regarding intimate behaviors, preferred level of knowledge about other partners, and so forth (Klesse, 2006; Munson & Stelboun, 1999; Pines & Aronson, 1981;

Wosick-Correa, 2010). Agreements are particularly salient and important to sustaining primary relationships in polyamory for multiple reasons. In order to make agreements that facilitate other relationships while protecting the primary relationship, communication amongst partners about their relationship, needs, and expectations is essential. In previous research, communication was found to be one of the variables that contributed to maintaining commitment between primaries in long-term polyamorous relationships (Cook, 2005). Thus, we hypothesized that the level of communication about the relationship would be perceived as greater in primary relationships than secondary relationships (Hypothesis 9). Further, we expected that when asked to compare their relationships to most other people participants know, the quality of communication would be perceived as greater for primary relationships than secondary relationships (Hypothesis 10). This may, in part, be due to a greater need to communicate, and due to more practice communicating, considering that primary relationships tend to have greater relationship duration (to be discussed in more detail in the Results).

2.1.5. Percentage of Time Spent on Sexual Activity

While most of the predictions discussed thus far highlight the potential rewards attributed to primary relationships in comparison to secondary relationships, one potential reward that can be attributed to secondary relationships involves sexual activity. Given that secondary relationships tend to be newer partnerships and that the typical trajectory of sexual activity in relationships involves a greater frequency of sex early on that declines over time (Call, Sprecher, & Schwartz, 1995), we predicted that polyamorists would report a greater amount of time spent engaging in sexual activity (out of the total time spent together) in secondary relationships (Hypothesis 11). Importantly, we focus on the percentage instead of the frequency because it is presumed that participants will spend more time in general with primary partners. If people

spend less total time with secondary compared to primary partners, than frequency comparisons would be unfairly biased towards less frequent sex with secondary partners by virtue of the lack of access. A percentage/proportion measure controls for the different amount of time primary and secondary partners spend together. In the present research, we test predictions regarding differences in the perceptions of two concurrent romantic relationships (i.e., primary and secondary relationships) of self-identified polyamorous individuals. Specifically, we focus on acceptance and secrecy, investment and commitment processes, as well as communication about the relationship and sexual frequency across relationships.

2.2. Materials and Methods

2.2.1. Participants

Research was conducted in accordance with the ethical guidelines of the American Psychological Association. Informed consent was received from each participant digitally (each participant indicated they read the consent form and agreed to take part before proceeding with the survey). Additionally, this research was approved by the IRB at Champlain College (Vermont, US). A convenience sample of adults ($N = 3,530$), primarily from the United States ($n = 2,428$), who identified as polyamorous was recruited from various internet forums, dating sites, and Facebook group pages to take part in the study. Most of these websites and groups were specifically geared toward a polyamorous audience (e.g., Facebook groups for Polyamorous individuals, advertisements in polyamorous blogs). Participants were informed that in order to participate in the study, they must identify as polyamorous, be at least 18 years of age, and currently be in a relationship with at least one person. Prospective participants were provided a link (see: https://harvard.az1.qualtrics.com/SE/?SID=SV_bJhORcv4yrHTcA5) that re-directed them to a survey hosted on Qualtrics.

Most participants reported having at least two partners (72.8%; $n = 2,571$) at the time of testing, however, we only collected detailed information on up to two partners due to time constraints and concerns about participant burden. As the focus of the current study is assessing differences between primary and secondary relationships, we limited participants in the current study only to those who indicated that the first person listed was a primary partner, and the second person listed was a non-primary partner (37.05% of the full sample; $n = 1308$). Within this sub-sample, the majority (58.6%) of respondents identified as female ($n = 766$), 36.8% identified as male ($n = 481$), 1.0% identified as transgender ($n = 13$), 3.5% identified as another gender ($n = 46$), and 0.20% were missing responses ($n = 2$). Of the people who wrote in their own gender identity, common examples included “trans-gendered,” “non-gendered,” “gender-queer,” “co-gendered,” “non-binary,” and “gender-fluid.” With respect to sexual orientation, most (51.2%) respondents identified as bi- or pansexual ($n = 667$), 39.0% identified as heterosexual ($n = 510$), 2.8% identified as lesbian or gay ($n = 36$), 7.0% identified as other ($n = 92$), and 0.2% were missing responses ($n = 3$). Participants who identified their sexual orientation as “other” were allowed to write in their identity; common responses were “hetero-flexible,” “fluid,” “queer,” “bi-curious,” “polysexual,” and “asexual.” The age of participants ranged from 18 to 78 years old, and the average age was 35.26 ($SD = 10.45$).

2.2.2. Procedures

For the purpose of this study, polyamory was defined as “the practice or acceptance of having multiple simultaneous romantic relationships where everyone involved consents” for the participants. Data were collected as part of an online testing session between December 2012 and January 2013. Participants answered a battery of questionnaires, including demographic questions about themselves and all partners they had, as well as detailed questions about their

relationship experiences with a primary and a single secondary partner only. Questions addressed concepts including jealousy, communication, satisfaction, quality of alternatives, investment-size, commitment, sex, secrecy, and perceived approval.

2.2.3. Measures

2.2.3.1. The Concept of a Primary-Secondary Relationship

Respondents were asked to provide the initials of partners #1 and #2, and then were asked a series of questions about their relationships with these partners. The survey was programmed such that the initials for each partner were piped into the questions to avoid confusion regarding which partner was being asked about. To assess assumptions about primary-secondary partnerships, participants were asked to indicate the number of years and months they had been in a relationship with partner #1 and partner #2. Next, to assess whether partner #1 or partner #2 was considered to be a primary partner, respondents were given five options: 1 = *Yes, partner (partner's initials) is a primary relationship*, 2 = *Yes, partner (partner's initials) is a primary relationship, but I also have others that are considered primary*, 3 = *No, partner (partner's initials) is not a primary relationship*, 4 = *No, I do not believe in considering one partner primary*, and 5 = *None of the above* (with an option to explain after). Lastly, respondents were asked to indicate whether they lived with partner #1 or partner #2 with the simple response option of *yes* or *no*. These questions were presented within the demographic questions, prior to presenting our primary measures.

With regard to the following measures, participants answered each question for two concurrent relationship partners. In the following discussion of measures, “partner ()” reflects the initials of the persons that each participant indicated as their first and second listed partners.

2.2.3.2. Relationship Acceptance and Secrecy

A one-item measure (on a 9-point Likert-type scale, anchored 1 = *do not agree at all*, 9 = *agree completely*) assessed relationship acceptance from family (e.g., “My family is accepting of my relationship with partner ()”); and from friends (e.g., “My friends are accepting of my relationship with partner ()”); Lehmilller & Agnew, 2006). These items were intended to be analyzed separately, as was established in our pre-registered hypotheses and analytic plan, however, we did explore the possibility of using a composite of these items, but due to the poor reliability of these items together (primary partner $\alpha = .56$; secondary partner $\alpha = .59$), we did not proceed with the aggregate.

Participants answered two questions (on a 9-point Likert-type scale, anchored 1 = *do not agree at all*, 9 = *agree completely*) regarding experiences with secrecy in their relationship(s). The items used included, “During the past week, my relationship with partner () was secret from someone,” and “During the past week, I hid some things about my involvement with partner () from some people” (primary partner $\alpha = .66$; secondary partner $\alpha = .90$; Foster & Campbell, 2005).

2.2.3.3. Investment and Commitment Processes

The measure of investment size contained three items based on the Investment Model Scale (IMS; Rusbult, Martz, & Agnew, 1998). Items assess the ways in which people get bound by resources in the relationship and thus the potential costs of losing the relationship (e.g., “I have put a great deal into this relationship that I would lose if the relationship were to end,” “I feel very involved in our relationship – like I have put a great deal into it,” and “Compared to other people I know, I have invested a great deal in my relationship with partner”); (9-point Likert-type scale, anchored 1 = *do not agree at all*, 9 = *agree completely*; primary partner $\alpha = .69$; secondary partner $\alpha = .90$).

Participants answered three questions regarding their satisfaction with romantic relationship partners. The items used were based on the IMS (Rusbult et al., 1998) and included, “My relationship with partner () is much better than others’ relationships,” “I feel satisfied with our relationship,” and “Our relationship makes me very happy” (on a 9-point Likert-type scale, anchored 1 = *do not agree at all*, 9 = *agree completely*; primary partner $\alpha = .82$; secondary partner $\alpha = .82$).

Five questions regarding the perceived quality of alternatives were included. The items used were based on the IMS (Rusbult et al., 1998) and included, “My alternatives to our relationship are close to ideal (dating another, spending time with friends or on my own, etc.),” “My alternatives are attractive to me (dating another, spending time with friends or on my own, etc.),” “My needs for intimacy, companionship, etc. could easily be fulfilled in an alternative relationship,” “If I weren't dating partner (), I would do fine—I would find another appealing person to date,” and “The people other than partner () with whom I could become involved are very appealing” (on a 9-point Likert-type scale, anchored 1 = *do not agree at all*, 9 = *agree completely*; primary partner $\alpha = .78$. secondary partner $\alpha = .85$).

Participants responded to four questions, based on the IMS (Rusbult et al., 1998), about their commitment. The items used included, “I feel very attached to our relationship – very strongly linked to partner (),” “I am oriented toward the long-term future of my relationship (for example, I imagine being with partner () several years from now),” “I intend to stay in this relationship,” and “I am committed to maintaining my relationship with partner ()” (on a 9-point Likert-type scale, anchored 1 = *do not agree at all*, 9 = *agree completely*; primary partner $\alpha = .88$; secondary partner $\alpha = .92$).

2.2.3.4. Relationship Communication

Communication in the relationship was measured using a 9-point Likert-type scale (anchored 1 = *never*, 9 = *daily*) asking participants to consider, “How often you communicate with partner () on average about the following topics?:” “About the quality of your relationship,” “About what love means to you,” “About your relational desires and needs,” “About your sexual desires/needs,” “About another romantic partner/interest of yours or theirs,” “About commitment and the future,” “About feelings of jealousy,” “About scheduling time for each other,” and “About how your family and/or the outside world view your relationship” (primary partner $\alpha = .87$; secondary partner $\alpha = .90$). Participants were asked with one item to evaluate the quality of the communication with their partner in comparison to most people they know. Participants responded on a 5-point Likert-type scale (anchored 1 = *well below average*, 5 = *well above average*).

2.2.3.5. Percentage of Time Spent on Sexual Activity

Of the time partners spent together, participants were asked to estimate what percentage of that time was spent on sexual activities, from 0% – 100% (Lehmiller, VanderDrift, & Kelly, 2014).

2.2.4. Analytic Strategy

To control for the experiment-wise error rate in hypothesis testing associated with conducting a large number of statistical tests (Kirk, 1982), the criteria for statistical significance for our pre-registered hypotheses was corrected by using the Bonferroni method; dividing $\alpha = .05$ by the number of pair-wise tests ($.05 / 11 = .0045$). Therefore, the p -value used across these analyses was set at $p < .0045$ level rather than the typical $p < .05$ level. The hypotheses and the data analytic plan were pre-registered on the Open Science Framework (OSF) prior to conducting the analyses (see: <https://osf.io/bgtuy/>). Additionally, all of the data and code

required to reproduce the analyses presented below are located on the OSF (<https://osf.io/vs574/>).

2.3. Results

2.3.1. The Concept of a Primary Partner

Participants answered the same questions about each of the partners they identified as primary and secondary. Participants reported a significantly longer relationship duration with the primary partner ($M = 8$ years and 4 months, $SD = 7$ years and 6 months) than with the secondary partner ($M = 2$ years and 4 months, $SD = 3$ years and 6 months); $t(781) = 21.91, p < .001$, Cohen's $d = 0.96$. Additionally, to assess cohabitation and primary status, McNemar's test for paired nominal data was used. The test is applied to 2×2 contingency tables that have a dichotomous variable with matched pairs of subjects. In our study, one repeated dichotomous variable was living/not living with partner. The matched pairs are responses for each of two partners. The test statistic is a χ^2 value with one degree of freedom and if it is statistically significant, it suggests that the marginal proportions are different from each other (e.g. Are the proportions of primary partners living with participants equal to the proportion of secondary partners living with participants?). We found that participants were much more likely to share a household with their primary partner (72.21%) than with their secondary partner (0.002%); McNemar $\chi^2(1) = 932.02, p < 0.001, \phi = 0.85$. This data pattern supports the notion that primary relationships involve greater relationship duration and are more likely to consist of partners who cohabitate, and thus the data support anecdotal and popular claims about the nature of primary-secondary relationships.

2.3.2. Tests of Main Predictions

The data were analyzed in a series of paired-sample *t*-tests to compare participants' perceptions of their primary and secondary relationships. Results from these analyses are presented in Table 1. All of our predictions were supported. Specifically, participants reported more relationship acceptance by family and friends, greater investment size, higher levels of commitment, more relationship satisfaction, greater communication about the relationship and greater quality of communication for primary compared to secondary relationships. On the other hand, participants reported greater romantic secrecy, higher quality of alternatives, and spending a greater proportion of time on sexual activity with secondary compared to primary relationships. Effect sizes of the mean differences appropriate for repeated measures (i.e., Cohen's *d*) were calculated using the value of the *t*-test, the correlation between the two paired-means, and the total sample size. Effect sizes were moderate to large, with the exception of quality of alternatives, which was relatively small. Effect sizes were not predicted *a priori*, but the large sample size, combined with the predominantly moderate to large effect sizes, suggests that the effects are robust. Results for primary and secondary relationships were consistent with the overall sample as well. To see data, syntax, and output for the analyses involving all participants (e.g., data collapsed such that participants who report co-primaries or no primaries are also included), please see: <https://osf.io/ph6up/>.

Next, we compared acceptance of secondary partners from family vs. friends (using a paired-samples *t*-test). Consistent with predictions, participants' perceptions of acceptance for secondary relationships were greater for friends ($M = 6.27$, $SD = 2.26$) than family ($M = 4.30$, $SD = 2.45$); $t(865) = 22.78$, $p < .001$; $d = 0.83$. For exploratory purposes, we performed the same analyses on participants' perceptions of acceptance for primary relationships, which revealed the same pattern: acceptance was greater for friends ($M = 8.45$, $SD = 1.18$) than family ($M = 7.93$,

$SD = 1.89$); $t(882) = 8.87, p < .001; d = 0.32$). Although the former analysis was pre-registered and the latter was not, we have included both to provide a comparison of acceptance from friends vs. family for both primary *and* secondary partners.

2.3.3. Exploratory Analyses

2.3.3.1. Effects of primary-secondary relationship length differences on main analyses

The reported differences between perceptions of primary and secondary relationships for our primary analyses (see Table 1) could potentially be accounted for by the fact that most primary relationships have existed for a longer period of time than secondary relationships. To test whether differences in relationship length are related to, or can account for, the differences between perceptions of primary and secondary relationships, we conducted a series of linear regression analyses in which the difference between perceptions of the primary and secondary relationships for each dependent variable were regressed on the difference in relationship length between the primary and secondary partners (secondary partner relationship duration subtracted from the primary partner relationship duration). The intercept in this analysis is the estimated value of the outcome variable (i.e., the difference between the two repeated measures) when the value of the predictor variable equals zero. Without centering the relationship length difference variable, zero is a meaningful value as it represents a case where there is no difference in relationship length between primary and secondary relationships (and thus the slope represents how much the difference in the dependent variables changes for every unit change in relationship length difference). Therefore, if the difference in length between relationships completely accounted for the mean differences we report in our primary analyses, the intercept in this analysis would be non-significantly different from zero and the coefficient for the predictor variable would be statistically significant and positive (i.e., when individuals report being with

the primary partner longer relative to the secondary partner, they would also report more commitment to the primary relative to the secondary). If, however, the mean difference between the dependent variables still emerges when controlling for the difference in relationship length, it would provide more convincing support for our findings. The results of these analyses are presented in Table 2. In every instance the predicted difference between perceptions of the primary and secondary relationships, estimated by the intercepts in the analyses, remained statistically significant! The effect sizes of these mean differences when controlling for the difference in relationship length is also presented in Table 2. The slope was a significant predictor in 9 of the 10 models. In each instance the significant slope indicated that as the difference in relationship length between the primary and secondary relationship became larger, the mean difference in the dependent variable also became larger (e.g., individuals are more invested to their primary relative to secondary relationship when they have been in their primary relationship longer than the secondary relationship). Variability in relationship length is therefore an important factor in understanding differences in perceptions between primary-secondary relationships, but it does not completely account for these differences.

2.3.3.2. Effects of cohabitation on differences in perceptions of each partner

It is also possible that the reported differences in perceptions between the primary and secondary relationship is accounted for by differences in living arrangements between the primary and secondary partners. To test this possibility, we reran our analyses with the subset of participants who did not live with *either* their primary or secondary partner ($n = 296$). As can be seen in Table 3, all of our pre-registered predictions were still supported. Specifically, even when participants did not live with their primary or secondary partners, participants still reported more relationship acceptance by family and friends, lower romantic secrecy, greater investment size,

more relationship satisfaction, lower quality of alternatives, higher levels of commitment, greater communication about the relationship, greater quality of communication, and lower sexual frequency for primary compared to secondary relationships. According to these analyses, cohabitating partially, but not entirely, contributes to the magnitude of the differences in the dependent variables.

2.3.3.3. Effects of relationship length difference and cohabitation on differences in perceptions of each partner

To assess the cumulative effect relationship length and cohabitation have on the differences we found in our main analyses, we conducted separate linear regression analyses in which difference scores between each of the main measures were predicted with the difference in relationship length between primary and secondary relationships with the subset of participants not living with either partner. The results of these analyses are presented in Table 4. Significant differences in perceptions of the primary and secondary relationships continued to emerge, suggesting that differences in relationship length in conjunction with cohabitation do not completely account for the predicted effects.

2.3.3.4. The links between investment, relationship satisfaction, and quality of alternatives with commitment for each partner

To test whether investment, relationship satisfaction, and quality of alternatives predict commitment for primary and secondary partners, we conducted a path analysis using the lavaan (Yves, 2012) package in R. In the model, we tested both the within partner and between partner associations. The trio of predictor variables were set to covary within partner, and scores on the same scales were set to covary between partners (e.g., investment for partner 1 was allowed to correlate with investment for partner 2). The error terms for commitment to each partner were

also set to covary. The correlation matrix of the variables included in this model is presented in Table 5, and the standardized path coefficients, along with fit statistics for the model, are presented in Table 6. The model had acceptable fit with a Comparative Fit Index (CFI) equal to .96 (a value greater than .95 indicates good model fit; Hu & Bentler, 1999).

Consistent with Rusbult's Investment Model (Rusbult, 1980, 1983), investment and satisfaction predicted commitment in the expected direction for both primary and secondary relationships, but quality of alternatives only predicted commitment for secondary relationships. The weakest predictor of commitment for each partner was perceived quality of alternatives. The cross-partner paths were comparably smaller in magnitude, but given the large sample size, some of these small coefficients were nonetheless statistically significant and should be interpreted with caution. That said, when individuals reported being more satisfied with their secondary relationship they were more committed to their secondary, and also somewhat more committed to their primary. Further, perceiving greater quality of relationship alternatives for a primary partner was associated with *more* commitment to the secondary partner.

2.4. Discussion

The majority of prior theoretical and empirical work on polyamory has focused on polyamory as part of a general category of CNM and has compared CNM relationships to monogamous relationships. The present research, using a large community sample, is one of the first to empirically investigate differences specifically in polyamorous individuals' perceptions of their primary and secondary relationships, the most commonly practiced configuration among polyamorists. We first provide an overall summary of our findings and then discuss the implications of specific findings. We conclude by offering directions for future research.

2.4.1. Summary of Results

Our analyses tested 11 pre-registered hypotheses that can be conceptually grouped into four categories: (1) acceptance and secrecy, (2) investment and commitment processes, (3) relationship communication, and (4) percentage of time spent on sexual activity. Based on our main and exploratory analyses, there is evidence that primary relationships are associated with certain rewards, namely, greater acceptance, less secrecy, higher investment, and commitment levels. There is also a greater amount of communication in primary compared to secondary relationships. However, secondary relationships may offer at least one reward of a newer relationship; percentage of time spent on sexual activity was higher among secondary relationships than primary relationships.

2.4.2. Relationship Acceptance and Secrecy

We conceptualized expressions of acceptance from important others to be one potential reward for primary relationships and the perception of a lack of acceptance to be one cost for secondary relationships. This was suspected, in part, because polyamory is not widely accepted and is a socially stigmatized relationship configuration (Moors et al., 2013). Thus, while acceptance from friends and family serves as an important relationship reward, it is unlikely that such acceptance will be afforded to secondary relationships to the same degree as primary relationships given that primary relationships could more easily pass for monogamous relationships. Indeed, some of the strongest and most robust effect sizes in our series of analyses arose from differences in perceived relationship acceptance. Overall, though, levels of acceptance were high for participants in this study and well above the midpoint of the scale, with the exception of family acceptance of secondary partners.

Consistent with differences in acceptance, our results suggest that romantic secrecy is greater with secondary relationships. Although we did not test reasons for relationship secrecy in

this study, it is possible they could be reflective of internalized beliefs about how people ought to think or behave. Within a polyamorous relationship, additional relationships beyond the initial dyad may be kept secret to comply with socially accepted norms, which may remain influential even when stigma or lack of acceptance are not actually observed or reinforced. Thus, individuals within polyamorous relationships could choose to maintain their secondary relationships in secrecy, either due to a lack of acceptance from friends and family, or alternatively, secrecy could be a preventative measure to protect against the potential lack of acceptance. Future research is clearly needed to address reasons for romantic secrecy. Future research should also explore the potential costs associated with “coming out” as poly (e.g., problems with one’s family, friends, and career), as well as the potential benefits (e.g., by relieving the stress and burden of concealing a major secret; Lehmiller, 2009).

2.4.3. Relationship Investment and Commitment Processes

Our results suggest that individuals invest more into primary compared to secondary relationships. With regards to investments in romantic relationships, allocation of certain resources (particularly those of a tangible variety, such as money and possessions) is limited in the sense that allocating such resources to one relationship leaves less to be allocated to additional relationships. One implication of this is that investments in a primary relationship may limit the resources available to invest in secondary relationships. Additionally, because secondary relationships are more likely to be socially devalued than primary relationships—as indicated by lower acceptance from friends and family—people in such relationships may invest significantly less in their secondary relationships due to their marginalized nature (Lehmiller & Agnew, 2006). Further, or alternatively, because investments usually take time to accrue in a relationship, participants may invest less in secondary relationships simply because those

relationships have not existed as long as primary relationships. We tested this possibility in our exploratory analyses, and although difference in relationship length had a significant association with difference in investment, this association did not wholly account for the difference between investment in primary and secondary relationships. Thus, it seems likely that a combination of factors could help account for our finding that investments were lower in secondary compared to primary relationships.

In future research, it would be worth distinguishing among different types of investments (i.e., tangible vs. intangible) in primary and secondary relationships. Tangible investments (e.g., possessions, children) are not easy to distribute equally across relationships, and government-sanctioned marriage typically requires that these investments be tied to a single partner. In light of this, one might predict that primary and secondary relationships would differ when it comes to tangible investments, but not with respect to intangible investments (e.g., time, effort, shared memories), given that the latter are equally available in all relationships (Lehmiller, 2010).

With respect to quality of alternatives in polyamorous relationships and consistent with our prediction, poorer quality of alternatives were reported for primary relationships. However, this was the smallest difference across our series of analyses to emerge. Our exploratory analyses suggest that quality of alternatives is significantly associated with commitment, such that individuals are less committed to partners when they feel they have more alternatives; however, if they feel they have more alternatives to one partner, they feel more committed to the other partner. One caveat to our finding is that it is unclear who our participants were considering as alternatives (e.g., did secondary and other partners “count” as alternatives to the primary relationship? The fact that alternatives for one partner were positively associated with commitment to the other suggests that at least some participants counted their other partners

among their alternatives). While we believe that even if participants were considering their other relationships as alternatives, these results are still meaningful and suggestive of the effects quality of alternatives have on consequential relationship phenomena. In future studies that assess quality of alternatives in polyamorous and other CNM relationships, it would be worth using language that more clearly defines what alternatives mean (e.g., including/excluding other partners that one currently has).

Regarding commitment, greater commitment was reported for primary compared to secondary relationships. This result is consistent with previous research findings that marginalization is a significant negative predictor of commitment (Lehmiller & Agnew, 2006). Additionally, our exploratory analyses suggest that the individual facets of the Investment model may have some unique associations with commitment.

For example, when individuals reported being more satisfied with their secondary relationship they were more committed to their secondary, and also somewhat more committed to their primary. Additionally, as mentioned above, quality of alternatives was associated with commitment processes in that individuals were more committed to their secondary relationship when they felt they had better alternatives to their primary. It is important to note that our results are specific to the measure of investments, quality of alternatives, and commitment used in this study, which was created and validated on individuals in monogamous relationships.

Work is needed to create and validate measures of commitment on CNM samples – specifically, in terms of the problems with tangible vs. intangible investments and their meaning in polyamorous relationships (discussed earlier), problems with measurement of quality of alternatives (who counts as an alternative?), and about what commitment really means in a polyamorous context. Again, commitment may mean something different in polyamorous

relationships and, as such, we may not fully understand the implications. In other words, this finding does not necessarily mean that secondary partnerships are “lesser” or inherently less functional and, due to the issues noted, results should be interpreted with caution.

Taken together, the current results imply that primary relationships are more interdependent than secondary relationships; however, the cross-sectional nature of our data does not allow us to determine whether this equates to greater stability over time with primary compared to secondary relationships. Based upon the existing interdependence literature, one might predict that due to differences in relationship commitment, primary relationships would remain relatively stable, whereas secondary relationships would dissolve more often. Additionally, commitment might mean different things for different relationships. But is this actually the case? This and a number of other interdependence-related questions remain unclear. For instance, when secondary break-ups occur, do new secondary relationships just replace them, leading the same pattern to repeat itself (i.e., primary stability vs. secondary instability)? If so, what is driving this effect—lack of investments, lower satisfaction, greater quality of alternatives, or something else? What are the implications of turnover in secondary relationships for the primary relationship? Does interdependence ebb and flow depending upon the other relationships that one has? Lastly, when a primary relationship does end, do secondary relationships elevate to primary status, or do people seek new primary relationships? How does the secondary partner’s relationship configuration factor into all of this? The current analysis cannot address these questions, but such ideas would be interesting to explore in future studies.

2.4.4. Relationship Communication

Another reward primary relationships afford is greater communication about the relationship. Not only did survey respondents report greater communication for primary

relationships, but when asked to compare the quality of their communication to most people they know, the quality of communication with primary relationship partners exceeded the quality of communication for secondary relationships. This is understandable for several reasons. First, greater communication may be necessary for primary relationships to endure while other relationships are pursued. For example, the decision to communicate about needs and expectations, to negotiate agreements, schedules, and boundaries, and to work through the kinds of problems that emerge when negotiating polyamory, amongst the typical relational problems that can emerge in any relationship, may simply reflect the high level of interdependence that occurs within primary relationships. We would suspect that greater communication is required within primary relationships to successfully navigate not only those relationships, but also relationships amongst other partners. Additionally, one may argue that because participants report a greater relationship duration with primary partners and are more likely to live with primary partners, the greater time communicating—and even better quality of communication—could be an artifact of simply having greater face-to-face access to the primary partners for such communication to occur more easily. However, our exploratory analyses do not support this reasoning. Specifically, the claim that our results speak more to differences between those who are in longer or shorter relationships or those who live together is not supported by the data.

Given different relationship realities of primary-secondary relationships, one question that could better assess the relative importance and role relationship communication has on primary-secondary relationships would be to assess the specific negotiations between these relationships. Future research should explore whether individuals develop different ways of negotiating relationships with primary and secondary partners. While we know primaries experience greater communication, is this because they are better or more practiced at

negotiating, or because they are more motivated to negotiate? Furthermore, do more relationships increase the amount of negotiation and communication required or are some people simply better equipped to manage more relationships?

2.4.5. Percentage of Time Spent on Sexual Activity

One direct reward any relationship can potentially provide is that of sexual activity and the experience of sexual pleasure. As relationships progress, sex and sexuality become key components in most cases. Yet as relationships progress, the amount of sex couples report having also typically declines (Call et al., 1995). One direct reward of secondary relationships, according to our analyses, is the perceived proportion of time spent on sex. Specifically, participants perceive more time spent on sex in secondary compared to primary relationships. However, there are two potential issues with the current conceptualization of time spent on sexual activity. First, the proportion of time spent having sex for primary relationships was 20.74% out of the total amount of time spent with this partner, and the proportion of time spent having sex for secondary relationships was 37.11%, out of the total amount of time spent with this partner. While we asked participants to indicate the percentage of time having sex, we did not ask about the absolute amount of time this involves, or the overall time they spent with their partners in general so that the absolute time could be calculated. It may be the case that partners in secondary relationships are seen less frequently and for less total amount of time and thus more time is spent having sex. With that said, we did assess the proportion of time spent having sex amongst partners who do not cohabit with either partner. Amongst participants who did not live with either partner, the proportion of time spent having sex in primary relationships increased from 20.74% to 30.02%, an increase of 9.28%, while the proportion of time spent having sex with secondary partners increased from 37.11% to 40.23%, an increase of 3.12% (see

Table 3). This suggests that living together largely accounts for the difference in the perceived proportion of time spent having sex, which would make sense intuitively given that individuals who live with their partners would be expected to spend more time together in general (e.g., eating breakfast, reading before bed, etc.). Regardless of this increase, however, significant differences in primary and secondary relationships continued to emerge, though the magnitude of the effect was much smaller, suggesting that cohabitation cannot completely account for the difference in time spent on sexual activity with the primary compared to the secondary, though it does largely account for the difference.

Second, it is hard to know how accurate the estimates for time spent on sex are because we do not know what participants are counting as “sexual activity” (e.g., does spooning and cuddling count? If so, that would likely make the numbers much higher). We cannot assess these possibilities with our current data, although it would be worth exploring in future research. Due to these issues, results should be interpreted with caution.

While the proportion of the time spent having sex was the only reward found for secondary relationships, there may be many other meaningful rewards beyond that which can be attributed to primary relationships. For instance, it is possible that secondary relationships also serve an important role in regard to self-expansion opportunities, given that relationships serve as one of the major sources of self-expansion in our lives (Aron, Aron, Tudor, & Nelson, 1991). Further, secondary relationships may meet specific needs or desires that primaries are not interested in (e.g., sexual preferences, leisure preferences, etc.). It is also possible that the positive inducements of sexual activity in secondary relationships may have carry-over effects on the primary relationship, either because a partner’s needs that cannot be achieved with primaries are satiated with another and thus not sought after with the primary (leaving both the individual

and their partner relieved), or because the sexual expansion with a secondary carries over to the primary. These effects could also be conceptualized as rewards from the secondary relationship in that it benefits the primary. For example, previous research has found that some consensual nonmonogamists report that extradyadic relationships have improved sex within a primary relationship (Palson & Palson, 1972; Ramey, 1975; Rubel & Bogaert, 2015; Viwatpanich, 2010). Hence, future work should explore if, how, why, and when sex within a secondary relationship may improve sex within a primary relationship. Lastly, future work should consider additional rewards—beyond sex—that may be unique to secondary relationships.

2.4.6. Limitations

Participants for this study were recruited primarily from social media sites frequented by individuals in self-identified polyamorous relationships (e.g., polyamory Facebook groups). While using internet forums and similar data collection methods is common when trying to reach people in marginalized relationships or from marginalized communities, these methods cannot methodologically justify sweeping generalizations. Thus, one major limitation is the source of our sample and, therefore, we urge caution in generalizing the results. Additionally, as this study focuses on a subset of the sample who explicitly identified one partner as primary and another partner as non-primary, future research is needed to assess how partner status (e.g., primary-secondary, co-primary, no primaries) influences the relationships amongst partners in polyamorous relationships.

2.4.7. Conclusions

This is the first research that has attempted to investigate perceptions of relationships in the context of polyamory. Our results reveal important differences across many theoretically relevant relationship variables in how people perceive primary compared to secondary partners.

These differences can help us better understand polyamorous relationships as well as inform future research. The comparisons presented in this manuscript are notable for four reasons: (1) They suggest that individuals are more satisfied with, invested in, and committed to primary relationships, relative to secondary relationships – findings that serve to counter the idea that polyamorous individuals are seeking out alternative relationships due to a lack of satisfaction with the primary; (2) The differences tell us something important about the potential negative effects of the marginalized state of polyamory (e.g., lower acceptance, greater secrecy). People are practicing polyamory, but the stigma against it may be harmful, particularly to secondary relationships; (3) Looking at nuances between relationships also tells us that people may be getting different things out of different relationships, all while maintaining their already established relationships; and (4) Studying CNM relationships is important for testing the boundaries and generalizability of existing relationship models and theory, given that most models/theories of relationships are based on the presumption of monogamy. Polyamory, and CNM relationships more broadly, offer fertile ground for testing the generality of many of these theories and challenging numerous assumptions about relationship processes.

2.5. References

- Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology*, *60*, 241–253.
- Berzon, B. (1988). *Permanent partners: Building gay and lesbian relationships that last*. New York, NY: EP.
- Blau, P. M. (1967). *Exchange and power in social life*. New York, NY: Wiley.
- Call, V., Sprecher, S., & Schwartz, P. (1995). The incidence and frequency of marital sex in a national sample. *Journal of Marriage and the Family*, *57*, 639–650.
- Conley, T. D., Moors, A. C., Matsick, J. L., & Ziegler, A. (2013a). The fewer the merrier?: Assessing stigma surrounding consensually non-monogamous romantic relationships. *Analyses of Social Issues and Public Policy*, *13*, 1–30.
- Conley, T. D., Ziegler, A., Moors, A. C., Matsick, J., & Valentine, B. (2013b). A critical examination of popular assumptions about the benefits and outcomes of monogamous relationships. *Personality and Social Psychology Review*, *17*, 124–141.
- Cook, E. (2005). *Commitment in polyamorous relationships* (Unpublished masters thesis). Regis University, Colorado.
- Cox, D. W., Fleckenstein, J., & Bergstrand, C. R. (2013). "What do polys want?: An overview of the 2012 Loving More Survey." *Loving More Magazine*. Retrieved from <http://www.lovemore.com/polyamorousamory-articles/2012-lovingmore-polyamory-survey/>.
- Easton, D., & Hardy, J. W. (2009). *The ethical slut* (2nd ed.). Berkeley, CA: Ten Speed Press.
- Fleckenstein, J., Bergstrand, C.R., & Cox, D.W. (2012). What do polys want?: An overview of the 2012 Loving More Survey. *Loving More Magazine*. Retrieved from

- <http://www.lovemore.com/polyamory-articles/2012-lovingmore-polyamory-survey/>
- Foster, C., & Campbell, W. K. (2005). The adversity of secret relationships. *Personal Relationships, 12*, 125–143.
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Englewood Cliffs, NJ: Prentice-Hall.
- Goffman, E. (1969). *Strategic interaction*. Philadelphia, PA: University of Pennsylvania Press.
- Henrich, J., Boyd, R., & Richerson, P. J. (2012). The puzzle of monogamous marriage. *Philosophical Transactions of the Royal Society B, 367*, 657–669.
- Hauptert, M., Gesselman, A., Moors, A., Fisher, H., & Garcia, J. (2017). Prevalence of experiences with consensual non-monogamous relationships: Findings from two nationally representative samples of single Americans. *Journal of Sex and Marital Therapy, 43*, 424–440.
- Homans, G. C. (1961). *Social behavior: Its elementary forms*. New York, NY: Harcourt, Brace & World.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.
- Hyde, J. S., & DeLamater, J. D. (2000). *Understanding human sexuality* (7th ed.). New York, NY: McGraw-Hill.
- Jenks, R. J. (1985). Swinging: A replication and test of a theory. *Journal of Sex Research, 21*, 199–205.
- Jordan, K. M. & Deluty, R. H. (2000). Social support, coming out, and relationship satisfaction in lesbian couples. *Journal of Lesbian Studies, 4*, 145–64.

- Kirk, R.E. (1982). *Experimental design: Procedures for the behavioural sciences* (2nd ed.). Belmont, CA: Wadsworth, Inc.
- Klesse, C. (2006). Polyamory and its 'others': Contesting the terms of non-monogamy. *Sexualities, 9*, 565–583.
- Kimberly, C., & Hans, J. D. (2017). From fantasy to reality: A grounded theory of experiences in the swinging lifestyle. *Archives of Sexual Behavior, 46*, 789–799.
- Kurdek, L. A., & Schmitt, J. P. (1985). Relationship quality of gay men in closed or open relationships. *Journal of Homosexuality, 12*, 85–99.
- Kurdek, L. A. (1991). Correlates of relationship satisfaction in cohabiting gay and lesbian couples: Integration of contextual, investment, and problem-solving models. *Journal of Personality and Social Psychology, 61*, 910–922.
- Lehmiller, J. J., VanderDrift, L. E., & Kelly, J. R. (2014). Sexual communication, satisfaction, and condom use behavior in friends with benefits and romantic partners. *Journal of Sex Research, 51*, 74–85.
- Lehmiller, J. J. (2010). Differences in relationship investments between gay and heterosexual men. *Personal Relationships, 17*, 81–96.
- Lehmiller, J. J. (2009). Secret romantic relationships: Consequences for personal and relational well-being. *Personality and Social Psychology Bulletin, 35*, 1452–1466.
- Lehmiller, J. J., & Agnew, C. R. (2006). Marginalized relationships: The impact of social disapproval on romantic relationship commitment. *Personality and Social Psychology Bulletin, 32*, 40–51.

- Mogilski, J. K., Memering, S. L., Welling, L. L., & Shackelford, T. K. (2017). Monogamy versus consensual non-monogamy: Alternative approaches to pursuing a strategically pluralistic mating strategy. *Archives of Sexual Behavior, 46*, 407–417.
- Moors, A. C., Matsick, J. L., Ziegler, A., Rubin, J. & Conley, T. D. (2013). Stigma toward individuals engaged in consensual non-monogamy: Robust and worthy of additional research. *Analyses of Social Issues and Public Policy, 13*, 52–69.
- Munson, M., & Stelboun, J. P. (1999). *The lesbian polyamory reader: Open relationships, non-monogamy, and casual sex*. Binghamton, NY: Haworth Press.
- Palson, C., & Palson, R. (1972). Swinging in wedlock. *Society, 9*, 28–37.
- Peck, D. L., & Dolch, N. A. (2001). *Extraordinary behavior: A case study approach to understanding social problems*. Santa Barbara, CA: Greenwood Publishing Group.
- Pines, A., & Aronson, E. (1981). Polyfidelity. *Alternative Lifestyles, 4*, 373–392.
- Ramey, J. W. (1975). Intimate groups and networks: Frequent consequence of sexually open marriage. *Family Coordinator, 24*, 515–530.
- Rubel, A. N., & Bogaert, A. F. (2015). Consensual nonmonogamy: Psychological well-being and relationship quality correlates. *Journal of Sex Research, 52*, 961–982.
- Rubin, J. D., Moors, A. C., Matsick, J. L., Ziegler, A., & Conley, T. D. (2014). On the margins: Considering diversity among consensually non-monogamous relationships. *Journal für Psychologie, 22*, 1–23.
- Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology, 16*, 172–186.

- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology, 45*, 101–117.
- Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships, 10*, 175–204.
- Rusbult, C. E. (1993). Understanding responses to dissatisfaction in close relationships: The exit, voice, loyalty, and neglect model. In S. Worchel & J. A. Simpson (Ed.), *Conflict between people and groups: Causes, processes, and resolutions* (pp. 30–59). Chicago, IL: Nelson-Hall.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357–387.
- Sheff, E. (2013). *The polyamorists next door: Inside multiple partner relationships and families*. Lanham, MD: Rowman and Littlefield.
- Sprecher, S., & Felmlee, D. (1992). The influence parents and friends on the quality and stability romantic relationships: A three-wave longitudinal investigation. *Journal of Marriage and the Family, 54*, 888–900.
- Taormino, T. (2008). *Opening up*. San Francisco, CA: Cleis Press.
- Veaux, F. (2011). Care and feeding of polyamorous secondary relationships. *More Than Two*. Retrieved from <https://www.morethantwo.com/primarysecondary.html>
- Veaux, F., Hardy, J., & Gill, T. (2014). *More than two: A practical guide to ethical polyamory*. Portland, OR: Thorntree Press, LLC.

Viwatpanich, K. (2010). Swinging: Extramarital sexuality in Thai society. *Anthropological Notebooks, 16*, 57–70.

Wosick-Correa, K. (2010). Agreements, rules, and agentic fidelity in polyamorous relationships. *Psychology & Sexuality, 1*, 44–61.

Yves, R. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*, 1–36.

2.6. Tables

Table 1. *Descriptive Statistics, Tests of Mean Differences, and Effect Sizes for the Primary and Secondary Relationships on Major Study Variables*

Variable	Primary Relationship		Secondary Relationship		Paired Data			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>n</i> ^a	<i>r</i> ^b	<i>t</i>	<i>d</i>
Relationship acceptance: Family	7.95	1.87	4.29	2.45	868	.08	36.40	1.68
Relationship acceptance: Friends	8.45	1.18	6.28	2.25	872	.17	27.20	1.19
Romantic secrecy	1.92	1.81	5.29	3.11	875	.23	-30.89	-1.27
Investment size	7.90	1.24	5.15	2.03	875	.26	39.00	1.60
Relationship satisfaction	7.80	1.30	6.40	1.56	875	.10	21.41	0.97
Quality of alternatives	5.92	1.70	6.44	1.59	874	.55	-10.01	-0.32
Commitment level	8.54	0.94	6.31	1.94	874	.19	33.20	1.39
Relationship communication	5.38	1.45	3.98	1.45	908	.43	27.35	0.97
Quality of communication	4.47	0.78	3.59	0.94	918	.17	23.85	1.01
Percentage of sexual activity	20.74	21.11	37.11	27.48	860	.03	-14.09	-0.70

^a The sample size varies across analyses because of missing or incomplete data for one or both partners. The analyses were re-run using the subset of participants who responded to every question included in our primary analyses. The effects are essentially the same. Please see the output in the supplementary materials on the OSF: <https://osf.io/gxtcn/>.

^b *r* = the correlation between scores for primary and secondary relationships.

Table 2. *Linear Regression with Relationship Length Difference Predicting Differences Between Primary and Secondary Relationships on Primary Analyses*

Variable	Primary-Secondary Difference		Paired Data ^a			
	Intercept (SE)	Slope (SE)	<i>n</i>	<i>r</i> ^b	<i>t</i>	<i>d</i>
Relationship acceptance: Family	3.07 (0.16)** ^c	0.10 (0.02)**	535	.10	18.75	1.09
Relationship acceptance: Friends	1.73 (0.13)**	0.06 (0.01)**	538	.15	13.49	0.76
Romantic secrecy	-2.68 (0.18)**	-0.10 (0.02)**	539	.27	-15.34	-0.80
Investment size	2.58 (0.11)**	-0.00 (0.01)	539	.27	22.56	1.17
Relationship satisfaction	1.54 (0.10)**	-0.03 (0.01)**	539	.14	14.92	0.84
Quality of alternatives	-0.58 (0.07)**	0.02 (0.01)**	538	.57	-8.40	-0.34
Commitment level	2.23 (0.11)**	-0.02 (0.01)*	539	.23	21.26	1.14
Relationship communication	1.66 (0.08)**	-0.05 (0.01)**	558	.49	21.76	0.93
Quality of communication	1.00 (0.06)**	-0.02 (0.01)**	565	.21	17.32	0.92
Percentage of sexual activity	-12.57 (1.80)**	-0.69 (0.19)**	529	.08	-6.98	-0.41

^a Estimated mean comparisons when difference in relationship duration was zero.

^b *r* = the partial correlation controlling for relationship length difference between scores for primary and secondary relationships.

^c ***p* < .01, **p* < .05.

Table 3. *Descriptive Statistics, Tests of Mean Differences, and Effect Sizes for Primary and Secondary Relationships Among Partners Who Do Not Cohabitate*

Variable	Primary Relationship		Secondary Relationship		Paired Data			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>r</i> ^a	<i>t</i>	<i>d</i>
Relationship acceptance: Family	6.80	2.17	4.62	2.23	186	.25	11.03	0.99
Relationship acceptance: Friends	8.02	1.57	6.38	2.17	189	.37	10.43	0.85
Romantic secrecy	2.86	2.48	4.69	2.96	189	.45	-8.72	-0.67
Investment size	7.17	1.39	4.66	1.91	189	.33	17.53	1.48
Relationship satisfaction	7.73	1.31	6.25	1.57	189	.17	10.90	1.02
Quality of alternatives	6.00	1.53	6.79	1.44	189	.51	-7.32	-0.53
Commitment level	8.18	1.21	5.80	1.96	189	.22	15.84	1.44
Relationship communication	5.19	1.40	3.65	1.27	200	.44	15.29	1.14
Quality of communication	4.52	.74	3.56	0.97	203	.28	13.03	1.10
Percentage of sexual activity	30.02	21.92	40.23	28.05	190	.19	-4.38	-0.40

^a *r* = the correlation between scores for primary and secondary relationships.

Table 4. *Linear Regression with Relationship Length Difference Predicting Differences Between Primary and Secondary Relationships with Partners Who Do Not Cohabitate*

Variable	Primary-Secondary Difference			Paired Data		
	Intercept (SE)	Slope (SE)	<i>n</i>	<i>r</i> ^a	<i>t</i>	<i>d</i>
Relationship acceptance: Family	1.84 (0.26)** ^b	0.23 (0.07)**	119	.28	7.15	0.79
Relationship acceptance: Friends	1.61 (0.22)**	0.05 (0.06)	120	.26	7.27	0.81
Romantic secrecy	-1.71 (0.27)**	-0.18 (0.07)*	120	.48	-6.28	-0.59
Investment size	2.16 (0.19)**	0.12 (0.05)**	120	.38	11.57	1.18
Relationship satisfaction	1.42 (0.17)**	-0.00 (0.05)	120	.16	8.17	0.97
Quality of alternatives	-0.78 (0.14)**	0.00 (0.04)	120	.50	-5.41	-0.49
Commitment level	2.07 (0.19)**	0.09 (0.05)	120	.31	11.14	1.20
Relationship communication	1.58 (0.12)**	-0.10 (0.03)**	123	.50	12.75	1.15
Quality of communication	0.93 (0.10)**	-0.00 (0.03)	126	.25	9.69	1.06
Percentage of sexual activity	-8.34 (2.68)**	-2.91 (0.71)**	120	.34	-3.11	-0.33

^a *r* = the partial correlation controlling for relationship length difference between scores for primary and secondary relationships.

^b ***p* < .01, **p* < .05.

Table 5. *Within and Between Partner Correlations of the Investment Model Variables with Commitment for Each Relationship*

	I^a	S	Q	C	SD
I	.30**^{b,c}	.38**	-.15**	.61**	1.61
S	.51**	.12**	-.08**	.62**	1.44
Q	-.24**	-.12**	.58**	-.14**	1.65
C	.74**	.70**	-.26**	.21**	1.31
SD	2.17	1.68	1.74	1.98	

^a I = investment, S = relationship satisfaction, Q = quality of alternatives, C = commitment, and SD = standard deviation.

^b Correlations for the primary relationship appear above the diagonal line; correlations for the secondary relationship appear below the diagonal. Correlations along the diagonal are between the primary and secondary partners on the same variable.

^c ** $p < .01$.

Table 6. *Within and Between Partner Associations of the Investment Model Variables with Commitment for Each Relationship Partner*

Predictors	Outcome Variables	
	Commitment: Primary Partner	Commitment: Secondary Partner
<u>Primary Partner</u>		
Investment	.215***^{a, b}	-.041
Satisfaction	.381**	.019
Quality of Alternatives	-.019	.122**
<u>Secondary Partner</u>		
Investment	.003	.497**
Satisfaction	.044**	.472**
Quality of Alternatives	.016	-.182**
R ²	.47	.68

^a Presented in the table are standardized path coefficients. Within partner results are bolded. $n = 1711$. $\chi^2(6) = 106.26$, $p < .001$; CFI = .96.

^b ** $p < .01$.

CHAPTER THREE:
OUTCOMES OF CO-PRIMARY AND NON-PRIMARY POLYAMOROUS
RELATIONSHIPS: WHAT ARE THE IMPLICATIONS OF REJECTING
RELATIONSHIP HIERARCHIES

3.1. Introduction

Though monogamous marriage is the most established relationship formation in developed countries (Henrich, Boyd, & Richerson, 2012), interest in consensually non-monogamous (CNM) relationships has burgeoned. CNM relationships are those in which partners explicitly agree that they, or their partners, can have extra-dyadic romantic or sexual relationships (Conley, Ziegler, Moors, Matsick, & Valentine, 2012). The increased interest in CNM relationships is reflected in rising Google searches (Moors, 2016), heightened media attention (e.g., polyamory-themed shows such as ‘You Me Her’ and ‘Unicornland’), the inclusion of polyamorous as a relationship orientation on the popular dating site OkCupid (Khazan, 2016), and in scientific reports of the prevalence and outcomes of CNM arrangements (Conley, et al., 2012; Hauptert, Gesselman, Moors, Fisher, & Garcia, 2016; Rubin, Moors, Matsick, Ziegler, & Conley, 2014).

CNM is an overarching term for relationships that are consensually non-monogamous. The three most common types of CNM relationships are swinging, open relationships, and polyamory (Barker, 2011). Even though CNM relationships can take many forms, our focus is polyamory because polyamory is a relationship-oriented approach to non-monogamy, rather than a structure permitting and focusing on extra-dyadic sexual relationships (Weitzman, Davidson, & Phillips, 2009). Though polyamory includes many different styles of intimate involvements (see Sheff, 2014; Klesse, 2006; Munson, & Stelbourn, 1999; Pines, & Aronson, 1981), research suggests the majority of polyamorous-identified individuals have two concurrent partners

(Wosick-Correa, 2010), and are often characterized by a distinction between primary and secondary relationship partners (Veaux, 2011; Veaux, Hardy, & Gill, 2014). In fact, the defining feature of one's relationship configuration in polyamory is premised on whether individuals consider each other to be primary partners in a relationship, and how primary status is defined in non-dyadic relationships (Cohen & Fervier, 2017).

In the primary-secondary configuration, a primary relationship is between two partners who typically live together and share finances, who are married, and who are raising children together when children are desired (Klesse, 2006). A secondary relationship consists of partners who live in separate households, do not share finances, and are afforded relatively less time, energy, and priority in a person's life than primary partners. Because secondary relationships often consist of less ongoing commitments, such as plans for the future (Veaux, 2011; Veaux, Hardy, & Gill, 2014), research has begun to examine how commitment processes may differ between primary and secondary partners within CNM and polyamorous relationships Balzarini et al., 2017; Memering, Welling, & Shackelford, 2017; Mitchell, Bartholomew, & Cobb, 2014).

However, within polyamorous relationships, not all polyamorists have simultaneous primary and secondary relationships, and not all polyamorists identify with the hierarchical terminology of primary-secondary as classifiers for their relationship configuration (Sheff, 2014). In fact, Ritchie and Barker (2006) reported that some of their participants challenged the idea that primary 'couples' were the only way of managing CNM relationships, while Labriola (2003) noted that three types of polyamorous relationships exist: the primary/secondary model, multiple primary partners model, and multiple non-primary partners model. Up to this point, these latter configurations have been largely ignored in research on polyamory and CNM relationship outcomes; however, it may be unfair to assume that relational dynamics between

partners within these arrangements would be the same with respect to secrecy and acceptance, commitment processes, and other relationship processes. In our research we sought to assess the relationship characteristics of polyamorous individuals who are in either primary-secondary, co-primary, or non-primary polyamorous relationships to persons in monogamous relationships. We specifically focus on secrecy and acceptance, investment processes, proportion of time spent on sex, and love.

Secrecy and Acceptance

Monogamy remains normative in Western society (Finn & Malson, 2008) and those who deviate from monogamy and pursue CNM arrangements experience robust stigma (Anderson 2012; Balzarini, Shumlich, Kohut, & Campbell, 2018; Conley, et al., 2012; Moors, Matsick, Ziegler, Rubin, & Conley, 2013; Treas & Giesen, 2000). Despite monogamy's dominant role in society (Anderson, 2012), interest in polyamory is on the rise, with 4-5% of Americans reporting current engagement in some form of CNM (Rubin et al., 2014) and approximately 20% reporting previous engagement (Haupt et al., 2016). Nevertheless, given the pervasive stigma towards individuals who practice CNM, a perceived lack of acceptance and secrecy about polyamorous romantic relationships is particularly salient due to and in response to stigma experienced.

Stigmatization, however, may not apply equally to relationships with primary and secondary partners. Because primary partners are more likely to be married and live together and tend to have longer relationships than secondary partners (Balzarini et al., 2017; Klesse, 2006), it is conceivable that many primary relationships could *pass* for monogamous partnerships in an attempt to hide stigmatized characteristics (Goffman, 1963). This would suggest potential differences in acceptance from family and friends for primary partners relative to non-primary partners. Supporting this view, previous research has shown that acceptance from friends and

family is higher for relationships with primary partners, while relationships with secondary partners are maintained in more secrecy (Balzarini et al., 2017).

3.1.2. Relationship Investment and Commitment: An Interdependence Perspective

Interdependence theory is concerned with how individuals in relationships influence each other and how nature of their interaction influences their experiences (Kelly & Thibaut, 1978; Kelley, 1979; Thibaut & Kelley, 1959; Van Lange, 2011). The Investment Model (Rusbult, 1980) stemmed from interdependence theory and posited that commitment is the result of an individual's satisfaction with their partner, their investments into their relationship, and their perceived quality of alternatives (Rusbult, 1983). According to the investment model, greater satisfaction and investments, and lower quality of alternatives determines commitment and the continuation of a relationship.

Research has only just begun to examine differences in these processes between primary and secondary relationships. Specifically, extant research has found no difference in relationship satisfaction when monogamous relationships were compared to primary partner CNM relationships, and marginally higher relationship satisfaction when monogamous relationships were compared to secondary partners in CNM relationships (Mogilski et al., 2017). Furthermore, Balzarini and colleagues (2017) followed up on these findings with a larger sample of polyamorous individuals who identified one partner as primary and the other as secondary ($n = 1,308$). In this study, individuals in polyamorous relationships reported greater investment, satisfaction, and commitment, as well as lower quality of alternatives for their primary compared to secondary relationships. Consistent with Rusbult's investment model (Rusbult 1980, 1983), investment and satisfaction predicted commitment in the expected directions for both primary

and secondary relationships, but the quality of alternatives only predicted commitment for secondary relationships.

3.1.3. Proportion of Time Spent on Sex

One direct reward any relationship can provide is that of sexual activity and the experience of sexual pleasure. In fact, most couples (70%) view sexual satisfaction as crucial for the maintenance of romantic relationships—more than the number of couples who see financial stability (53%) and shared interests (46%) as important (Taylor, Funk, & Clark, 2007). Further, in a multinational study conducted in 29 countries, the people who were the most sexually satisfied were the most satisfied with their lives in general (Laumann et al., 2006). Research suggests that sexual satisfaction is highly correlated with the sexual frequency (Young, Denny, Luquis, & Young, 1998; Blumstein and Schwartz; 1983) and that it decreases over the course of a relationship. In fact, the passage of time (i.e., duration of relationship, age) is known to be the strongest correlate of sexual frequency (e.g., Call, Sprecher, & Schwartz, 1995, Laumann, Gagnon, Michael, & Michaels, 1994; Smith, 1994) and research consistently finds that couples who are older, or who are married for a longer period of time, report lower sexual frequency than those who are younger or married for a shorter period of time (Blumstein & Schwartz, 1983; Edwards & Booth, 1976; Greeley, 1991; Hunt, 1974; Kinsey, Pomeroy, & Martin, 1948; Kinsey, Pomeroy, Martin, & Gebhard, 1953; Michael, Smith, & Gager, 1994).

Considering these findings, Balzarini and colleagues (2017) predicted that one direct, unique reward that could be afforded by secondary relationships could be the proportion of time spent on sexual activity. Consistent with this prediction, they found that polyamorous individuals reported spending 21% of their shared time with their primary partner engaging in sexual activity, while they spent 37% of their shared time with their secondary partner in similar

pursuits, and the reported difference remained when controlling for cohabitation and relationship length.

3.1.4. Passionate Love, Companionate Love, and Romantic Attraction

Passionate love refers to a state of intense desire for union with another person (Hatfield & Sprecher, 1986). Passionate love includes sexual desire, passion, excitement, and uncertainty (Berscheid, 2010). Other characteristics of passionate love are intense emotions, mutual attraction, sexual arousal, and engagement between two partners, as well as thought intrusion and jealousy (Acevedo & Aron, 2009). Research suggests that passionate love is correlated with satisfaction in both short and long-term relationships (Acevedo & Aron, 2009; Tucker & Aron, 1993; Traupmann & Hatfield, 1981), though passion appears to decline over time (Blood & Wolfe, 1960; Glenn, 1990; Locke & Wallace, 1959; Tucker & Aron, 1993; Wojciszke, 2002). In other research relating to passion, researchers found a positive correlation between sexual frequency and passion (Costa & Brody, 2007), as well as a positive correlation between relationship passion and fun during sex (Rubin & Campbell, 2012). As mentioned, secondary relationships typically consist of relationships with a higher proportion of time spent on sexual activity (Balzarini et al., 2017). As such, one would predict that passionate love should be higher among secondary partners than primary partners. However, previous work has found that polyamorous participants report greater passionate love and romantic attraction with their primary compared to their secondary partner (Jiang, 2017).

Compared to passionate love and romantic attraction, companionate love is much more stable, it develops over time, and it typically persists over time (Hatfield, 1985; Hatfield & Sprecher, 1986; Kim & Hatfield, 2004). Companionate love is characterized by intimacy and commitment and is correlated with relationship satisfaction in the long term (Acevedo & Aron,

2009). Passionate love, over time, is argued to develop into companionate love (Hatfield & Walster, 1978). Hence, it is more likely that primary relationships are companionate in comparison to secondary relationships, in part because of the much longer relationship length (Balzarini et al., 2017; Mitchell et al., 2014; Mogilski et al., 2017). Additionally, previous studies on polyamory reported higher commitment, investment, support, intimacy, closeness, as well as frequency and quality of communication with primary partners compared to secondary partners (Balzarini et al., 2017; Mogilski et al., 2017). Moreover, primary partners were considered more desirable long-term partners than secondary partners (Mogilski et al., 2017), and have been reported to be more companionate (Jiang, 2017).

3.1.5. Research Overview

Though there is growing research interest in examining primary-secondary configurations, there is no research to date that examines differences between co-primary and non-primary relationships. This raises two important questions: First, will previous research findings indicating differences in relationships between primary and secondary partners (Balzarini et al., 2017) replicate among polyamorous participants who do not believe in assigning partners as primary (i.e., non-primaries), as well as among those who may believe that a person can have more than one primary partner (i.e., co-primaries)? Second, how do relationships with primary and secondary partners compare to monogamous relationships? The current study seeks to answer these questions and moves beyond Balzarini and colleagues (2017), and Mogilski and colleagues (2017), by comparing the relationship characteristics of polyamorous individuals who are in primary-secondary, co-primary, or non-primary polyamorous relationships to persons in monogamous relationships.

3.2. Study 1

Extending previous work that compared relationship characteristics between primary and secondary polyamorous relationship partners (Balzarini et al., 2017), we began by examining differences in various relationship characteristics (e.g., acceptance, secrecy, investment size, satisfaction level, commitment level, quality of alternatives, and the proportion of shared time spent having sex) between relationship partners within co-primary or non-primary polyamorous relationships. We also assessed how differences in relationship characteristics within co-primary and non-primary polyamorous relationships compared to differences in relationships characteristics in primary-secondary polyamorous relationships. In general, we believed that previously established differences in primary-secondary polyamorous relationships would also emerge between the relationships in co-primary and non-primary polyamorous relationships.

Comparing differences between relationships within polyamorous arrangements presents a particular analytic (and conceptual) conundrum when people indicate that both relationships are of similar importance (e.g., co-primary or non-primary) because constituent partners in these relationships are not distinguishable (i.e., there is no primary vs. secondary partner). With this in mind, we reasoned that because relationship characteristics such as cohabitation and relationship length could contribute to relationship investments, differences in these relationship characteristics could be used to differentiate between dyadic relationships within polyamorous arrangements in psychologically meaningful ways. To differentiate the partners, we will refer to the two partners as pseudo primary and pseudo secondary, where pseudo primary partners are those who had been cohabiting and together with the subject for a longer time (see methods for more details). We consequently hypothesized that among co-primary and non-primary relationships, relationships with partners who are designated as a pseudo primary partner would

be less secretive, more accepted by friends and family, have more investments, greater satisfaction and commitment, but would report lower proportion of time spent on sex than relationships with partners designated as pseudo secondary (Hypothesis 1).

We fully acknowledge that this strategy represents some relationships in a manner that is inconsistent with how participants themselves defined their relationships. From our perspective, it seems possible that personally identified relationship configurations (e.g., co-primary, non-primary) better represent an ideological or ideal approach to hierarchical status in relationships, rather than a reality of actual relationship circumstances. More specifically, we are proposing that individuals who report their partners to be co-primary or non-primary seek to afford these relationships equal opportunities and importance but are still constrained by a limited amount of total resources (e.g., time, money, etc.) in ways that are similar to relationships in which people explicitly identify primary and secondary roles. In many ways, our argument is similar to research in other domains suggesting that people's identities and intentions do not always align with their actual behaviors (e.g., previous research findings highlight that sexual orientation labels and sexual behavior do not always align; Mustanski, Van Wagenen, Eyster, & Corliss, 2014; Vrangalova & Savin-Williams, 2010). In other words, while one may identify his/her configuration to consist of multiple primary partners or no primary partners, it is possible, and from our perspective likely, that systematic differences will still emerge.

While we expected the general pattern of results to be consistent with previous findings from primary-secondary polyamorous relationships (Balzarini et al., 2017; Mogilski et al., 2017), we also expected the effects to be attenuated to some degree. Those who identify their relationship as consisting of multiple primary partners or multiple non-primary partners reject the hierarchical assignment of the primary-secondary model and will presumably take steps to limit

disparities between their relationships. As such, we predicted that the differences within co-primary and non-primary relationships would be smaller than differences within explicit primary-secondary relationships (Hypothesis 2).

We also compared the relationship characteristics of polyamorous and monogamous relationships. We predicted that monogamous relationships would be characterized by levels of secrecy, acceptance, investment, satisfaction, and commitment that are similar to those found in primary or pseudo-primary relationships. However, we expected the people in primary-partner relationships would report having more quality of alternatives compared to those in monogamous relationships. Also, because polyamorous individuals have numerous partners to engage in sex with, we expected the proportion of time spent on sex across partners to be lower in primary polyamorous relationships than monogamous relationships. Across the three configurations of polyamorous relationships, we predicted that relationships with secondary, or pseudo-secondary partners, would be maintained in greater secrecy, and be less accepted, invested, satisfied, and committed compared to monogamous relationships, though we expected participants would report higher quality of alternatives to their secondary relationship partners and to spend a greater proportion of time on sex with such partners than monogamous partners (Hypothesis 3).

3.3. Method

3.3.1. Sampling

The current study utilized data from two large online convenience samples obtained in 2013 that included individuals in polyamorous and monogamous relationships recruited from internet forums, dating sites, and Facebook group pages. Many of these websites and groups were specifically geared toward either a polyamorous or monogamous audience. Recruitment materials specified that participants should be in a polyamorous or monogamous relationship

(advertised separately). Furthermore, to be eligible, participants had to be at least 16 years of age and currently have one (if monogamous) or more (if polyamorous) romantic partner(s). Eligible and interested participants followed a link provided within the advertisement. Informed consent was received from each participant digitally and each participant indicated they read the consent form and agreed to take part before proceeding.

3.3.2. Participants

A convenience sample of individuals ($N = 4,888$) who were either in polyamorous ($n = 3,530$) or monogamous relationships ($n = 1,422$) was recruited. Excluding polyamorous participants whose relationship structure was not primary-secondary, co-primary, or non-primary resulted in a final sample of $n = 2,097$ polyamorous participants in the current study. The demographic information for the participants broken down by relationship orientation (i.e., either polyamorous or monogamous) and among those who were in polyamorous relationships by relationship structure (i.e., primary-secondary, co-primary, and non-primary) is presented in Table 7. Overall, the majority of respondents identified as Caucasian (84.5%), heterosexual (48.77%) or bisexual (25.18%), females (59.13%), and many were married (36.90%). The mean age ($M_{\text{age}} = 33.59$, $SD = 11.27$, range 16-78) of the sample indicated a tendency toward young and emerging adulthood (75% of sample were 18-35), though there was substantial variation.

3.3.3. Procedure

Following an online informed consent procedure, participants completed the demographic items and were asked to list the initials of their current partners (one partner if monogamous, and up to four partners if polyamorous, of which the responses for the first two partners listed were used in the current study). Participants were then asked to complete various measures concerning characteristics of their relationships, such as relationship acceptance,

romantic secrecy, investment, commitment level, relationship satisfaction, jealousy, quality of alternatives, quality of communication and percentage of time spent on sexual activity with their partners. Initials were piped into the survey questions and instructions so that polyamorous respondents were clear about which questions pertained to which relationship. For polyamorous participants, they were further asked to identify whether each partner was considered primary. Participants were debriefed after completing the survey. More recruitment details for the polyamorous sample can be found in previous publications of the polyamorous data only (Balzarini et al., 2017), both the monogamous and polyamorous datasets (Balzarini et al., under review), as well as the Open Science Framework (see: <https://osf.io/vs574/>; <https://osf.io/76p7p/>; <https://osf.io/5rqgh/>). The materials and procedure were reviewed and approved by the local research ethics board before study initiation.

3.3.4. Measures

3.3.4.1. Relationship Structure and Primary/Secondary Status

Relationship structure was assessed among polyamorous participants by asking, “Do you consider your relationship with (X)¹ to be primary?”, for each partner, with response options including, “Yes, (X) is my primary relationship”, “Yes, (X) is my primary relationship, but I also have others that are considered primary”, “No, (X) is not a primary relationship”, “No, I do not believe in considering one relationship to be primary”, and “None of the above (please explain).” The relationship structure for each participant was designated as either “primary”, “co-primary” or “no primary” based on their responses to these questions. Those who stated that one listed partner was primary and the other person listed was not were considered to be in primary-secondary relationships. For co-primary relationships, participants had to indicate that both of

¹ Items like this were presented to participants with their partner’s initials in place of the (X).

their partners were primary partners, and for non-primary relationships, they had to indicate that they did not identify any of their partners as primary partners. Those whose responses could not be classified under one of the three relationship categories were excluded from the current analyses ($n = 467$ excluded, leaving $n = 2,097$ for analyses). Within primary-secondary configurations, primary relationships were easily distinguished from secondary relationships. When people did not identify their partners as primary or secondary (co-primaries and non-primaries), we defined pseudo-primary and pseudo-secondary relationships using a bivariate index of relationship duration and cohabitation. Specifically, we standardized scores for duration and cohabitation and then mean averaged them to create a single score. We then assigned the relationship with the highest score the status of primary relationship and the relationship with the lowest score the status of secondary relationship.

3.3.4.2. Relationship Acceptance

The Relationship Acceptance Scale (Lehmiller & Agnew, 2006) measures the extent to which one perceives their romantic relationship to be approved of by friends and family (e.g., “My family is accepting of my relationship with (X)”, “My friends are accepting of my relationship with (X)”). Possible responses were on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), and items were assessed individually, with higher scores indicating more relationship acceptance.

3.3.4.3. Romantic Secrecy

Romantic Secrecy was assessed with two questions (Lehmiller, 2009) which evaluated levels of romantic secrecy (e.g., “During the past week, my relationship with (X) was secret from someone” and “During the past week, I hid some things about my involvement with (X) from some people”); primary relationship $\alpha = .77$; secondary relationship $\alpha = .87$; monogamous α

=.72). Possible responses were on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), and the items were mean aggregated, with higher scores indicating more romantic secrecy.

3.3.4.4. Investment Model Scale

The Investment Model Scale (IMS; Rusbult, Martz, & Agnew, 1998) assessed relationship satisfaction (three items: e.g., “I feel satisfied with our relationship”; primary relationship $\alpha = .81$; secondary relationship $\alpha = .85$; monogamous $\alpha = .85$), investments (three items: e.g., “I have put a great deal into this relationship that I would lose if the relationship were to end”; primary relationship $\alpha = .76$; secondary relationship $\alpha = .90$; monogamous $\alpha = .68$), quality of alternatives (five items: e.g., “My needs for intimacy, companionship, etc. could easily be fulfilled in an alternative relationship”; primary relationship $\alpha = .77$; secondary relationship $\alpha = .86$; monogamous $\alpha = .80$), and commitment (four items: e.g., “I am committed to maintaining my relationship with (X)”; primary relationship $\alpha = .90$; secondary relationship $\alpha = .93$; monogamous $\alpha = .92$). Possible responses were on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), and the items were mean aggregated, with higher scores indicating more relationship satisfaction, investments, quality of alternatives, and commitment.

3.3.4.5. Percentage of time spent on sexual activity

Participants were also asked to estimate the percentage of time they spent on sexual activities with each partner out of all the time they spent together (0% - 100%) using a single item (Lehmiller, VanderDrift, & Kelly, 2014).

3.3.5. Planned Analyses

To assess hypotheses 1-3, we began with a 3 between- (relationship structure: primary-secondary vs. co-primary vs. no primary) by 2 within-subject (primary status: primary vs. secondary) split plot ANOVA where the outcome variables included ratings for investment,

secrecy, acceptance, romantic attraction, etc. Significant interactions were followed by a series of paired *t*-tests comparing the differences in all evaluated outcomes (e.g., investment, secrecy, acceptance, etc.) between primary and secondary relationships within each relationship structure (primary-secondary, non-primary, co-primary). To compare monogamous relationships with primary and secondary relationships within each polyamorous relationship structure, we conducted a series of independent samples *t*-tests. To control for the experiment-wise error rate in hypothesis testing associated with conducting a large number of statistical tests (Kirk, 1982), the criteria for statistical significance with the multiple *t*-tests was corrected by using the Holm-Bonferroni adjustment method (Holm, 1979). *P*-values were sequentially ranked from the smallest to largest, they were then multiplied by a factor calculated as the number of tests (eight relationship outcomes in this case) minus the rank of each respective *p*-value plus one; values lower than the 0.05 threshold will be rejected. The same correction factor was applied within all subgroup analyses (non-primary, co-primary) since each group contained independent, non-overlapping samples.

3.4. Results

3.4.1. Validating Index of Primary Status

As an exploratory analysis among the polyamorous participants, we first examined if there were differences in relationship variables (e.g., marital status, living status, etc.) of partners who were listed first compared to those who were listed second in the survey, despite their self-identified relationship structure (collapsing across all potential configurations, $N = 3,530$). It was assumed that participants would have listed the more “primary” partner first (partner you live with, have been with longer, etc.), despite their reported relationship structure (co-primary or non-primary). The data supported this distinction. Specifically, we found that the first person

listed was much more likely to be considered a primary partner (73.24%) than the second person listed (19.77%); McNemar $\chi^2(1) = 1309.85, p < .001, \phi = 0.72$. Furthermore, participants reported a significantly longer relationship duration with the first person listed (7 years, 4 months) than with the second person listed (2 years, 8 months); $t(2544) = 31.67, p < .001, d = 0.74$. Likewise, participants were substantially more likely to share a household with the first partner listed (62.88%) than the second partner listed (12.65%); McNemar $\chi^2(1) = 1198.90, p < .001, \phi = 0.68$.

This data pattern supported the notion that the relationships with the first listed partner tended to be more primary, whereas relationships with the second listed partner were more secondary in our sample. When we restricted analyses only to those who did not report a primary-secondary relationship structure, this pattern held; participants still reported significantly longer relationship with the first partner listed (5 years) compared to the second partner (2 years, 5 months); $t(293) = 7.40, p = .001, d = 0.49$, albeit a slightly weaker effect. Finally, when we examined our bivariate index consisting of cohabitation status and relationship length described above, we found that all partners who were listed first invariably scored higher in this index than those partners listed second. Thus, without prompting, most participants' relationships in this sample could be classified as being more primary or secondary based on either the order in which they were listed in the survey, or the index that we constructed to differentiate between primary and secondary relationships.

3.4.2. Relationship Characteristics by Primary/Secondary Status and Relationship Structure

To assess potential differences in relationship functioning between primary/secondary relationship status across three polyamorous relationship structures, we conducted our planned 3

x 2 ANOVA for each relationship characteristic. Main effects emerged for relationship structure when examining romantic secrecy ($F(2, 2846) = 4.54, p < .001$), acceptance from friends ($F(2, 2838) = 32.85, p < .001$), acceptance from family ($F(2, 2832) = 13.31, p < .001$), investment size ($F(2, 2846) = 101.7, p < .001$), relationship satisfaction ($F(2, 2846) = 13.70, p < .001$), perceived quality of alternatives ($F(2, 2845) = 41.65, p < .001$), commitment level ($F(2, 2845) = 63.73, p < .001$), and proportion of time spent on sexual activity ($F(2, 2889) = 12.00, p < .001$).

Effects for primary/secondary status also emerged when examining these variables: secrecy ($F(1, 2846) = 178.16, p = .002$), acceptance from friends ($F(1, 2838) = 128.15, p < .001$), acceptance from family ($F(1, 2832) = 240.88, p < .001$), investment size ($F(1, 2846) = 303.7, p < .001$), relationship satisfaction ($F(1, 2846) = 122.54, p < .001$), perceived quality of alternatives ($F(1, 2845) = 15.27, p < .001$), commitment level ($F(1, 2845) = 277.59, p < .001$) and proportion of time spent on sexual activity ($F(1, 2889) = 42.68, p < .001$).

Finally, interactions between relationship structure and primary/secondary status also emerged in all of these analyses: romantic secrecy ($F(2, 2846) = 29.13, p < .001$), acceptance from friends ($F(2, 2838) = 51.87, p < .001$), acceptance from family ($F(2, 2832) = 63.46, p < .001$), investment size ($F(2, 2846) = 149.70, p < .001$), relationship satisfaction ($F(2, 2846) = 63.61, p < .001$), perceived quality of alternatives ($F(2, 2845) = 22.66, p < .001$), commitment level ($F(2, 2845) = 121.39, p < .001$), and proportion of time spent on sexual activity ($F(1, 2889) = 17.10, p < .001$). Because the interactions between relationship structure and primary/secondary status were all significant, we conducted paired *t*-test analyses comparing primary to secondary relationships within each relationship structure separately for each dependent variable.

3.4.3. Differences by Primary/Secondary Status within Each Polyamorous Relationship Structure

Irrespective of the polyamorous relationship structure, there were significant differences between primary and secondary relationships in terms of relationship secrecy, investment size, relationship acceptance from both family and friends, and proportion of sexual activity (Table 8). However, these differences were smaller among co-primary and non-primary relationships than among primary-secondary relationships, as indicated by the smaller effect sizes (Table 8). As all of the statistics can be found in the tables, we provide p -values and the effect size in the text below so readers can make inferences about them.

Unlike those within primary-secondary relationships, those in co-primary relationships reported similar levels of satisfaction ($p = .590$, $d = 0.03$) and commitment ($p = .067$, $d = 0.13$) between their primary and secondary relationships. Among those in non-primary relationships, there were still significant differences between levels of satisfaction and commitment between primary and secondary relationships, however, there was no significant difference in the quality of alternatives between these relationships ($p = .207$, $d = 0.08$).

3.4.4. Comparisons between Monogamous, Primary and Secondary Relationships

Next, we compared monogamous relationships to primary and secondary relationships separately for each of the polyamorous relationship structures.

3.4.4.1. Primary-Secondary Relationships

Participants in primary-secondary polyamorous relationships reported higher acceptance from friends, levels of satisfaction, quality of alternatives, commitment levels, and investment size with respect to their primary relationships than did monogamous participants (Table 9). The strongest difference was in the level of quality of alternatives between primary relationships and

monogamous relationships ($p < .001$, $d = 0.88$); other differences were much smaller in effect size and they were generally weaker than the differences between primary and secondary relationships. There were no significant differences in the level of acceptance from family ($p = .974$), relationship secrecy ($p = .814$), and proportion of time spent on sexual activity ($p = .119$) between primary relationships and monogamous relationships.

Unlike primary relationships, secondary relationships among participants in primary-secondary polyamorous relationships were significantly different from monogamous relationships on all outcomes (Table 10). Differences among secondary relationships and monogamous relationships were as strong as differences between primary and secondary relationships. Notable differences were found in levels of acceptance from family ($p < .001$, $d = 1.67$), investment size ($p < .001$, $d = 1.29$), and commitment level ($p < .001$, $d = 1.15$), all of which were lower for secondary relationships; as well as in relationship secrecy ($p < .001$, $d = 1.24$) and quality of alternatives ($p < .001$, $d = 1.21$), which were higher in secondary relationships.

3.4.4.2. Co-Primary Relationships

Among those in co-primary relationships, pseudo primary relationships were significantly higher in acceptance from friends ($p < .001$, $d = 0.24$), investment size ($p < .001$, $d = 0.27$), and level of quality of alternatives ($p < .001$, $d = 0.83$) than monogamous relationships (Table 9). On the other hand, there were no significant differences in the level of acceptance from family ($p = .158$, $d = 0.16$), relationship secrecy ($p = .150$, $d = 0.15$), relationship satisfaction ($p = .688$, $d = 0.04$), commitment levels ($p = .688$, $d = 0.07$), and proportion of time spent on sexual activity ($p = .116$, $d = 0.17$) for pseudo primary relationships compared to monogamous relationships. Similar to primary-secondary relationships, the strongest difference was on quality of

alternatives, though the strengths in the differences for all characteristics are similar to differences between primary and secondary relationships within co-primary relationships.

Pseudo secondary relationships within co-primary relationships had significantly lower levels of acceptance from family ($p < .001$, $d = 1.04$) and friends ($p = .004$, $d = 0.25$) and higher levels of secrecy ($p < .001$, $d = 1.14$), quality of alternatives ($p < .001$, $d = 0.55$) and proportion of sexual activity ($p = .004$; $d = 0.26$) than monogamous relationships (see table 10). Most of these differences were also found when secondary relationships from primary-secondary relationships were compared to monogamous relationships. Unlike primary-secondary relationships, pseudo secondary relationships in co-primary configurations were not reported to have different levels of relationship satisfaction ($p = .765$, $d = 0.02$), commitment level ($p = .258$, $d = 0.08$) and investment size ($p = .769$, $d = 0.02$) compared to monogamous relationships (see Table 10). These results were also very similar to the lack of differences that were found when pseudo primary and pseudo secondary relationships within co-primary arrangements were compared.

3.4.4.3. Non-primary Relationships

Among participants who did not identify either of their partners as primary, pseudo primary relationships were significantly higher in secrecy ($p = .002$, $d = 0.26$), quality of alternatives ($p < .001$, $d = 1.27$), and proportion of time spent on sexual activity ($p < .001$, $d = 0.26$) compared to monogamous relationships, and significantly lower in level of acceptance from family ($p < .001$, $d = 0.57$), investment size ($p < .001$, $d = 0.43$), quality of alternatives ($p < .001$, $d = 1.27$), and commitment level ($p < .001$, $d = 0.33$). On the other hand, there were no significant differences in the level of acceptance from friends and relationship satisfaction between pseudo primary relationships and monogamous relationships ($p = .135$). The largest

difference between monogamous and pseudo primary relationships was in quality of alternatives; differences between these relationships in all of the other outcomes were similar sizes to the differences between pseudo primary and pseudo secondary relationships within non-primary relationships (see Table 9).

Similar to the results for primary-secondary relationships, pseudo secondary relationships in non-primary configurations were significantly different than monogamous relationships on all outcomes, though the strength of differences were much weaker, with only two notable differences with effect sizes greater than one, which were for relationship acceptance from family ($p < .001$, $d = 1.27$) and quality of alternatives ($p < .001$, $d = 1.15$) (see Table 10).

3.5. Study 2

Study 2 was conducted to confirm findings in Study 1 and also to examine additional relevant characteristics across partners. We first sought to replicate the main effects (e.g., investment, secrecy, acceptance) from Balzarini and colleagues (2017) findings, as outlined in hypothesis 1, and confirm the strength of associations between these comparisons, as outlined in hypothesis 2 of Study 1. Furthermore, using this additional dataset, we examined differences in other important outcomes, such as romantic attraction, passionate love, and companionate love. In a previous unpublished study, we compared primary and secondary partners on these indices (see: <https://osf.io/uysmz/>) and found that participants reported greater romantic attraction, passionate love, and companionate love for the primary compared to secondary partner; we now seek to extend these findings by examining these differences within co-primary and non-primary relationships. We hypothesized that results will be consistent with the differences we found between primary-secondary relationships. That is, primary relationships will involve greater romantic attraction, passionate love, and companionate love (Hypothesis 4). Among those in co-

primary and non-primary relationships, this effect may still be observed, although we hypothesized effects in these groups will be weaker (Hypothesis 5).

3.6. Method

3.6.1. Sampling

In 2017, a convenience sample of individuals in CNM relationships ($N = 1,524$) was recruited from internet forums, dating sites and Facebook group pages in order to replicate and extend previous findings. Of the participants recruited, 1,279 identified as polyamorous and currently had at least one partner; 878 of these participants were in polyamorous relationships that could be classified as either primary-secondary ($n = 392$), co-primary ($n = 195$), or non-primary ($n = 291$). Recruitment materials were identical to Study 1, though the studies were conducted five years apart. The inclusion criteria were the same across the studies, as was the informed consent procedure.

3.6.2. Participants

The demographic information for the participants broken down by reported relationship structure can be found in Table 11. Overall, the majority of respondents identified as Caucasian (86.33%), heterosexual (30.64%) or bisexual (43.99%), and female (61.62%). The mean age ($M_{\text{age}} = 33.41$, $SD = 9.16$, range 18-82) indicated a tendency toward young and emerging adulthood (75% of sample were 18-35), though there was substantial variation.

3.6.3. Procedure

Following the online informed consent procedure, participants completed the demographic items and were asked to list the initials of their current partners. Participants were then asked to complete various relationship measures that were included in Study 1 along with passionate love, companionate love, romantic attraction, and desired sexual frequency. As in

Study 1, partners' initials were piped into the survey questions and instructions, and participants were asked to identify whether each partner was considered primary, with debriefing occurring upon completion of the surveys. The materials and procedure for this study were reviewed and approved by the local research ethics board before study initiation.

3.6.4. Measures

The measures for relationship structure, primary/secondary status, relationship acceptance from family and friends (measured separately), romantic secrecy (primary relationship $\alpha = .81$, secondary relationship $\alpha = .88$), relationship satisfaction (primary relationship $\alpha = .83$, secondary relationship $\alpha = .83$), investments (primary relationship $\alpha = .85$, secondary relationship $\alpha = .94$), quality of alternatives (primary relationship $\alpha = .74$, secondary relationship $\alpha = .84$), and commitment (primary relationship $\alpha = .89$, secondary relationship $\alpha = .92$), were the same as those used in Study 1.

3.6.4.1. Romantic Attraction

The Romantic Attraction Scale (Appel & Shulman, 2015) assesses the intensity of romantic attraction (e.g., "I spend much of the day thinking about moments with (X)," and "My feelings for (X) preoccupy me all the time"; primary relationship $\alpha = .90$, secondary relationship $\alpha = .94$). Possible responses were on a 7-point unipolar scale (1 = *not at all*, 7 = *strongly agrees*), and the eight items were mean aggregated, with higher scores indicating more romantic attraction.

3.6.4.2. Passionate Love

The Passionate Love Scale (PLS; Hatfield & Sprecher, 1986) assesses the intensity of passionate love. Passionate love can be broken down into emotional components (e.g. "(X) is the person who can make me feel the happiest"), cognitive components (e.g. "Sometimes I feel I

can't control my thoughts; they are obsessively on (X)"), and behavioral components (e.g. "I eagerly look for signs indicating (X)'s desire for me"), or aggregated to create an overall score (primary relationship $\alpha = .95$, secondary relationship $\alpha = .96$). Possible responses were on a 9-point unipolar scale (1 = *not true at all*, 9 = *definitely true*), and for the current study, the 30 items were mean aggregated, with higher scores indicating more passionate love.

3.6.4.3. Companionate Love

The Companionate Love Scale (CLS; Hatfield & Rapson, 2013) assesses the intensity of companionate love. Companionate love can be broken down into commitment (e.g. "I expect my love for (X) to last for the rest of my life.") and intimacy (e.g. "I feel emotionally close to (X).") or aggregated to create an overall score (primary relationship $\alpha = .90$, secondary relationship $\alpha = .92$). Possible responses were on a 9-point unipolar scale (1 = *not at all true of me*, 9 = *extremely true of me*) and the eight items were mean aggregated, with higher scores indicating more companionate love.

3.6.4.4. Desired Sexual Activity

Desired sexual activity was measured by asking participants how often they would like to engage in sexual activity with their partners (i.e., number of times in a week that they would like to engage in sexual activity). Participants were able to enter a numeric response with higher numbers indicating more desired sexual activity.

3.6.4.5. Proportion of Time Spent on Sexual Activity

Unlike Study 1, we did not ask participants the proportion of time spent on sex; however, this information was imputed with two different questions. Participants were asked to indicate the number of *hours per week* spent together with each partner, as well as the hours spent on sex. The proportion was calculated by dividing the hours on sexual activity with the hours spent

together; when the hours spent on sex was higher than the hours spent together, the response was assumed to be an error and was discarded from analysis.

3.6.5. Analytic Plan

Similar to Study 1, we began with split-plot ANOVAs to examine the effects of relationship structure and primary/secondary status, then followed-up all significant interactions using paired *t*-tests.

3.7. Results

3.7.1. Validating Primary Status Index

Similar to Study 1, we examined differences in relationship length between the first and second listed partner. Results were very similar, such that participants reported a significantly longer relationship duration with the first person listed (6 years, 5 months) than with the second person listed (1 year, 9 months); $t(1278) = 24.39, p < .001, d = 0.68$. Participants were similarly more likely to share a household with the first partner listed (67.55%) than the second partner listed (17.05%); McNemar $\chi^2(1) = 487.24, p < .001$.

3.7.2. Relationship Characteristics by Primary/Secondary Status and Relationship Structure

Results from split-plot ANOVAs in Study 2 yielded similar results to Study 1. There were significant main-effects for relationships structure when we analyzed romantic secrecy, $F(2, 1595) = 14.62, p < .001$, acceptance from friends, $F(2, 1592) = 13.27, p < .001$, acceptance from family, $F(2, 1591) = 3.31, p = .036$, investment size, $F(2, 1466) = 46.92, p < .001$, relationship satisfaction, $F(2, 1466) = 13.40, p < .001$, commitment level, $F(2, 1466) = 37.01, p < .001$, passionate love, $F(2, 1268) = 32.39, p < .001$, companionate love (commitment), $F(2, 1217) = 30.89, p < .001$, companionate love (intimacy), $F(2, 1217) = 19.97, p < .001$, and

romantic attraction $F(2, 1191) = 13.46, p < .001$. However, quality of alternatives, $F(2, 1466) = 1.24, p = .290$, proportion of time spent on sex $F(2, 621) = 2.46, p = .086$, proportion of time spent on sex, $F(2, 821) = 2.19, p = .113$, and desired frequency of sex, $F(2, 775) = .01, p = .990$, did not significantly differ across the relationship structures.

There were also significant main effects for primary/secondary status when we analyzed secrecy $F(1, 1595) = 134.63, p < .001$, acceptance from friends, $F(1, 1592) = 9.16, p = .003$, acceptance from family, $F(1, 1591) = 94.14, p < .001$, investment size, $F(1, 1466) = 111.69, p < .001$, relationship satisfaction, $F(1, 1466) = 16.31, p < .001$, commitment level, $F(1, 1466) = 55.18, p < .001$, companionate love (commitment), $F(1, 1217) = 71.95, p < .001$, companionate love (intimacy), $F(1, 1217) = 38.01, p < .001$, romantic attraction, $F(2, 1191) = 6.70, p = .001$, and proportion of time spent on sex, $F(1, 821) = 27.66, p < .001$. In contrast, quality of alternatives, $F(1, 1466) = 0.11, p = .737$, and desired frequency of sex, $F(1, 775) = 0.39, p = .526$, were not significantly different across primary and secondary relationships.

Finally, we find significant interactions between relationship structure and primary/secondary status when we analyzed secrecy, $F(2, 1595) = 38.73, p < .001$, acceptance from friends $F(2, 1592) = 48.13, p < .001$, acceptance from family, $F(2, 1591) = 14.85, p < .001$, investment size, $F(2, 1466) = 61.70, p < .001$, relationship satisfaction, $F(2, 1466) = 29.19, p < .001$, quality of alternatives, $F(2, 1466) = 7.36, p < .001$, commitment level, $F(2, 1466) = 52.92, p < .001$, passionate love, $F(2, 1268) = 30.43, p < .001$, companionate love (commitment), $F(2, 1217) = 48.68, p < .001$, companionate love (intimacy), $F(2, 1217) = 28.11, p < .001$, romantic attraction, $F(2, 1191) = 6.70, p = .001$, and proportion of time spent on sexual activity, $F(2, 821) = 9.68, p < .001$. There was no interaction when we analyzed the desired frequency of sex, $F(2, 775) = 1.86, p = .156$.

3.7.3. Differences by Primary/Secondary Status within each Polyamorous Relationship

Structure

The majority of findings in Study 1 were confirmed with data from Study 2. Regardless of the relationship structure, there were clear differences between primary and secondary relationships in secrecy, investment size, commitment levels and relationship acceptance from family and friends. Differences were again smaller among participants in co-primary and non-primary relationships relative to those who in primary-secondary relationships.

In addition to confirming past findings, we also confirmed our expectations that primary relationships also tend to be rated higher in terms of passionate love, companionate love, and romantic attraction among those who are in primary-secondary relationships. The largest differences were found for the commitment subscale ($p < .001$, $d = 1.20$) and intimacy subscale ($p < .001$, $d = 0.81$) of companionate love. The same pattern of findings was found among both co-primary and non-primary relationships, although effect sizes were again smaller relative to those in primary-secondary relationships (all d 's < 0.5). There were also differences in passionate love and romantic attraction between primary and secondary relationships among participants in co-primary relationships, although differences were much weaker than those in primary-secondary relationships. Unlike the other two polyamorous relationship structures, those in non-primary relationships did not report differences between primary and secondary relationships in terms of passionate love ($p = 1.000$, $d = 0.06$) and romantic attraction ($p = .336$, $d = 0.12$) (see Table 12).

3.8. Discussion

Research on polyamory has focused primarily on primary-secondary relationships rather than examining relationship dynamics in other, non-hierarchical forms of polyamorous

relationships. Researchers have noted that *some* individuals in polyamorous relationships reject the primary-secondary arrangements (DeLamater & Plante, 2015) and have suggested that at least two other configurations exist (Labriola, 2003). These distinctions are corroborated by our data such that some individuals identify distinct primary and secondary relationships, though others consider all partners to be primary, and yet others consider no partners to be primary. While there are certainly differences between these polyamorous relationship structures, our findings indicate that established differences between primary and secondary relationships among people who explicitly recognize such distinctions generalize to those in co-primary and non-primary polyamorous relationships in most cases. Based on this evidence, it would appear that despite attempts towards equality, some relationship perceptions differ, even among partners who strive to maintain non-hierarchical relationships.

3.8.1. Comparisons Among Primary-Secondary, Co-Primary and Non-Primary Partners

Some polyamorists organize their relationships by emotional importance (Labriola, 2003; Sheff, 2005) with primary partners being similar to a spouse in a monogamous relationship. In these relationships, primary partners often cohabit, make important decisions together, receive external social recognition as a couple (often including legal marriage), and experience commensurately less stigmatization (e.g., greater acceptance). Often, secondary partners' involvement and role in the relationship may be more comparable to a boyfriend or girlfriend in that they are less likely to cohabit and share finances, while also having lower acceptance from friends and family. Congruent with this characterization, our results suggest passionate love, companionate love, romantic attraction and desired sexual activity was higher for primary compared to secondary partners within these relationships. As such, our results indicate that relationships with primary and secondary partners differ in meaningful ways.

Among those in relationships with two concurrent primary partners (co-primaries), results were in some cases consistent with primary-secondary findings, such that relationship acceptance from family and friends and investment size was higher for reports of pseudo-primary than pseudo-secondary relationships, while proportion of time spent on sex was higher in relationships with pseudo-secondary partners compared to pseudo-primary partners. However, results pertaining to differences in quality of alternatives, commitment, and satisfaction were less comparable to findings for primary-secondary relationships. Although no research to date has assessed relationship outcomes among individuals in co-primary relationships, Labriola (2003) has asserted that a key factor for co-primary relationships is that all members are equal partners. Instead of a couple having priority and control in the relationship all relationships are considered primary, or have the potential of becoming primary, and thus are afforded equal opportunity according to Labriola's (2003) assertion. Each partner has equal power to negotiate for what they want in the relationship, in terms of time, commitment, living situation, financial arrangements, sex, and other issues. Our results suggest that while relationships within co-primary structures still differ in some ways (e.g., investment, acceptance and secrecy, time spent having sex), they are closer to their ideals on several psychologically meaningful indicators of relationship quality (e.g., commitment and satisfaction). This evidence is consistent with Labriola's (2003) claim that individuals with multiple primary partners are striving towards equality, though it is positioned in a social reality that enforces dyadic relationships as the norm.

Among those in non-primary relationships, results were in most cases consistent with primary-secondary findings. Specifically, such individuals reported higher acceptance from family and friends, investment size, relationship satisfaction (not significant in Study 2), commitment, and companionate love in their pseudo-primary relationships than in their pseudo-

secondary relationships, while the proportion of time spent on sex was higher among pseudo-secondary partners. Across both studies, perceptions of quality of alternatives, romantic attraction, and desired sexual activity did not differ among multiple non-primary partners. Despite the similarity of these results with previous findings for primary-secondary relationships, most differences between relationships among participants in non-primary relationships were smaller in magnitude. Labriola (2003) theorized individuals with multiple non-primary partners are not looking for committed relationships and are essentially seeking intimacy, love, and sexual satisfaction without the constraints of a primary relationship. Our results may speak to this in some sense, such that differences across pseudo primary and secondary relationships were the smallest in multiple non-primary relationships and commitment was lower in these relationships than commitment in primary-secondary relationships, co-primary relationships, and monogamous relationships.

Our findings confirm a large portion of polyamorous individuals consider their partners to be either be co-primary or non-primary, though some relationship differences inevitably exist, especially those that have to do with tangible resources (e.g., investments), with stigma and stigma management (e.g., acceptance and secrecy), and with sexuality (e.g., proportion of time spent on sex). Based on findings for co-primary and non-primary partners, it seems that personally identified relationship configurations (e.g., co-primary, non-primary) are at times better represented by an ideology or an ideal approach to hierarchy in relationships, though differences may still emerge especially with structural outcomes that are subject to societal norms, such as one's perception of acceptance from friends and family. More specifically, people who report their partners to be co-primary or non-primary seek to afford their relationships equal opportunities and importance or may reject assigning partners with labels that are associated with

primary status, as can be seen in relatively equal levels of satisfaction across partners; however, they may still be constrained by a limited amount of total resources (e.g., time, money, etc.) and by societal stigma in ways that are similar to relationships in which people explicitly identify primary and secondary roles.

3.8.2. Limitations

The present study has multiple strengths, including the fact that both studies employed large samples and included comparisons among various relationship configurations (something that, to our knowledge, has not previously been attempted in the empirical literature on polyamory). However, this work is not without limitations. First, all of the data collected were correlational in nature. Therefore, no definitive statements about causality can be made. Furthermore, we can only speculate about *why* differences among pseudo-primary and pseudo-secondary partners in co-primary and non-primary relationships emerged. It could be that it is difficult to equally allocate resources and time among partners, and thus despite one's relationship configuration, differences may inevitably emerge among partners; alternatively, perhaps differences emerged because of proximity or one's other relationships (e.g., pseudo-secondary partners may be more likely to have their own primary partner). These questions and others cannot be assessed with the current data but are of great interest. Longitudinal approaches to studying differences among the various polyamorous configurations would be particularly useful to address this limitation, in addition to including polyamorous participants' partners and information about their relationship configuration with other partners. It would also be ideal to include questions about hierarchy and agreements in relationships to assess how relationship structures differ in how they approach their relationships (e.g., do individuals in co-primary and non-primary relationships make fewer agreements with partners, do they actually perceive their

partners as equal or report simply affording equal opportunities?). Finally, one may also examine if primary statuses shift over time, it is currently unknown if one identifies a primary at the early stages of a relationship, or if as the relationship grows stronger, a secondary or non-primary turn into a primary relationship.

Second, although the samples of polyamorous participants collected in both studies were relatively diverse and respectable in size, they were both collected focusing on recruitment of polyamorous participants specifically. In some emerging research, CNM groups (including polyamory, but also open and swinging relationships) were surprisingly similar in their sexual attitudes, sociosexuality and reports of erotophobia (Balzarini, Shumlich, Kohut, & Campbell, under review). Given the fact that the shared core of CNM relationships appears to have a similar outlook on relationships, commitment, and sexual behaviors, it is important for researchers to explore CNM relationships beyond polyamory. Moreover, the aforementioned work focuses on sexual attitudes rather than relationship variables; thus, similarities among CNM groups may exist in some domains, such as among their sexual attitudes, but may differ in others, such as among relationship dynamics. We would speculate that because polyamorous relationships often consist of multiple romantic commitments, whereas open and swinging relationships are more often characterized by a couple that seeks out extra-dyadic sex to varying degrees, any potential differences among two concurrent partners in open and swinging relationships will be more inclined to fall into the primary-secondary model, and differences among primary and secondary partners may be more drastic. Future research should test the documented effects of relationship outcomes across different types of CNM relationships in order to determine whether the same pattern of associations remains.

3.8.3. Concluding Remarks

Polyamory is gaining societal popularity and interest as a potential relationship alternative to monogamy (Barker & Langridge, 2010; Moors, 2017). As such, social scientists are increasingly interested in the study of polyamory. However, extant research has focused on assessing relationship outcomes among individuals who consider one partner to be primary and the other to be secondary, despite other possible important relationship configurations. Our findings revealed that approximately 38% of polyamorous participants considered their relationship among two concurrent partners to be either co-primary or non-primary in a dataset collected in 2013, compared to 55% of participants in a dataset collected in 2017. Thus, nearly half of our sample rejected the classification of primary-secondary status for their partners. Our findings suggest that despite attempts at equality, many relationship qualities differ among partners in non-hierarchical relationships similar to the differences that emerge for those who make formal primary-secondary partner classifications.

3.9. References

- Acevedo, B., & Aron, A. (2009). Does a long-term relationship kill romantic love? *Review of General Psychology, 13*, 59–65.
- Anderson, E. (2012). *The monogamy gap: Men, love, and the reality of cheating*. New York, NY: Oxford University Press.
- Appel, I., & Shmuel, S. (2015). The role of romantic attraction and conflict resolution in predicting shorter and longer relationship maintenance among adolescents. *Archives of Sexual Behavior, 44*, 777–782.
- Balzarini, R. N., Campbell, L., Kohut, T., Holmes, B. M., Lehmilller, J. J., Harman, J. J., & Atkins, N. (2017). Perceptions of primary and secondary relationships in polyamory. *PLoS ONE, 12*, 1–20.
- Balzarini, R. N., Dharma, C., Kohut, T., Campbell, L., Holmes, B. M., Lehmilller, J. J., & Harman, J. J. (2018). Demographic comparison of American individuals in polyamorous and monogamous relationships. *Journal of Sex Research*. Advanced online publication.
- Balzarini, R. N., Shumlich, E., Kohut, T., & Campbell, L. (2018). Dimming the “halo” around monogamy: Re-assessing stigma surrounding consensually non-monogamous romantic relationships as a function of personal relationship orientation. *Frontiers in Psychology, 9*, 1–12.
- Balzarini, R. N., Shumlich, E., Kohut, T., & Campbell, L. (revision submitted). Sexual attitudes, opinions, and sociosexual orientation differ based on relationship orientation. *Journal of Sex Research*.
- Barker, M., & Langdridge, D. (2010). Whatever happened to non-monogamies? Critical reflections on recent research and theory. *Sexualities, 13*, 748–772.

- Barker, M. (2011). Monogamies and non-monogamies - A response to: 'The challenge of monogamy: Bringing it out of the closet and into the treatment room' by Marianne Brandon. *Sexual and Relationship Therapy, 26*, 281–287.
- Berscheid, E. (2010). Love in the fourth dimension. *Annual Review of Psychology, 61*, 1–25.
- Blood, R., & Wolfe, D. W. (1960). *Husbands and wives*. Glencoe, IL: Free Press.
- Blumstein, P. W., & Schwartz, P. (1983). *American couples*. New York, NY: Morrow.
- Call, V., Sprecher, S., & Schwartz, P. (1995). The incidence and frequency of marital sex in a national sample. *Journal of Marriage and the Family, 57*, 639–650.
- Cohen, M. T., & Fervier, S. S. (2017). Historical, biological, social, cultural, and psychological aspects of non-traditional arrangements: Understanding consensual non-monogamy. In N. R. Siltan (Ed.), *Family dynamics and romantic relationships in changing society* (pp. 28–45). Hershey, PA: IGI Global.
- Conley, T. D., Ziegler, A., Moors, A. C., Matsick, J., Valentine, B. (2012). A critical examination of popular assumptions about the benefits and outcomes of monogamous relationships. *Personality and Social Psychology Review, 2*, 124–141.
- Conley, T. D., Matsick, J., Moors, A. C., & Ziegler, A. (2017). Investigation of consensually nonmonogamous relationships: Theories, methods, and new directions. *Perspectives on Psychological Science, 12*, 205–232.
- Costa, R. M., & Brody, S. (2007). Women's relationship quality is associated with specifically penile-vaginal intercourse orgasm and frequency. *Journal of Sex and Marital Therapy, 33*, 319–327.
- Edwards, J. N., & Booth, A. (1976). Sexual behavior in and out of marriage: An assessment of correlates. *Journal of Marriage and the Family, 38*, 73–81.

- Finn, M., & Malson, H. (2008). Speaking of home truth: (re)productions of dyadic-containment in non-monogamous relationships. *British Journal of Sociology*, *47*, 519–533.
- Glenn, N. D. (1990). Quantitative research on marital quality in the 1980s: A critical review. *Journal of Marriage and the Family*, *52*, 818–831.
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Englewood Cliffs, NJ: Prentice-Hall.
- Greeley, A. M. (1991). *Faithful attraction: Discovering intimacy, love, and fidelity in American marriage*. New York, NY: Doherty.
- Hatfield, E. (1985). Passionate and companionate love. In R. J. Sternberg & M. L. Barnes (Eds.), *The psychology of love* (pp. 191–217). Cambridge, MA: Yale University Press.
- Hatfield, E., & Sprecher, S. (1986). Measuring passionate love in intimate relationships. *Journal of Adolescence*, *9*, 383–410.
- Hatfield, E., & Rapson, R. L. (2013). Companionate love scale. *Measurement Instrument Database for Social Science*. Retrieved from www.midss.ie
- Hatfield (Walster), E., & Walster, G. (1978). *A new look at love*. Langham, MD: University Press of America.
- Hauptert, M., Gesselman, A., Moors, A., Fisher, H., & Garcia, J. (2017). Prevalence of experiences with consensual non-monogamous relationships: Findings from two nationally representative samples of single Americans. *Journal of Sex and Marital Therapy*, *43*, 424–440.
- Henrich, J., Boyd, R., & Richerson, P. J. (2012). The puzzle of monogamous marriage. *Philosophical Transactions of the Royal Society: Series B: Biological Sciences*, *367*, 657–669.

- Holm, S. (1979). A simple sequentially rejective multiple test procedure. *Scandinavian Journal of Statistics*, 6, 65–70.
- Hunt, M. (1974). *Sexual behavior in the 70's*. Chicago, IL: Playboy Press
- Jenks, R. J. (1998). Swinging: A review of literature. *Archives of Sexual Behavior*, 27, 507–521.
- Jiang, V. (2017). *Different types of love in polyamory: Between primary and secondary* (Unpublished undergraduate thesis). University of Western Ontario, London, ON.
- Kelley, H. H. (1979). *Personal relationships: Their structures and processes*. Hillsdale, NJ: Lawrence Earlbaum.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York, NY: Wiley.
- Khazan, O. (2016). OkCupid adds a feature for the polyamorous. *The Atlantic*. Retrieved from <https://www.theatlantic.com/technology/archive/2016/01/ok-cupid-is-opening-up-to-polyamorous-relationships/423162/>
- Kim, J., & Hatfield, E. (2004). Love types and subjective well-being: A cross cultural study. *Social Behavior and Personality*, 32, 173–182.
- Kinsey, A. C., Pomeroy, W. P., & Martin, C. E. (1948). *Sexual behavior in the human male*. Philadelphia, PA: Saunders.
- Kinsey, A. C., Pomeroy, W. P., Martin, C. E., and Gebhard, P. (1953). *Sexual behavior in the human female*. Philadelphia, PA: Saunders.
- Kirk, R. E. (1982). *Experimental design: Procedures for the behavioural sciences* (2nd ed.). Belmont, CA: Wadsworth, Inc.
- Klesse, C. (2006). Polyamory and its ‘others’: Contesting the terms of non-monogamy. *Sexualities*, 9, 565–583.

Labriola, K. (2003). Models of open relationships. Retrieved from <http://www.cat-and-dragon.com/stef/poly/Labriola/open.html>.

Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago, IL: University of Chicago Press.

Laumann, E. O., Paik, A., Glasser, D. B., Kang, J. H., Wang, T., Levinson, B., ... Gingell, C. (2006). A cross-national study of subjective well-being among older women and men: Findings from the global study of sexual attitudes and behaviors. *Archives of Sexual Behavior, 35*, 145–161.

Lehmiller, J. J. (2009). Secret romantic relationships: Consequences for personal and relational well-being. *Personality and Social Psychology Bulletin, 35*, 1452–1466.

Lehmiller, J. J., & Agnew, C. R. (2006). Marginalized relationships: The impact of social disapproval on romantic relationship commitment. *Personality and Social Psychology Bulletin, 32*, 40–51.

Lehmiller, J. J., VanderDrift, L. E., & Kelly, J. R. (2014). Sexual communication, satisfaction, and condom use behavior in friends with benefits and romantic partners. *Journal of Sex Research, 51*, 74-85.

Locke, H. J., & Wallace, K. M. (1959). Short marital adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living, 21*, 251-255.

Matsick, J. L., Conley, T. D., Ziegler, A., Moors, A. C., & Rubin, J. D. (2014). Love and sex: Polyamorous relationships are perceived more favourably than swinging and open relationships. *Psychology & Sexuality, 5*, 339–348.

- Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago, IL: University of Chicago Press.
- Mitchell, M. E., Bartholomew, K. & Cobb, R.C. (2014). Need fulfillment in polyamorous relationships. *Journal of Sex Research, 51*, 329–339.
- Mogilski, J. K., Memering, S. L., Welling, L. L., & Shackelford, T. K. (2017). Monogamy versus consensual non-monogamy: Alternative approaches to pursuing a strategically pluralistic mating strategy. *Archives of Sexual Behavior, 46*, 407–417.
- Moors, A. C., Matsick, J. L., Ziegler, A., Rubin, J. & Conley, T. D. (2013). Stigma toward individuals engaged in consensual non-monogamy: Robust and worthy of additional research. *Analyses of Social Issues and Public Policy, 13*, 52–69.
- Moors, A. C. (2017). Has the American public’s interest in information related to relationships beyond “the couple” increased over time? *Journal of Sex Research, 54*, 677–684.
- Munson, M., & Stelboun, J. P. (1999). Introduction: The lesbian polyamory reader: Open relationships, non-monogamy and casual sex. In M. Munson & J. P. Stelboun (Eds.), *The lesbian polyamory reader* (pp. 1–10). London, EN: Harrington Park Press.
- Mustanski, B., Van Wagenen, A., Birkett, M., Eyster, S., & Corliss, H. (2014). Identifying sexual orientation health disparities in adolescents: analysis of pooled data from the Youth Risk Behavior Survey, 2005 and 2007. *American Journal of Public Health, 104*, 211–217
- Pines, A., & Aronson, E. (1981). Polyfidelity. *Alternative Lifestyles, 4*, 373–392.
- Ritchie, A., & Barker, M. (2006). “There aren’t words for what we do or how we feel so we have to make them up”: Constructing polyamorous languages in a culture of compulsory monogamy. *Sexualities, 9*, 584–601.

- Rubel, A. N., & Bogaert, A. F. (2015). Consensual nonmonogamy: Psychological well-being and relationship quality correlates. *Journal of Sex Research, 52*, 961–982.
- Rubin, H., & Campbell, L. (2012). Day-to-day changes in intimacy predict heightened relationship passion, sexual occurrence, and sexual satisfaction: A dyadic diary analysis. *Social Psychological and Personality Science, 3*, 224–231.
- Rubin, J. D., Moors, A. C., Matsick, J. L., Ziegler, A., & Conley, T. D. (2014). On the margins: Considering diversity among consensually non-monogamous relationships. *Journal für Psychologie, 22*, 1–23.
- Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology, 16*, 172–186.
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology, 45*, 101–117.
- Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships, 10*, 175–204.
- Rusbult, C. E. (1993). Understanding responses to dissatisfaction in close relationships: The exit, voice, loyalty, and neglect model. In S. Worchel & J. A. Simpson (Eds.), *Conflict between people and groups: Causes, processes, and resolutions* (pp. 30-59). Chicago, IL: Nelson-Hall.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357–391.

- Sheff, E. (2014). *The polyamorists next door: Inside multiple partner relationships and families*. Lanham, MD: Rowman & Littlefield.
- Smith, T. W. (1994). *The demography of sexual behavior*. Menlo Park, CA: Kaiser Family Foundation.
- Taylor, P., Funk, C., & Clark, A. (2007). Generation gap in values, behaviors: As marriage and parenthood drift apart, public is concerned about social impact. *Pew Research Center*. Retrieved from <http://www.pewsocialtrends.org/files/2007/07/Pew-Marriage-report-6-28-for-webdisplay.pdf>.
- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York, NY: Wiley.
- Traubmann, J., & Hatfield, E. (1981). Love: Its effects on mental and physical health. In J. March, S. Kiesler, R. Fogel, E. Hatfield, & E. Shana (Eds.), *Aging: Stability and change in the family*. New York, NY: Academic.
- Treas, J., & Giesen, D. (2000). Sexual infidelity among married and cohabiting Americans. *Journal of Marriage and Family*, 62, 48–60.
- Tucker, P., & Aron, A. (1993). Passionate love and marital satisfaction at key transition points in the family life cycle. *Journal of Social and Clinical Psychology*, 12, 135–147.
- Weitzman, G. D., Davidson, J., & Phillips, R. A. (2009). What psychology professionals should know about polyamory. Retrieved from <http://www.polyamory.org/~joe/polypaper.htm>
- Wosick-Correa, K. (2010). Agreements, rules, and agentic fidelity in polyamorous relationships. *Psychology & Sexuality*, 1, 44–61.
- Van Lange, P. A. M. (2012). A history of interdependence: Theory and research. In A. W. Kruglanski & W. Stroebe (Eds.), *Handbook of the history of social psychology*. New York, NY: Psychology Press.

Veaux, F. (2011). Care and feeding of polyamorous secondary relationships. *More Than Two*.

Retrieved from <https://www.morethantwo.com/primarysecondary.html>.

Veaux, F., Hardy, J., & Gill, T. (2014). *More than two: A practical guide to ethical polyamory*.

Thorntree Press, LLC.

Vrangalova, Z., & Savin-Williams, R. C. (2010). Correlates of same-sex sexuality in

heterosexually-identified young adults. *Journal of Sex Research, 47*, 92–102.

Wojciszke, B. (2002). From the first sight to the last drop: A six-stage model of the dynamics of

love. *Polish Psychological Bulletin, 33*, 15–25.

Young, M., Luquis, R., Denny, G., & Young, T. (1998). Correlates of sexual satisfaction in

marriage. *Canadian Journal of Human Sexuality, 7*, 115–128.

3.10. TablesTable 7. *Demographic Information for Participants in Study 1*

	Overall (<i>N</i> = 3,455)	Monogamous (<i>N</i> = 1,358)	Primary-Secondary (<i>N</i> = 1,308; 62.7% ^a)	Co-Primary (<i>N</i> = 399; 19.1% ^a)	Non-Primary (<i>N</i> = 390; 18.7%)
Age (<i>M</i> Years)	33.59	31.42	35.26	35.42	32.98
Gender – n (%)					
Male	1,111 (33.56)	368 (30.3)	481 (36.8)	125 (31.3)	137 (35.2)
Female	2,043 (61.72)	831 (68.3)	766 (58.7)	244 (61.2)	202 (51.9)
Transgender	37 (1.12)	5 (0.41)	13 (1.0)	6 (1.5)	13 (3.3)
Other	119 (3.60)	12 (0.99)	46 (3.5)	24 (6.0)	37 (9.5)
Race*					
African	59 (1.65)	22 (1.7)	23 (1.6)	5 (1.1)	9 (2.1)
Asian	114 (3.2)	72 (5.6)	28 (2.0)	9 (2.0)	5 (1.2)
Hispanic	138 (3.9)	39 (3.1)	66 (4.6)	16 (3.6)	17 (4.0)
Native	88 (2.5)	15 (1.2)	40 (2.8)	17 (3.9)	16 (3.7)
Pacific Islander	14 (0.39)	5 (0.39)	7 (0.49)	1 (0.23)	1 (0.23)
White	2,920 (81.5)	1,046 (81.7)	1,172 (81.8)	363 (82.3)	339 (78.8)

CO-PRIMARY AND NON-PRIMARY POLYAMOROUS RELATIONSHIPS

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Multi-racial	160 (4.5)	51 (4.0)	63 (4.4)	18 (4.1)	28 (6.5)
Other	91 (2.5)	30 (2.3)	34 (2.4)	12 (2.7)	15 (3.5)
Sexual Orientation					
Heterosexual	1,685 (51.0)	926 (76.2)	510 (39.1)	118 (29.6)	131 (33.7)
Lesbian / Gay	115 (3.5)	55 (4.5)	36 (29.6)	13 (3.3)	11 (2.8)
Bisexual	870 (26.3)	162 (13.3)	451 (39.9)	159 (39.9)	98 (25.2)
Pansexual	435 (13.2)	40 (3.3)	216 (20.6)	82 (20.6)	97 (24.9)
Other	203 (6.1)	32 (2.6)	92 (6.8)	27 (6.8)	52 (13.37%)

Note: * indicates the column may add up to more than the total, since participants can select more than one option. Others may not add up to totals due to missing data.

a. percentages shown were calculated within the polyamorous group

Table 8. Comparison of Polyamorous Relationship Configurations – Study 1

Variable	Primary-Secondary Relationship					Co-Primary Relationship					Non-Primary				
	P1	P2	<i>n</i>	<i>t</i>	<i>d</i>	P1	P2	<i>n</i>	<i>t</i>	<i>d</i>	P1	P2	<i>N</i>	<i>t</i>	<i>d</i>
Family Acceptance	7.95 (1.87)	4.29 (2.45)	868	36.40***	1.24	7.66 (2.11)	5.74 (2.76)	288	9.93***	0.58	6.83 (2.41)	5.40 (2.50)	249	8.25***	0.52
Friends Acceptance	8.45 (1.18)	6.28 (2.25)	872	27.20***	0.92	8.40 (1.18)	7.67 (1.76)	287	6.62***	0.39	8.08 (1.38)	7.16 (2.02)	251	6.96***	0.44
Relationship Secrecy	1.92 (1.81)	5.29 (3.11)	875	-30.89***	1.04	2.30 (2.32)	4.71 (3.20)	288	-11.69***	0.69	2.58 (2.52)	3.95 (3.10)	253	-7.25***	0.46
Investment Size	7.90 (1.24)	5.15 (2.03)	875	39.00***	1.32	7.82 (1.18)	7.42 (1.53)	289	4.75***	0.28	6.80 (1.85)	6.04 (2.05)	253	6.13***	0.39
Relationship Satisfaction	7.80 (1.30)	6.40 (1.56)	875	21.41***	0.72	7.41 (1.57)	7.48 (1.56)	289	-0.54	0.03	7.25 (1.36)	6.77 (1.66)	252	3.88***	0.24
Quality of Alternatives	5.92 (1.69)	6.44 (1.59)	874	-10.01***	0.34	5.89 (1.77)	5.41 (1.96)	289	5.28***	0.31	6.57 (1.42)	6.48 (1.75)	251	1.26	0.08
Commitment Level	8.54 (0.94)	6.31 (1.94)	874	33.20***	1.12	8.33 (1.18)	8.13 (1.37)	289	2.14	0.13	7.80 (1.57)	7.02 (1.88)	252	6.37***	0.40
Proportion of Sex	20.74 (21.11)	37.11 (27.48)	860	-14.09***	0.48	19.48 (21.21)	27.47 (22.10)	275	-5.37***	0.32	28.03 (22.22)	32.03 (24.35)	253	-2.31*	0.14

Note: The Mean (SD) is reported for partner 1 and partner 2. P1 = partner 1; P2 = partner 2.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; All p 's are adjusted with the Holm-Bonferonni adjustments within each subgroup

Table 9. Comparing Monogamous Partners with Partner 1 of Polyamorous Participants – Study 1

Variable	Monogamous		Primary-Secondary Relationship				Co-primary Relationship				Non-Primary			
	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>t</i>	<i>d</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>t</i>	<i>d</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>t</i>	<i>d</i>
Family Acceptance	7.93 (1.75)	683	7.93 (1.89)	883	0.032	0.00	7.63 (2.15)	291	-2.09	0.16	6.83 (2.40)	259	-6.74***	0.57
Friends Acceptance	8.07 (1.49)	685	8.45 (1.18)	885	5.44***	0.29	8.41 (1.18)	290	3.72***	0.24	8.06 (1.39)	261	-0.15	0.01
Relationship Secrecy	2.01 (1.90)	685	1.93 (1.83)	887	-0.83	0.04	2.32 (2.34)	290	1.97	0.15	2.55 (2.49)	261	3.13**	0.26
Investment Size	7.45 (1.39)	686	7.89 (1.24)	886	6.58***	0.34	7.81 (1.20)	291	4.14***	0.27	6.79 (1.84)	260	-5.24***	0.43
Relationship Satisfaction	7.45 (1.47)	684	7.80 (1.30)	886	4.98***	0.25	7.39 (1.58)	291	-0.49	0.04	7.26 (1.35)	261	-1.83	0.13
Quality of Alternatives	4.36 (1.86)	686	5.92 (1.69)	886	17.14***	0.88	5.89 (1.77)	291	12.14***	0.83	6.59 (1.42)	261	19.70***	1.27
Commitment Level	8.23 (1.24)	685	8.53 (0.96)	886	5.11***	0.27	8.32 (1.20)	291	0.95	0.07	7.80 (1.56)	261	-4.06***	0.33
Proportion of Sex	22.78 (17.87)	736	20.86 (21.11)	919	-2.06	0.10	19.56 (21.13)	285	-2.28	0.17	27.81 (22.19)	266	3.33**	0.26

Note: The Mean (SD) is reported for partner 1 and partner 2.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; All p 's are adjusted with the Holm-Bonferonni adjustments within each subgroup

Table 10. Comparing Monogamous Partners with P2 of Polyamorous Participants – Study 1

Variable	Monogamous		Primary-Secondary Relationship				Co-primary Relationship				Non-Primary			
	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>t</i>	<i>d</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>t</i>	<i>d</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>t</i>	<i>d</i>
Family Acceptance	7.93 (1.75)	683	4.30 (2.45)	869	-34.04***	1.67	5.74 (2.76)	288	-12.46***	1.04	5.42 (2.51)	250	-14.58***	1.27
Friends Acceptance	8.07 (1.49)	685	6.28 (2.25)	872	-18.86***	0.92	7.67 (1.76)	287	-3.38**	0.25	7.16 (2.02)	251	-6.57***	0.56
Relationship Secrecy	2.01 (1.90)	685	5.29 (3.11)	875	25.64***	1.24	4.71 (3.20)	288	13.34***	1.14	3.95 (3.10)	253	9.32***	0.85
Investment Size	7.45 (1.39)	686	5.15 (2.03)	875	-26.47***	1.29	7.42 (1.53)	289	-0.29	0.02	6.04 (2.05)	253	-10.10***	0.88
Relationship Satisfaction	7.45 (1.47)	684	6.40 (1.56)	875	-13.59***	0.69	7.48 (1.56)	289	0.30	0.02	6.77 (1.66)	252	-5.65***	0.44
Quality of Alternatives	4.36 (1.86)	686	6.44 (1.60)	875	23.24***	1.21	5.41 (1.96)	289	7.72***	0.55	6.48 (1.75)	251	16.12***	1.15
Commitment Level	8.23 (1.24)	685	6.31 (1.94)	874	-23.79***	1.15	8.13 (1.37)	289	-1.13	0.08	7.02 (1.88)	252	-9.55***	0.84
Proportion of Sex	22.78 (17.87)	736	37.15 (27.46)	876	12.63***	0.61	27.71 (22.29)	287	3.35**	0.26	31.63 (24.12)	264	5.45***	0.45

Note: The Mean (SD) is reported for partner 1 and partner 2.

* $p < .05$; ** $p < .01$; *** $p < .001$; All p 's are adjusted with the Holm-Bonferroni adjustments within each subgroup

Table 11. *Demographic Information for Participants in Study 2*

	Overall (<i>N</i> = 878)	Primary-Secondary (<i>N</i> = 392)	Co-Primary (<i>N</i> = 195)	Non-Primary (<i>N</i> = 291)
Age (Mean Years)	33.41	33.09	33.70	32.30
Gender Identity				
Female	541 (61.6)	264 (67.4)	115 (59.0)	162 (55.7)
Male	211 (24.0)	91 (23.2)	55 (28.2)	65 (22.3)
Gender-queer/Non-binary	86 (9.8)	22 (5.6)	17 (8.7)	47 (16.2)
Agender	17 (1.9)	7 (1.8)	4 (2.1)	6 (2.1)
Other	23 (2.6)	8 (2.0)	4 (2.1)	11 (3.8)
Race				
Native American	5 (0.57)	3 (0.8)	1 (0.51)	1 (0.34)
Asian	17 (1.9)	10 (2.6)	5 (2.6)	2 (0.69)
African American	21 (2.4)	8 (2.0)	7 (3.6)	6 (2.1)
White	758 (86.4)	347 (88.5)	165 (84.6)	246 (84.8)
Hispanic	15 (1.7)	1 (0.3)	6 (3.1)	8 (2.8)
Native Hawaiian or Other Pacific Islander	2 (0.2)	1 (0.3)	0 (0.00)	1 (0.3)
Multi-Racial	39 (4.5)	13 (3.3)	9 (4.6)	17 (5.9)
Other	20 (2.3)	9 (2.3)	2 (1.0)	9 (3.1)
Sexual Orientation				
Heterosexual	269 (30.6)	135 (34.4)	61 (31.3)	73 (25.1)
Lesbian / Gay	24 (2.7)	10 (2.6)	8 (4.1)	6 (2.1)
Bisexual	381 (43.4)	176 (44.9)	88 (45.1)	117 (40.2)
Asexual	8 (0.9)	5 (1.2)	2 (1.0)	1 (0.3)
Other	196 (22.3)	66 (16.8)	36 (18.5)	94 (32.3)

Note: * May not add up to totals due to missing data.

Table 12. *Comparisons of Relationship Outcomes Between P1 and P2 for Primary-Secondary, Co-Primary, and Non-primary Participants – Study 2*

Variable	Primary-Secondary Relationship					Co-Primary Relationship					Non-Primary				
	P1	P2	n	t	d	P1	P2	n	t	d	P1	P2	n	t	d
Family Acceptance	7.84 (2.23)	4.58 (2.39)	348	20.73***	1.11	7.69 (2.30)	5.45 (2.53)	173	10.07***	0.77	7.41 (2.27)	5.58 (2.61)	267	10.35***	0.63
Friends Acceptance	8.35 (1.75)	6.88 (2.09)	349	10.53***	0.56	8.45 (1.49)	7.69 (1.69)	173	4.76***	0.36	8.28 (1.71)	7.90 (1.71)	267	3.41**	0.21
Relationship Secrecy	1.63 (1.62)	5.35 (3.00)	351	-21.49***	1.14	1.76 (1.90)	4.58 (3.07)	173	-11.40***	0.87	2.05 (2.05)	3.35 (2.75)	266	-7.27***	0.45
Investment Size	8.28 (1.10)	5.36 (2.16)	322	23.55***	1.31	8.20 (1.21)	7.43 (1.63)	162	6.58***	0.52	7.11 (1.90)	6.23 (2.19)	246	7.07***	0.45
Relationship Satisfaction	7.89 (1.37)	6.67 (1.46)	322	11.60***	0.65	7.64 (1.31)	7.68 (1.26)	162	-0.27	0.02	7.20 (1.61)	7.10 (1.45)	246	0.90	0.06
Quality of Alternatives	5.74 (1.61)	6.67 (1.46)	322	-5.85***	0.33	5.95 (1.60)	7.68 (1.26)	162	1.98	0.16	5.95 (1.64)	7.10 (1.45)	246	2.16	0.14
Commitment Level	8.57 (0.95)	6.56 (1.79)	322	19.08***	1.06	8.53 (0.82)	8.16 (1.23)	162	3.92***	0.31	7.82 (1.61)	7.34 (1.74)	246	4.10***	0.26
Passionate love scale	6.64 (1.36)	5.56 (1.64)	280	9.51***	0.57	6.53 (1.28)	6.90 (1.34)	142	-2.87*	0.24	5.74 (1.52)	5.86 (1.69)	208	-0.92	0.06
Companionate Love: Commitment	8.08 (1.44)	5.24 (2.17)	275	19.91***	1.20	7.99 (1.29)	7.31 (1.68)	139	4.74***	0.40	6.91 (2.16)	6.27 (2.31)	197	3.75**	0.27
Companionate Love: Intimacy	8.57 (0.82)	7.15 (1.71)	275	13.39***	0.81	8.58 (0.74)	8.27 (0.94)	139	3.66**	0.31	8.23 (1.22)	7.86 (1.45)	197	3.19**	0.23
Romantic Attraction	3.53 (1.44)	3.25 (1.67)	268	2.54**	0.15	3.41 (1.31)	3.91 (1.65)	137	-3.62**	0.31	2.94 (1.41)	3.15 (1.63)	194	-1.74	0.12
Desired Sexual Activity	3.53 (2.67)	2.68 (2.19)	135	3.33**	0.29	3.23 (2.35)	3.89 (2.95)	73	-1.63	0.19	3.15 (3.15)	4.20 (11.26)	78	-0.87	0.10
Proportion of Sex	7.26 (9.83)	26.65 (24.26)	145	-9.45***	0.78	8.48 (13.36)	18.11 (18.43)	83	-4.26***	0.47	11.51 (16.02)	19.38 (21.14)	70	-3.43***	0.39

Note: The Mean (SD) is reported for partner 1 and partner 2.

* $p < .05$; ** $p < .01$; *** $p < .001$; All p 's are adjusted with the Holm-Bonferroni adjustments within each subgroup.

CHAPTER FOUR: THE ROLE OF RELATIONSHIP ACCEPTANCE AND SECRECY IN COMMITMENT PROCESSES AND PROPORTION OF TIME SPENT ON SEX

4.1. Introduction

Stigmatized relationships, or relationships that are met with social disapproval, are ubiquitous. But what exactly does it mean to be *stigmatized*? Erving Goffman (1963) first conceptualized stigma as a way of describing *individuals* with an undesirable trait, and most research on stigma to this day continues to use the term in a similar sense. However, we might apply the same characteristics that describe a stigmatized individual to a *romantic couple* that deviates from the norm (Vaquera & Kao, 2005), such as an interracial couple, a same-sex couple, or a relationship that extends beyond the dyad (e.g., a consensually non-monogamous romance). Qualitative research suggests that interracial couples, for example, do share common experiences with stigmatized individuals, such as social pressures and rejection—and, as a result, they enact protective behavioral patterns, such as limiting their social exposure (e.g., Brown, 1998; Crandall, Tsang, Harvey, & Britt, 2000; Datzmand & Gardner, 2000; Miller & Kaiser, 2001; Oyserman & Swim, 2001; St. Jean, 1998). Evidence suggests that polyamorous relationships are similarly stigmatized. Polyamory refers to consensually non-monogamous relationships involving the practice or acceptance of having multiple emotionally-close relationships that may or may not be sexual (Barker & Langdrige, 2010). Indeed, partners in polyamorous relationships experience evident stigma and discrimination (Conley, Moors, Matsick, & Ziegler, 2013), with the burden of social rejection and secrecy falling particularly hard on secondary relationships that exist beyond the primary dyad (Balzarini et al., 2017).

Though stigma is a robust predictor of divorce and low relationship stability (Bratter & King, 2008; Lehmilller & Agnew, 2007), it is unclear how perceived stigma, efforts to avoid

stigma, and responses to stigma all influence commitment processes in marginalized relationships, not to mention how couples in marginalized relationships compensate for such stigma. We addressed this by exploring whether belonging to a socially devalued relationship is related to consequential relational phenomena. Specifically, through the lens of Interdependence Theory, and using Stigma Management as a complementary theory, we sought to investigate the associations between romantic secrecy, perceived acceptance, and relationship commitment and to explore ways in which couples respond to or compensate for marginalization (e.g., spending a greater proportion of time on sex).

4.1.1. Stigma Management and Relationship Marginalization

Being stigmatized adversely affects many aspects of a person's social and romantic life. To cope with stigma, individuals use psychological, behavioral, social, economic, or even educational resources (Vaquera & Kao, 2005). Extensive research on stigmatized individuals exists in other areas, such as educational attainment, depression, and self-esteem (see Crandall et al., 2000; Crocker & Major, 1989, 2003), and with non-traditional relationships (e.g., mixed-race couples, lesbians and gays; Bratter & King, 2008; Herek & Capitano, 1996; Meyer, 2003). Stigma management theories contribute to the understanding of why couples who experience stigma differ in their behaviors from couples who do not, and it emphasizes the importance of context and outside influences that affect ingroup dynamics. For example, Gramling and Forsyth (1987), in their application of the concept of stigma to exchange theory, described different strategies people use for stigma management. Among these strategies, stigmatized individuals "avoid interaction" in attempts to circumvent stigma. Accordingly, avoiding interactions can hinder communication between stigmatized couples and other people to evade conflict and the consequences that one may perceive due to the stigma (e.g., being fired from work for bringing

both of your romantic partners to the holiday party). However, avoiding interactions does not necessarily imply that stigma will affect other types of interactions in which only the couple is involved (e.g., private and intimate displays of affection). In fact, Goffman's (1963) work emphasized that this sort of management is necessary only in public when "distinguishing characteristics are readily visible."

Although stigma management is most salient in public interactions, such behaviors can have significant consequences for relationship commitment. For instance, Lehmler (2009) advanced that secrecy may create cognitive constraints in terms of how partners think about their relationships—an argument supported by findings indicating that partners involved in secret romances had reduced levels of cognitive interdependence. Cognitive interdependence, or the tendency to have a collectivistic mental representation of oneself and one's romantic partner, is a natural development in most close relationships, promoting a variety of pro-relationship behaviors (Agnew & Etcheverry, 2006; Agnew, Van Lange, Rusbult, & Langston, 1998). However, those involved in secret relationships in which they perceive little social acceptance are likely to think and act in more individualistic terms for a few reasons. First, having cognitive separation between the self and partner may be advantageous in that it can help to prevent accidental disclosure of the relationship (e.g., it may reduce partners' tendency to spontaneously use pluralistic pronouns in their speech). Second, due to the constraints placed on the relationships because of secrecy (e.g., limited ability to be together, burden involved in finding time to see each other and maintaining a relationship in secrecy), cognitive interdependence will have less of an opportunity to develop. In other words, secrecy and a lack of acceptance constrain partners' ability to become interconnected with and central to each other's lives at a cognitive level. Furthermore, given that people in stigmatized relationships have limited ability

to express affection and interest in their partners, it is plausible they may seek out or perhaps even be limited to interactions that take place outside of public view.

4.1.2. Romantic Secrecy

Romantic secrecy involves the conscious choice to withhold information about a romantic partner from others. In polyamorous relationships, all members in the relationship know of and consent to each branch in the relationship structure; therefore, secrecy in this context refers to withholding information from individuals outside this extended relationship. Some evidence suggests that romantic secrecy may have detrimental effects on relationships. For example, denying or hiding a relationship can decrease relationship satisfaction because it can represent a devaluing of the relationship (Berzon, 1988), while also creating anxiety and stress about the relationship (Jordan & Deluty, 2000; Lehmiller, 2009). Secrecy also necessitates engaging in onerous behaviors aimed at preventing others from finding out about the relationship (Foster & Campbell, 2005), which leads to less rewarding relationship experiences and fewer opportunities to include a partner in one's sense of self. Relationship satisfaction and the inclusion of other in the self are key factors tied to commitment (Aron, Aron, & Smollan, 1998; Rusbult, 1983). By inhibiting these processes, secrecy may effectively inhibit commitment. Thus, we predicted that romantic secrecy should be negatively associated with commitment (Hypothesis 1).²

Conversely, secrecy has also been shown to have positive effects on relationships; namely, increasing sexual attraction (Wegner, Lane, & Dimitri, 1994). While sexual satisfaction typically peaks during the first year of a committed relationship and declines steadily afterward

² All hypotheses were pre-registered to the Open Science Framework (OSF) prior to analyses. For a complete listing of hypotheses, measures, and access to the data, please see: https://osf.io/nem73/?view_only=65ab1719632d4382b1aac8cc64ad19a9

(Schmiedeberg & Schröder, 2016), the excitement of *secret* sex could potentially allow sexual satisfaction to last longer before declining. In fact, greater partner familiarity is associated with decreased sexual arousal and desire (Morton & Gorzalka, 2015). Thus, it is possible that engaging in onerous behaviors to prevent others from finding out about the relationship (e.g., meeting in private places, avoiding public events) could stave off the progression to familiarity, thereby prolonging the passionate stage of relationships. Put another way, the very things that serve as barriers to commitment might also be fueling sexual passion and contributing to increased sexual activity.

Another potential mechanism through which secrecy might increase passion is by increasing anxiety about the relationship. Dutton and Aron (1974) reported that male participants who were more anxious or afraid (due to crossing a high, shaky bridge or anticipating painful electric shocks) found an attractive female confederate more sexually appealing. In further research, it has become apparent that any type of physiological arousal, such as arousal induced by riding a rollercoaster or exercising, can heighten feelings of attraction (see Meston & Frohlich, 2003; White, Fishbein, & Rutsein, 1981). Therefore, it would seem possible that the heart-pounding excitement one feels over the thought of their secret relationships being discovered might be enhancing desire for one's partner.

Further support for the link between romantic secrecy and passion can be drawn from the polyamory literature. Polyamorous relationships with secondary partners are typically more secretive than those with primary partners and are also characterized by more time spent having sex (Balzarini et al., 2017; Balzarini et al., 2018). One possible reason for the difference in proportion of time spent having sex may be greater secrecy. Maintaining a relationship in secret may be sexier or more exciting due to the limitations imposed on relationships that are

maintained in secrecy (i.e., being unable to engage in public activities should limit the activities couples can engage in). Thus, we predicted that secrecy would be positively associated with time spent on sex (Hypothesis 2).

4.1.3. Relationship Acceptance

Members of relationships that receive disapproval from their social networks (friends, family, peers, etc.) are not only less satisfied with their relationships (Parks, Stan, & Eggert, 1983), but they are also more likely to break-up (Agnew, Loving, & Drigotas, 2001). Indeed, relationship acceptance from friends and family is a milestone in the developmental trajectory of most relationships, with high acceptance facilitating commitment and low acceptance serving as a barrier. For example, within polyamorous relationships, reports of commitment and acceptance are lower with secondary partners in comparison to primary partners, even after controlling for cohabitation and relationship length (Balzarini et al., 2017). Given that previous research has found that marginalization, or the perceived lack of acceptance from society and important peers, is a significant negative predictor of commitment in monogamous relationships (Lehmiller & Agnew, 2006), the relative lack of acceptance of secondary partners compared to primary partners in polyamorous relationships could potentially underlie lower levels of commitment to secondary partners. Consequently, we expected acceptance from friends and family to predict higher commitment (Hypothesis 3).

Similar to the rewards we expect to find with high secrecy, low acceptance may also offer some rewards to the relationship. Specifically, if a relationship is perceived to be unaccepted by one's friends and family, perhaps this limits the scope of activities a couple can engage in, thus reinforcing the sexual relationship for partners in marginalized relationships. Furthermore, individuals may utilize sex as a means to increase intimacy and closeness, compensating for the

lack of acceptance. Thus, we predicted relationship acceptance would be negatively associated with the proportion of time spent on sex (Hypothesis 4).

4.1.4. Commitment and Proportion of Time Spent on Sex

Positive, healthy sexuality within marriage is associated with greater marital satisfaction, happiness, and commitment (Blumstein & Schwartz, 1983; Edwards & Booth, 1994; Henderson-King & Veroff, 1994; Sprecher, 2002; Yeh, Lorenz, Wickrama, Conger, & Elder, 2006). Despite this, sexual frequency tends to decrease over time, whereas commitment and investment tend to increase over time. Greater relationship length is therefore typically associated with greater commitment and investment because individuals in the later stages of relationships are more likely to live together, have shared finances, and have children. These investments, in turn, are related to lower sexual frequency. This makes sense, given that the demands of working, child care, and problems associated with the management of complicated schedules are frequently cited as reasons for the decline in marital sex over time (Michael et al., 1994).

Furthermore, people in polyamorous relationships often report more commitment to their primary relationships but spend a greater proportion of time on sexual activity with their secondary relationships (Balzarini et al., 2017). One explanation for this finding is that greater commitment leads to less time spent on sexual activity. As couples become more committed, maintaining their relationship(s) may require more time and come with more responsibilities, requiring couples to spend more of their time together on non-sexual activities (e.g. childcare, maintaining a home, etc.). Thus, we predicted that commitment would negatively predict the proportion of time spent on sex (Hypothesis 5).

4.1.5. Secrecy, Acceptance, Commitment, and Proportion of Time Spent on Sex

To further illustrate the links among our predictors, we tested a theory-driven model examining the associations that secrecy and acceptance have with commitment and proportion of time spent on sex. We hypothesized that secrecy and acceptance would be negatively correlated because these processes likely feed into one another (lower acceptance should lead to greater secrecy, and greater secrecy should influence one's perception of others' acceptance; Hypothesis 6). We further predicted greater secrecy would be associated with higher proportions of time spent on sexual activity and lower commitment. However, unlike secrecy, we expected acceptance to predict lower proportions of time spent on sexual activity and greater commitment, and that commitment would, in turn, negatively predict the proportion of time spent on sex (Hypothesis 7). Similarly, we sought to test an exploratory mediational model to determine the extent to which the links between secrecy/acceptance (separately) and proportion of time spent on sex would be accounted for by commitment. While our proposed model is consistent with extant theory and evidence, it is possible that the order of events differs from that which we have proposed. Specifically, it is possible that individuals' decision to commit or not commit to a given relationship comes before secrecy and acceptance (e.g. choosing to commit to a partner may motivate acceptance-seeking behavior from peers and family and concomitantly reduce relationship secrecy), and based on one's level of commitment, acceptance and secrecy may be impacted, which then influence the proportion of time spent on sex.

4.2. Study 1

4.2.1. Method

4.2.1.1. Participants

A convenience sample of adults who identified as monogamous ($N = 1,395$) was recruited. To be included in the study, participants had to be in an exclusive romantic

relationship at the time of the study and identify as monogamous. The demographic information for the participants can be found in Table 13.

4.2.1.2. Materials and Procedure

Participants were recruited online from various internet forums, dating sites, and Facebook group pages to take part in the study. Advertisements for recruitment solicited volunteers to participate in a study about monogamous relationships. Participants were informed that in order to participate in the study, they must identify as monogamous, be at least 18 years of age, and currently be in an exclusive relationship with one person. Prospective participants were provided a link that redirected them to a survey hosted on Qualtrics.

Participants first completed demographic items for themselves and their partner, along with a series of measures of jealousy, compersion, communication, proportion of time spent on sex, attachment, relationship satisfaction, personality, investment and commitment processes, and attitudes towards sex, in that order. Only the measures of secrecy, acceptance, commitment, and proportion of time spent on sex were used in this study. The remaining items were included for other purposes (see <https://osf.io/gax9r/> and <https://osf.io/cgz3y/>) and are not discussed further.

4.2.1.2.1. Romantic Secrecy

A romantic secrecy scale (Foster & Campbell, 2005) assessed levels of romantic secrecy (e.g., “During the past week, my relationship with my partner was secret from someone” and “During the past week, I hid some things about my involvement with my partner from some people”; $\alpha = .72$). Possible responses were reported on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), with higher scores indicating more romantic secrecy.

4.2.1.2.2. Relationship Acceptance

A relationship acceptance scale (Lehmiller & Agnew, 2006) measured the extent to which one perceives their romantic relationship to be approved of by friends and family (e.g., “My family is accepting of my relationship with my partner”, “My friends are accepting of my relationship with my partner”; $\alpha = .68$). Possible responses were recorded on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), with higher scores indicating more relationship acceptance.

4.2.1.2.3. Commitment

To measure commitment, four items based on the Investment Model Scale (Rusbult, Martz, & Agnew, 1998) were included (e.g., “I feel very attached to our relationship -- very strongly linked to my partner”, “I intend to stay in this relationship”; $\alpha = .94$). Possible responses were reported on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), with higher scores indicating more commitment.

4.2.1.2.4. Proportion of Time Spent on Sex

Participants were asked to estimate what percentage of the time they spent with their partners on sexual activities via a single item, ranging from 0% – 100% (Lehmiller, VanderDrift, & Kelly, 2014).

4.2.1.3. Planned Analyses

To assess Hypotheses 1-5, a series of linear regressions were conducted. More specifically, depending on the hypothesis, either secrecy (Hypothesis 1, Hypothesis 5), acceptance (Hypothesis 2, Hypothesis 4), or commitment (Hypothesis 3) were entered as the independent variables, and commitment (Hypothesis 1, Hypothesis 2), or proportion of time spent on sex (Hypothesis 3, Hypothesis 4, Hypothesis 5) served as the dependent variable. All independent variables were grand mean centered. We used regression for our analytic approach

to allow for models that control for relationship length. We conducted each analysis by first assessing the association between the independent and dependent variables of interest, and then assessing whether relationship length influenced this effect. To assess Hypothesis 6, a bivariate correlation was conducted. To assess Hypothesis 7, which involved a structural equation model (SEM) linking secrecy, acceptance, commitment, and proportion of time spent on sex, we used a two-step SEM approach (see Kline, 2011) consisting of an initial measurement model (i.e., how well the latent variables are defined by the indicator variables) followed by an analysis of the full latent SEM model with 10,000 bootstraps. All confirmatory factor analyses and the SEM of the items were conducted in *Mplus* Version 7.4 (Muthen & Muthen, 1998-2015) with items specified as ordinal, and models estimated with maximum likelihood. To assess the mediated effects, bias corrected bootstrapped confidence intervals were computed. Additionally, we sought to test an alternative, exploratory model. The same approach was taken to assess the alternative model, and to assess SEM models in Study 2-3.

4.3. Results

4.3.1. Linear Regression

Consistent with Hypotheses 1-3, romantic secrecy negatively predicted commitment, $b = -.17$, $t(672) = -6.59$, $p < .001$, and positively predicted proportion of time spent on sex, $b = 1.01$, $t(671) = 2.85$, $p = .005$, while acceptance positively predicted commitment, $b = .40$, $t(673) = 13.07$, $p < .001$. These results remained when controlling for relationship length. Consistent with our prediction (Hypothesis 4), acceptance negatively predicted reports of proportion of time spent on sex, $b = -1.64$, $t(672) = -3.54$, $p < .001$; however, this result became non-significant when controlling for relationship length, $b = -.56$, $t(566) = -1.09$, $p = .275$. In contrast to our prediction (Hypothesis 5), commitment did not predict reports of participants' proportion of time

spent on sex, $b = .61$, $t(671) = 1.16$, $p = .248$; however, when controlling for relationship length, this effect became significant, $b = -.50$, $t(565) = 2.14$, $p = .033$. Lastly, secrecy and acceptance were negatively correlated, $r(672) = -.36$, $p < .001$ (Hypothesis 6).

4.3.2. CFA and SEM for Proposed Model

To begin, we tested the four factors underlying the proposed CFA model by calculating fit indices in a four correlated factors model (our hypothesized model; Hypothesis 7). Relative and absolute goodness of fit indices were obtained: (a) the chi-squared statistic (χ^2 and df), (b) the comparative fit index (CFI), (c) the Tucker–Lewis Index (TLI), (d) the root mean square error of approximation (RMSEA), and (e) the standardized root mean squared residual (SMSR). Based on the standards established in the literature for fit indices (Bentler, 1990; Browne & Cudeck, 1989; Hu & Bentler, 1999; Joreskog & Sorbom, 1984), our hypothesized model showed acceptable fit (see Table 14), with high standardized regression paths between the items and their latent factors (see Table 15), and latent factor correlations varying from low to high. The latent factor correlations were mostly in directions that are consistent with the hypotheses, such that secrecy negatively correlated with commitment, $r = -.29$, $p < .001$, and positively correlated with proportion of time spent on sex, $r = .13$, $p = .002$. Acceptance positively correlated with commitment, $r = .55$, $p < .001$, and negatively correlated with proportion of time spent on sex, $r = -.16$, $p < .001$. Lastly, secrecy was negatively related to acceptance, $r = -.50$, $p < .001$, although the proportion of time spent on sex was not related to commitment, $r = .05$, $p = .206$.

Next, we tested the SEM model in which there was a correlation between secrecy and acceptance, regression paths from secrecy to commitment, acceptance to commitment, and secrecy and acceptance to proportion of time spent on sex (separately). Furthermore, we assessed mediated paths from secrecy to the proportion of time spent on sex through commitment, and

from acceptance to proportion of time spent on sex through commitment (our hypothesized model) with 10,000 bootstraps using *Mplus*. The final SEM model, presented in Figure 1, shows that some of the latent factors correlations for the hypothesized model were inconsistent with the hypotheses, given that proportion of time spent on sex was positively related to commitment. Furthermore, in some cases, though the correlations were in the right direction, they were non-significant; these included secrecy's negative correlation with commitment, $\beta = -.02, p = .828$, and positive correlation with proportion of time spent on sex, $\beta = .07, p = .279$. However, consistent with our predictions, acceptance positively correlated with commitment, $\beta = .54, p < .009$, and negatively related to proportion of time spent on sex, $\beta = -.24, p = .011$, while secrecy was negatively related to acceptance, $\beta = -.50, p < .001$. We further assessed two mediated paths and found an indirect link between acceptance and the proportion of time spent having sex through commitment, $\beta = .11, p = .003$, though the indirect link between secrecy and the proportion of time spent on sex through commitment was not significant, $\beta = -.00, p = .835$. Overall, the mediated model demonstrated support for a mediated path through acceptance, though not through secrecy.

4.3.3. CFA and SEM for Alternative Model

We also tested an alternative exploratory SEM model in which commitment had a direct path to proportion of time spent on sex, an indirect path to proportion of time spent on sex through secrecy, and an indirect path to proportion of time spent on sex through acceptance. Our exploratory alternative model shows acceptable fit (see Table 14). We tested the alternative model and the mediated paths with 10,000 bootstraps (see Figure 5). The alternative SEM model is presented in Figure 5. Most of the latent factors regression coefficients were in directions that are consistent with predictions, such that commitment positively predicted acceptance, $\beta = .56, p$

< .001, and negatively predicted secrecy $\beta = -.31, p < .001$; however, inconsistent with the predicted model, commitment positively predicted the proportion of time spent on sex, $\beta = .21, p < .001$. Secrecy positively predicted the proportion of time spent on sex, $\beta = .12, p = .028$, and acceptance negatively predicted the proportion of time spent on sex, $\beta = -.22, p = .012$. We further assessed two mediated paths, and the indirect link from commitment through acceptance to the proportion of time spent having sex, $\beta = -.12, p = .014$, and the indirect link from commitment through secrecy to the proportion of time spent on sex, $\beta = -.04, p = .054$) were significant and marginal, respectively.

4.4. Study 2

In Study 1, we assessed whether belonging to a socially devalued relationship was associated with consequential relational phenomena among a sample of monogamous participants. We found support for most of our hypotheses, such that secrecy was negatively related to commitment yet positively related to proportion of time spent on sex; acceptance was positively related to commitment yet negatively related to the proportion of time spent on sex; and secrecy was negatively related to acceptance. Inconsistent with our predictions, however, proportion of time spent on sex was positively related to commitment in the SEM models. Likewise, the expected effects for secrecy and commitment, as well as secrecy and proportion of time spent on sex, were not significant in the proposed SEM, although they were in the alternative SEM. Study 1 provided initial evidence for most of the hypothesized associations that secrecy and acceptance have with commitment and proportion of time spent on sex, though the results for the proposed and alternative model were rather similar, with the alternative model presenting more significant paths than the proposed model. As such, we remained unsure about which model would be better to move forward with. In Study 2, we sought to replicate the

previous findings using a new monogamous sample of individuals who were currently in a romantic relationship.

4.4.1. Methods

4.4.1.1. Participants

A convenience sample of adults ($N = 3,472$) who identified as either being in a friend with benefits relationship or romantic relationship were recruited. Only participants who identified as being in an exclusive monogamous relationship ($n = 1,568$) were included in this study. The demographic information for the participants can be found in Table 13.

4.4.2. Materials and Procedure

The data were collected as part of a larger study on friends-with-benefits and romantic relationships. The online recruitment flyers advertised the survey as open to anyone in either a friends-with-benefits relationship or a romantic relationship. Interested participants were asked to click on a survey link that directed participants to an online survey hosted on Qualtrics. Participants were asked to answer questionnaires including a participant-demographic questionnaire, partner-demographic questionnaires, primary measures discussed below, and questions about their romantic and sexual relationships and attitudes. Only the measures of secrecy, acceptance, commitment, and proportion of time spent on sex were used in this study. The same constructs were measured in this study, though the specific measurement tools vary slightly.

4.4.2.1. Romantic Secrecy

Participants answered three questions regarding experiences with secrecy in their relationships (e.g., “My romantic relationship is a secret from someone”, “I am trying to keep my romantic relationship secret from other people”, “My partner is trying to keep our romantic

relationship secret from other people”; $\alpha = .88$). Possible responses were on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), with higher scores indicating more romantic secrecy.

4.4.2.2. Relationship Acceptance

Four items assessed perceived relationship acceptance from family (e.g., “My family would probably like me to continue my romantic relationship” and “My family would probably be supportive of my romantic relationship”) and from friends (e.g., “My friends would probably like me to continue my romantic relationship” and “My friends would probably be supportive of my romantic relationship”; $\alpha = .73$). Possible responses were on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), with higher scores indicating more relationship acceptance.

4.4.2.3. Commitment

Three items from the Investment Model Scale were used (Rusbult, Martz, & Agnew, 1998) to assess commitment (“I feel very attached to our relationship -- very strongly linked to my partner”, “I want our relationship to last forever”, and “I am committed to maintaining my relationship with my partner”; $\alpha = .91$). Possible responses were on a 9-point scale (1 = *do not agree at all*, 9 = *agree completely*), with higher scores indicating more commitment.

4.4.2.4. Proportion of time spent on sex.

Participants were asked, “considering how much time you spend with your romantic partner, approximately what percentage of that time is spent engaging in sexual activity?” Participants were able to select either 1-25%, 26-50%, 51-75%, or 76-100%.

4.4.3. Results

4.4.3.1. Linear Regressions

Consistent with Hypotheses 1-4, romantic secrecy significantly and negatively predicted commitment, $b = -.20$, $t(1231) = -9.36$, $p < .001$, and positively predicted proportion of time

spent on sex, $b = .03$, $t(1226) = 3.11$, $p = .002$; by contrast, acceptance positively predicted commitment, $b = .58$, $t(1400) = 20.24$, $p < .001$, and negatively predicted proportion of time spent on sex, $b = -.05$, $t(1404) = -2.90$, $p = .004$. These associations held when controlling for sexual relationship length, with the exception of the association between secrecy and the proportion of time spent on sex, which became non-significant, $b = .02$, $t(793) = 1.22$, $p = .221$. It should be noted that a large portion of the sample did not indicate their sexual relationship length and, as such, were not included in the analyses involving sexual relationship length. Additionally, Study 1 and Study 3 used relationship length generally, not sexual relationship length specifically. Therefore, results controlling for relationship length in Study 2 should be interpreted with caution due to lower power and measurement inconsistency. Inconsistent with Hypotheses 5, commitment did not predict the proportion of time participants spent having sex, $b = -.02$, $t(1388) = -1.41$, $p = .159$, and sexual relationship length did not influence this result. In line with Hypothesis 6, however, secrecy and acceptance were negatively correlated, $r(1240) = -.34$, $p < .001$.

4.4.3.2. CFA and SEM for Proposed Model

We tested the four factors underlying the proposed CFA model and our hypothesized model showed acceptable fit (see Table 14), with high standardized regression paths between the items and their latent factors (see Table 15), and latent factors correlations varying from moderate to high. Additionally, the latent factors correlations were all in directions that are consistent with the hypotheses, such that secrecy negatively correlated with commitment, $r = -.39$, $p < .001$, yet positively correlated with proportion of time spent on sex, $r = .13$, $p < .001$; acceptance positively correlated with commitment, $r = .59$, $p < .001$, yet negatively correlated with proportion of time spent on sex, $r = -.14$, $p < .001$. Secrecy was negatively related to

acceptance, $r = -.39, p < .001$, while proportion of time spent on sex was negatively related to commitment, $r = -.07, p < .001$. Because the model fit was acceptable, no modifications were made to the proposed CFA model.

Next, we tested the proposed latent path model with mediated paths and bootstrapping procedure (10,000 bootstraps). The final model presented in Figure 2 shows that secrecy, $\beta = .09, p = .010$, and acceptance, $\beta = -.13, p < .001$, were directly associated with proportion of time spent on sex, though the relation between commitment and proportion of time spent on sex was not significant, $\beta = .04, p = .284$; this is inconsistent with predictions and with Study 1. Secrecy, $\beta = -.16, p < .001$, and acceptance, $\beta = .53, p < .001$, predicted commitment and were negatively correlated with one another, $\beta = -.39, p < .001$, consistent with predictions and with Study 1. We further assessed two mediated paths, and contrary to predictions, the indirect link between secrecy and the proportion of time spent on sex through commitment was not significant, $\beta = -.01, p = .305$, nor was the indirect link between acceptance and the proportion of time spent having sex through commitment, $\beta = .02, p = .290$. Overall, both secrecy and acceptance predicted the proportion of time spent on sex, though the mediated paths from secrecy and acceptance to the proportion of time spent on sex through commitment were not significant.

4.4.3.3. CFA and SEM for Alternative Model.

As with Study 1, we also tested an alternative exploratory model in which commitment had a direct path to proportion of time spent on sex, and two mediated paths to proportion of time spent on sex through secrecy and acceptance. The exploratory alternative model showed acceptable fit (see Table 14). We tested the alternative model and the mediated paths with 10,000 bootstraps and presented the results in Figure 6. Most of the latent factors regression coefficients were in directions that are consistent with the Study 1 findings, such that commitment positively

predicted acceptance, $\beta = .59, p < .001$, and negatively predicted secrecy, $\beta = -.38, p < .001$; however, consistent with Study 1 and inconsistent with the predicted model, commitment was not related to the proportion of time spent on sex, $\beta = .04, p = .249$. Consistent with the results from Study 1, secrecy positively predicted the proportion of time spent on sex, $\beta = .09, p = .011$, while acceptance negatively predicted the proportion of time spent on sex ($\beta = -.14, p < .001$).

We further assessed two mediated paths. The indirect link from commitment through acceptance to the proportion of time spent on sex, $\beta = -.08, p < .001$, as well as the indirect link from commitment through secrecy to the proportion of time spent on sex, $B = -.04, p = .014$, were significant. Thus, in this study, commitment did not directly predict the proportion of time spent on sex when it was included in a model with two mediated paths; however, the mediated paths from commitment through secrecy and acceptance to the proportion of time spent on sex were significant.

4.5. Study 3

In Study 2, we acquired additional support for Hypotheses 1-5. As expected, secrecy was negatively related to commitment yet positively related to time spent on sex, acceptance was positively related to commitment yet negatively related to time spent on sex, and secrecy was negatively related to acceptance. Inconsistent with predictions, time spent on sex was not significantly (negatively) related to commitment. In Study 2, the hypothesized and alternative models provided sufficient model fit and had similar results across the regression paths. Because Study 1 and 2 provided initial evidence for the potential effects of marginalization among individuals in monogamous relationships, we sought to assess how marginalization is linked to relational outcomes among individuals in another relationship orientation, polyamory. In Study 3, we sought to examine this model in the context of polyamorous relationships because this

would allow us to assess how increased acceptance and lower secrecy with a primary partner (a relationship that typically experiences less stigma) is different compared to secondary partners, who typically have higher secrecy and lower acceptance, and tend to experience greater stigma. The purpose of Study 2 was therefore to assess the hypothesized and alternative model among polyamorous partners, and to replicate the effects found in the previous studies using a polyamorous sample of individuals who were currently in at least two concurrent romantic relationships.

4.5.1. Methods

4.5.1.1. Participants

A convenience sample of adults who identified as polyamorous ($N = 3,530$)³ was recruited. Polyamorous participants who currently had two partners and identified one partner as primary and the other secondary (as was indicated in the demographic section; $n = 1,308$) were included in this study. The demographic information for the participants can be found in Table 13.

4.5.1.2. Materials and Procedure

Polyamorous participants were recruited online from various internet forums, dating sites, and Facebook group pages to take part in the study. Many of these websites and groups were specifically geared towards a polyamorous audience, and the advertisements for recruitment solicited volunteers to participate in a study about polyamory. Participants were informed that to participate in the study, they must identify as polyamorous, be at least 18 years of age, and currently be in a relationship with at least one person. As in previous studies, interested participants were provided a link that re-directed them to a survey hosted on Qualtrics.

³ Note that this sample was also used in Chapter 2 and Chapter 3, Study 1.

Participants first completed demographic items for themselves and their partner(s), along with a series of validated measures on jealousy, compersion, communication, proportion of time spent on sex, attachment, relationship and life satisfaction, personality, investment and commitment processes, and attitudes towards sex, in that order. As in previous studies, only the measures of secrecy, acceptance, commitment, and proportion of time spent on sex were used in this study. The remaining items were included for other purposes (see: <https://osf.io/vs574/>, <https://osf.io/pt243/>).

The measures for romantic secrecy (primary $\alpha = .66$, secondary $\alpha = .87$), relationship acceptance (primary $\alpha = .56$, secondary $\alpha = .59$), commitment (primary $\alpha = .88$, secondary $\alpha = .92$), and proportion of time spent on sex were the same as the measures used in Study 1.

4.5.4. Planned Analyses

To assess hypotheses 1-5, a series of linear mixed models (LMMs) nesting relationship within person were conducted. In all models, level 1 consisted of relationship-specific ratings predicting relationship-specific outcomes (hypothesis relevant DV) as well as partners' primary or secondary status and the interaction between the partner-specific ratings and their relationship status. For example, relationship-specific commitment was predicted by relationship-specific secrecy as a function of relationship status (e.g., Hypothesis 1). The level 1 residuals were estimated with an unstructured matrix, which produced separate residual variances for each relationship as well as their covariance. To assess Hypothesis 6, the correlation between acceptance and secrecy was assessed. Lastly, to assess Hypothesis 7, we tested the CFA and SEM models among primary and secondary partners (separately).

4.6. Results

4.6.1. Linear Mixed Models

Inconsistent with Hypothesis 1 and findings from previous studies, in the proposed LMMs, romantic secrecy was not significantly related to commitment, $b = -.04$, $t(876) = -1.73$, $p = .085$. This null effect was accompanied by a main effect for partner status, $b = 2.06$, $t(1154) = 25.08$, $p < .001$, indicating that commitment was higher among primary partners and was lower when there was greater relationship secrecy. We then added the interaction term between the two, and this was non-significant, with results for secrecy and partner status unaffected. We further followed up on this by controlling for relationship length and an effect for secrecy emerged as significant, $b = -.04$, $t(930) = -2.08$, $p = .038$.

Consistent with Hypothesis 2, romantic secrecy positively predicted reports of the proportion of time spent on sex, $b = .92$, $t(827) = 3.03$, $p = .003$, though this effect was accompanied by a main effect for partner status, $b = -12.44$, $t(1266) = -8.74$, $p < .001$, such that the proportion of time spent on sex was higher among secondary partners and was higher when there was greater relationship secrecy. We then added the interaction terms for secrecy and partner status, and the interaction term was non-significant, $p = .326$. Finally, we assessed the effects for secrecy and partner status on time spent on sex controlling for relationship length, and the effect remained significant.

Next, consistent with Hypothesis 3, acceptance positively predicted commitment, $b = .25$, $t(1609) = 13.21$, $p < .001$, though a main effect for partner status also emerged, $b = 1.51$, $t(1350) = 17.52$, $p < .001$, such that commitment was higher for primary partners and was lower when the relationship was less accepted. We then added the interaction between partner status and acceptance, and it was not significant, $p = .928$. We further assessed the effects for acceptance and commitment controlling for relationship length and the effects remained.

Consistent with Hypothesis 4, acceptance negatively predicted the proportion of time spent on sex, $b = -1.77$, $t(1657) = -4.96$, $p < .001$, and this was accompanied by a main effect for partner status, $b = -11.28$, $t(1304) = -7.26$, $p < .001$, such that proportion of time spent on sex was higher for secondary partners and lower when the relationships were more accepted. We further assessed whether partner status and acceptance interacted to predict proportion of time spent on sex, and the results were non-significant, $p = .857$. Additionally, we assessed the effects for acceptance and proportion of time spent on sex controlling for relationship length and the effects remained.

Next, consistent with Hypothesis 5, commitment negatively predicted reports of participants' proportion of time spent on sex, $b = -2.08$, $t(1403) = -5.09$, $p < .001$, which was accompanied by a main effect for partner status, $b = -11.79$, $t(1212) = -8.03$, $p < .001$, such that the proportion of time spent on sex was higher for secondary partners and was lower when the relationship was more committed. The interaction between partner status and commitment was not significant, $p = .272$. When we controlled for relationship length, effects for commitment on proportion of time spent on sex remained.

Lastly, consistent with Study 1, Study 2, and Hypothesis 6, secrecy and acceptance were negatively correlated for primary, $r(882) = -.37$, $p < .001$, and secondary partners, $r(871) = -.38$, $p < .001$.

4.6.2. CFA and SEM for Proposed Model

We tested the four factors underlying the proposed CFA model, and our hypothesized model showed acceptable fit for primary and secondary relationships (see Table 14), with high standardized regression paths between the items and their latent factors (see Table 15). The latent factors correlations were in directions that are consistent with the hypotheses, such that secrecy

negatively correlated with commitment for primary, $r = -.18, p < .001$, and secondary partners, $r = -.05, p = .153$, and positively correlated with proportion of time spent on sex for both primary, $r = .16, p < .001$, and secondary, $r = .11, p = .002$, partners. For both primary and secondary partners, acceptance positively correlated with commitment, primary: $r = .47, p < .001$; secondary: $r = .38, p < .001$, yet negatively correlated with proportion of time spent on sex, primary: $r = -.14, p = .001$; secondary: $r = -.19, p < .001$. Similarly, secrecy was negatively related to acceptance, primary: $r = -.56, p < .001$; secondary: $r = -.52, p < .001$, while proportion of time spent on sex was negatively related to commitment, primary: $r = -.05, p = .171$; secondary: $r = -.18, p < .001$, though only for secondary partners.

Next, we tested the proposed SEM model and the mediated paths with 10,000 bootstraps for primary and secondary partners separately. The final model presented in Figure 3 and Figure 4 shows that secrecy, primary partner: $\beta = .113, p = .072$; secondary partner: $\beta = .04, p = .413$, and acceptance, primary partner: $\beta = -.08, p = .310$; secondary partner: $\beta = -.12, p = .064$, were not significantly directly associated with proportion of time spent on sex in the hypothesized model. Furthermore, results for Study 3 suggest that commitment does not relate to the proportion of time spent on sex for primary partners, $\beta = .01, p = .901$, though it negatively predicts proportion of time spent on sex for secondary partners, $\beta = -.13, p = .004$. Consistent with our predictions, acceptance positively predicted commitment among primary, $\beta = .55, p < .001$, and secondary partners, $\beta = .48, p < .001$, though secrecy was predictive of commitment among secondary partners, $\beta = .20, p < .001$, but not primary partners, $\beta = .11, p = .179$. As expected, and consistent across Study 1-3, secrecy and acceptance were negatively correlated for both primary, $\beta = -.56, p < .001$, and secondary partners, $\beta = -.52, p < .001$.

We further assessed two mediated paths, and the indirect link between acceptance and the proportion of time spent having sex through commitment was not significant for primary partners, $\beta = .00, p = .905$, nor was the indirect link between secrecy and the proportion of time spent on sex through commitment, $\beta = .00, p = .925$. Contrary to results for primary partners, the indirect link between acceptance and the proportion of time spent having sex through commitment was significant for secondary partners, $\beta = -.06, p = .005$, as was the indirect link between secrecy and the proportion of time spent on sex through commitment, $\beta = -.03, p = .017$. Thus, the model presents inconsistent results across primary and secondary partners, and overall seems to be more predictive of secondary partner reports than primary.

4.6.3. CFA and SEM for Alternative Model

As with previous studies, we also tested an alternative exploratory model in which commitment had a direct path to proportion of time spent on sex, and two mediated paths to proportion of time spent on sex through secrecy and acceptance, and this was assessed among primary and secondary partners separately. The alternative model showed acceptable fit for both partners (see Table 14). We tested the alternative model and the mediated paths with 10,000 bootstraps (see Figure 7 and Figure 8). Most of the latent factors regression coefficients were in directions that are consistent with Study 1 and 2's findings, such that commitment positively predicted acceptance, primary partner: $\beta = .46, p < .001$; secondary partner: $\beta = .36, p < .001$, and negatively predicted secrecy, primary partner: $\beta = -.19, p = .001$; secondary partner: $\beta = -.07, p = .058$. Consistent with Study 2 and inconsistent with the predicted model, commitment was not related to the proportion of time spent on sex for primary partners, $\beta = .01, p = .852$, though it negatively predicted proportion of time spent on sex for secondary partners, $\beta = -.13, p = .002$. Consistent with the results from Study 1 and 2, secrecy positively predicted the

proportion of time spent on sex for primary, $\beta = .14, p = .006$, but not secondary partners, $\beta = .05, p = .246$, while acceptance negatively predicted the proportion of time spent on sex with secondary, $\beta = -.13, p = .011$, but not primary partners, $\beta = -.08, p = .156$.

We further assessed two mediated paths and the indirect link between commitment and the proportion of time spent having sex through acceptance was significant for secondary partners, $\beta = -.05, p = .020$, but not primary partners, $\beta = -.04, p = .177$, while the indirect link between commitment and the proportion of time spent on sex through secrecy was significant for primary, $\beta = -.03, p = .048$, but not secondary partners, $\beta = .003, p = .389$. Thus, in Study 3, results for commitment predicting proportion of time spent on sex, as well as secrecy and acceptance predicting proportion of time spent on sex, were inconsistent across primary and secondary partners, such that in some cases results were significant for primary but not secondary partners.

4.7. General Discussion

The current studies are the first to examine both positive and negative outcomes associated with romantic secrecy and acceptance. Previous research has shown that the effects of secrecy on relationships is negative and that the notion that secrecy is exciting and potentially beneficial for partnership (Wagner et al., 1994) may not be true in ongoing relationships (Lehmiller, 2009). Our results suggest that while secrecy may have a negative association with commitment (although this effect was inconsistent across studies and was positive in the hypothesized model for Study 3), it is consistently positively related to proportion of time spent on sex. Sexuality plays an important role in the quality of romantic relationships (Impett, Muise, & Peragine, 2013), and a direct reward a relationship can provide is that of sexual activity and the experience of sexual pleasure. Thus, this research suggests that even among individuals in

ongoing relationships, secrecy may have both negative and positive effects on relationship outcomes, and while it may have a negative relationship with commitment, these results are consistent with the idea that secrecy seems to promote sex.

Additionally, research has shown that the more disapproval perceived with respect to one's relationship, the worse one's romantic outcomes tend to be. Specifically, greater levels of *perceived marginalization* (a construct that broadly assesses perceptions of social disapproval concerning a given relationship) are associated with less commitment to one's partnership (Lehmiller & Agnew, 2006). Moreover, longitudinal research has revealed that perceived marginalization predicts a greater likelihood of future breakup and, among partners who actually stay together, it predicts decreases in commitment across time (Lehmiller & Agnew, 2007). Thus, it is not surprising that perceiving greater approval of one's romantic partner is positively related to commitment, as was found across all studies in the current research. That said, this may not be the only couple-level outcome worth observing. In fact, our research is the first to show that while acceptance and commitment are consistently positively related, acceptance was negatively associated with the proportion of time spent on sex, although the effect was not always significant. More specifically, among individuals in monogamous relationships, the relationship between acceptance and proportion of time spent on sex was always negative (and significant), though among polyamorous individuals it was only significant in the alternative model for secondary partners (in other words, effects for primary partners were not significant). This provides strong evidence for the negative link between acceptance and time spent on sex for monogamous individuals and yet mixed support for polyamorous individuals.

In the proposed model we tested a specific sequence of events informed by theory and evidence from previous research examining romantic secrecy (Foster & Campbell, 2005;

Lehmiller, 2009; Wegner, Lane, & Dimitri, 1994) and relationship acceptance (Lehmiller & Agnew, 2006). Overall, the hypothesized model had good psychometric properties (with the exception of Study 2), namely adequate factorial validity and discriminant validity. However, the effects for the proposed model were inconsistent across the studies. We determined that it is also possible that low commitment may motivate secrecy and acceptance (rather than the other way around). It is possible that individuals' decision to commit or not commit to a relationship comes before one's decision to keep a relationship secret and that with increasing levels of commitment it becomes more difficult to maintain a relationship in secrecy. Additionally, family and friends may also be more accepting as commitment increases, as they may view this relationship as more serious and permanent. Furthermore, when people feel less committed to their partner, they intuitively may be less inclined to introduce this partner to family and friends, which would inevitably impact feelings of acceptance.

Consistent with this line of reasoning, the alternative model presented equally good fit and psychometric properties. Furthermore, in most instances the results with this model were significant and the effects were larger. Specifically, across all studies and among all relationship orientations and partners, commitment negatively predicted secrecy, and secrecy positively predicted proportion of time spent on sex (though the effect for secondary partners in Study 3 was not significant). Additionally, commitment positively predicted acceptance, and acceptance negatively predicted proportion of time spent on sex (though the effect for primary partners in Study 3 was not significant). As with the hypothesized model, the effect for commitment predicting proportion of time spent on sex was inconsistent across studies.

There are a number of practical implications of these findings. First, while it makes intuitive sense that acceptance is "good" and secrecy is "bad," this research shows that

categorizing these experiences in polar extremes is erroneous, because secrecy and acceptance offer what can be conceptualized as both rewards and costs. Previous research has suggested that we should try to alleviate stigma towards marginalized relationships in order to help promote more acceptance and provide opportunities for relationships to exist in less secrecy. While reducing stigma toward marginalized relationships would no doubt provide more opportunities for the persons involved in these relationships (e.g., opportunities to engage in more public activities and to incorporate their partner(s) into interactions with family and friends), it may be the case that low commitment is driving the decision to maintain a relationship in secrecy and may be negatively impacting acceptance; therefore, reducing stigma may not necessarily improve relationship functioning.

Additionally, because this research only assessed relationships at one time point, we can only speculate on how commitment, secrecy, and acceptance would impact proportion of time spent on sex over time. It is possible that the consequences of chronic secret keeping and low acceptance from friends and family could be detrimental for persons involved in secret and rejected romances in the long run. In particular, one might expect that the longer one has been in a secret relationship, the worse the outcomes will be. For one thing, sexual frequency typically decreases over time in relationships, so eventually, one of the major rewards secret and marginalized relationships may offer (high sexual frequency) may eventually become less prominent. However, it is also possible that sex is used as a means to maintain closeness when couples face obstacles, such as experiencing a lack of acceptance or high secrecy, and thus among those in secret and stigmatized relationships, it is possible that the proportion of time spent on sex remains high for a longer duration. Furthermore, relationship duration did emerge as a significant predictor of some of the effects in the present research, though results were

inconsistent for relationship length across studies. It could be the case that relationship duration moderates the relationships between secrecy/acceptance and proportion of time spend on sex in some instances.

4.9.1. Strengths and Limitations

There are several strengths to the present research. First, this was a large-scale data collection effort, particularly in terms of the polyamorous sample. Few studies have obtained large samples of individuals involved in polyamorous relationships, and to our knowledge, no single study has obtained sizeable samples of reports for primary, secondary, and monogamous partners with the goal of testing whether the associations hypothesized hold across relationship partner and orientation for secrecy and acceptance simultaneously. Furthermore, we test the same hypotheses and statistical models across the three studies, which provides cumulative evidence for the hypotheses tested. It is also theoretically premised and tests novel hypotheses.

However, there are also limitations to the present study. First, with regards to the sample, we may have introduced some self-selection biases by using volunteer samples (see Kaats & Davis, 1971). *Self-selection is a concern and can lead to biased data* when the respondents who choose to participate *do* not represent the entire target population. However, the three samples were collected using similar sampling strategies and are thus comparable. Furthermore, this research was cross-sectional. Future research should assess the effects of secrecy, acceptance, commitment, and proportion of time spent on sex over time in order to assess which factors temporally precede which (e.g. whether secrecy and acceptance precede commitment, or vice versa). Lastly, the proportion of time spent on sex variable was a single item assessment across all three studies, and furthermore, it would be useful to have a more reliable measure for sexual frequency, and to also include measures of passionate love and sexual desire to make even

stronger claims about the role secrecy, acceptance, and commitment have on proportion of time spent on sex.

4.9.2. Concluding Remarks

Our findings suggest that perceiving your partner as accepted by important peers is associated with stronger commitment, but in most cases, increased acceptance is also associated with a lower proportion of time spent on sex. Contrarily, greater secrecy is associated with lower commitment, and in some cases, a greater proportion of time spent on sex. Results for the indirect paths were inconsistent and as such, future research is needed to assess order effects with the goal of illuminating the causal pathway. This study contributes to the growing literature on the effects of marginalization on individuals, and in this case on their relationships. Future studies may benefit from exploring the model over time, in a longitudinal design wherein cross lagged analyses could be conducted to begin to assess whether secrecy and acceptance are precursors to commitment processes or outcomes of commitment, and whether these factors impact proportion of time spent on sex over time.

4.10. References

- Agnew, C. R., & Etcheverry, P. E. (2006). Cognitive interdependence: Considering self in relationship. In K. D. Vohs & E. J. Finkel (Eds.), *Self and relationships: Connecting intrapersonal and interpersonal processes* (pp. 274–293). New York, NY: Guilford.
- Agnew, C. R., Loving, T. L., & Drigotas, S. M. (2001). Substituting the forest for trees: Social networks and the prediction of romantic relationship state and fate. *Journal of Personality and Social Psychology*, *81*, 1042–1057.
- Agnew, C. R., Van Lange, P. A. M., Rusbult, C. E., & Langston, C. A. (1998). Cognitive interdependence: Commitment and the mental representation of close relationships. *Journal of Personality and Social Psychology*, *74*, 939–954.
- Balzarini, R. N., Campbell, L., Kohut, T., Holmes, B. M., Lehmilller, J. J., Harman, J. J., & Atkins, N. (2017). Perceptions of primary and secondary relationships in polyamory. *PLoS ONE*, *12*, 1–20.
- Balzarini, R. N., Dharma, C., Kohut, T., Holmes, B. M., Lehmilller, J. J., & Harman, J. J. (2018). Demographic comparison of American polyamorous and monogamous individuals from two online convenience samples. *Journal of Sex Research*. Advanced online publication.
- Bentler, P. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238–246.
- Berzon, B. (1988). *Permanent partners: Building gay and lesbian relationships that last*. New York, NY: EP.
- Blumstein, P. & Schwartz, P. (1983). *American couples: Money, work, and sex*. New York, NY: William Morrow & Co.

- Bratter, J. L., & King, R. B. (2008). "But will it last?": Marital instability among interracial and same-race couples. *Family Relations*, 57, 160–171
- Brown, L. M. (1998). Ethnic stigma as a contextual experience: A possible selves perspective. *Personality and Social Psychology Bulletin*, 24, 163–173.
- Browne, M. W., & Cudeck, R. (1989). Single sample cross-validation indices for covariance structures. *Multivariate Behavioral Research*, 24, 445–455.
- Call, V., Sprecher, S., & Schwartz, P. (1995). The incidence and frequency of marital sex in a national sample. *Journal of Marriage and the Family*, 57, 639–650.
- Conley, T. D., Moors, A. C., Matsick, J. L., & Ziegler, A. (2013). The fewer the merrier?: Assessing stigma surrounding consensually non-monogamous romantic relationships. *Analyses of Social Issues and Public Policy*, 13, 1–30.
- Crandall, C. S., Tsang, J., Harvey, R. D., & Britt, T. W. (2000). Group identity-based self-protective strategies: The stigma of race, gender, and garlic. *European Journal of Social Psychology*, 30, 355–381.
- Crocker, J. & Major, B. (1989). Social stigma and self-esteem: The self-protective properties of stigma. *Psychological Review*, 96, 608–630.
- Crocker, J. & Major, B. (2003). The self-protective properties of stigma: Evolution of a modern classic. *Psychological Inquiry*, 14, 232–237.
- Datzman, J., & Gardner, C. B. (2000). 'In my mind, we are all humans': Notes on the public management of black-white interracial romantic relationships." *Marriage and Family Review*, 30, 5–24.
- Dion, K. L., & Dion, K. K. (1973). Correlates of romantic love. *Journal of Counseling and Clinical Psychology*, 41, 51–56.

- Dutton, D. G., & Aron, A. P. (1974). Some evidence for heightened sexual attraction under conditions of high anxiety. *Journal of Personality and Social Psychology, 30*, 510–517.
- Edwards, J. N., & Booth, A. (1994). Sexuality, marriage, and well-being: The middle years. In A. S. Rossi (Ed.), *Sexuality across the life course* (pp. 233–259). Chicago, IL: The University of Chicago Press.
- Foster, C., & Campbell, W. K. (2005). The adversity of secret relationships. *Personal Relationships, 12*, 125–143.
- Frijns, T., Finkenauer, C., & Keijsers, L. (2013). Shared secrets versus secrets kept private are linked to better adolescent adjustment. *Journal of Adolescence, 36*, 55–64.
- Gaines, J., & Stanley, O. (2001). Coping with prejudice: Personal relationship partners as sources of socioemotional support for stigmatized individuals. *Journal of Social Issues, 57*, 113–128.
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Englewood Cliffs, NJ: Prentice-Hall.
- Galesic, M., & Bosnjak, M. (2009). Effects of questionnaire length on participation and indicators of response quality in a web survey. *Public Opinion Quarterly, 73*, 349–360.
- Gramling, R., & Forsyth, C. J. (1987). Exploiting Stigma. *Sociological Forum, 2*, 401–415.
- Greenblat, C. (1982). The Salience of Sexuality in the Early Years of Marriage. Presented at the meetings of the American Sociological Association, San Francisco, CA.
- Henderson-King, D. H., & Veroff, J. (1994). Sexual satisfaction and marital well-being in the first years of marriages. *Journal of Social and Personal Relationships, 11*, 509–534.

- Herek, G. M., & Capitano, J. P. (1996). "Some of my best friends": Intergroup contact, concealable stigma, and heterosexuals' attitudes toward gay men and lesbians. *Personality and Social Psychology Bulletin*, 22, 412–424.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- James, W. H. (1981). The honeymoon effect on marital coitus. *Journal of Sex Research*, 17, 114–123.
- Jordan, K. M., & Deluty, R. H. (2000). Social support, coming out, and relationship satisfaction in lesbian couples. *Journal of Lesbian Studies*, 4, 145–164.
- Joreskog, K. G., & Sorbom, D. (1984). *LISREL 6: User's guide*. Mooresville, IN: Scientific Software International.
- Kaats, G. R., & Davis, K. E. (1971). Effects of volunteer biases in studies of sexual behavior and attitudes. *Journal of Sex Research*, 7, 26–34.
- Kline, R. B. (2011). *Convergence of structural equation modeling and multilevel modeling*. na.
- Lawrence, E., Rothman, A. D., Cobb, R. J., Rothman, M. T., & Bradbury, T. H. (2008). Marital satisfaction across the transition to parenthood. *Journal of Family Psychology*, 22, 41–50.
- Lehmiller, J. J. (2009). Secret romantic relationships: Consequences for personal and relational well-being. *Personality and Social Psychology Bulletin*, 35, 1452–1466.
- Lehmiller, J. J., & Agnew, C. R. (2006). Marginalized relationships: The impact of social disapproval on romantic relationship commitment. *Personality and Social Psychology Bulletin*, 32, 40–51.
- Lehmiller, J. J., & Agnew, C. R. (2007). Perceived marginalization and the prediction of romantic relationship stability. *Journal of Marriage and Family*, 69, 1036–1049.

- Lehmiller, J. J., VanderDrift, L. E., & Kelly, J. R. (2014). Sexual communication, satisfaction, and condom use behavior in friends with benefits and romantic partners. *Journal of Sex Research, 51*, 74–85.
- MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding and suppression effect. *Prevention Science, 1*, 173–181.
- MacNeil, S., & Byers, E. S. (2009). Role of sexual self-disclosure in the sexual satisfaction of long-term heterosexual couples. *Journal of Sex Research, 46*, 3–14.
- Maas, M. K., McDaniel, B. T., Feinberg, M. E., & Jones, D. E. (2015). Division of labor and multiple domains of sexual satisfaction among first-time parents. *Journal of Family Issues, 39*, 104–127.
- Meston, C., & Frohlich, P. (2003). Love at first fright: Partner salience moderates roller-coaster-induced excitation transfer. *Archives of Sexual Behavior, 32*, 537–544.
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*, 674–697.
- Miller, C. T., & Kaiser, C. R. (2001). A theoretical perspective on coping with stigma. *Journal of Social Issues, 57*, 73–92.
- Moore, P. (2016). Young Americans are less wedded to monogamy than their elders. *YouGov*. Retrieved from <https://today.yougov.com/news/2016/10/03/young-americans-less-wedded-monogamy/>
- Moors, A. C. (2017). Has the American public's interest in information related to relationships beyond "the couple" increased over time? *Journal of Sex Research, 54*, 677–684.

- Morton, H., & Gorzalka, B. B. (2015). Role of partner novelty in sexual functioning: a review. *Journal of Sex & Marital Therapy, 41*, 593–609.
- Muthén, L. K., & Muthén, B. O. (1998–2015). *Mplus user's guide*. Los Angeles, CA: Authors.
- Oyserman, D., & Swim, J. K. (2001). Stigma: An insider's view. *Journal of Social Issues, 57*, 1–14.
- Parks, M. R., Stan, C. M., & Eggert, L. L. (1983). Romantic involvement and social network involvement. *Social Psychology Quarterly, 46*, 116–131.
- Reis, H.T., & Shaver, P. R. (1988). Intimacy as an interpersonal process. In S. Duck (Ed.), *Handbook of research in personal relationships* (pp. 367–389). London, EN: Wiley.
- Rolstad, S., Adler, J., & Rydén, A. (2011). Response burden and questionnaire length: Is shorter better? A review and meta-analysis. *Value in Health, 14*, 1101–1108.
- Rubel A. N., & Bogaert A. F. (2015). Consensual nonmonogamy: Psychological well-being and relationship quality correlates. *Journal of Sex Research, 52*, 961–982.
- Rubin, J. D., Moors, A. C., Matsick, J. L., Ziegler, A., Conley, T. D. (2014). On the margins: Considering diversity among consensually non-monogamous relationships. *Journal fur Psychologie, 22*, 1–23.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357–391.
- Schmiedeberg, C., & Schröder, J. (2016). Does sexual satisfaction change with relationship duration? *Archives of Sexual Behavior, 45*, 99–107.

- Simpson, J. A. (1987). The dissolution of romantic relationships: Factors involved in relationship stability and emotional distress. *Journal of Personality and Social Psychology*, *53*, 683–692.
- Sprecher, S. (2002). Sexual satisfaction in premarital relationships: Associations with satisfaction, love, commitment and stability. *Journal of Sex Research*, *39*, 190–196.
- Sprecher, S., & Hendrick, S. S. (2004). Self-disclosure in intimate relationships: Associations with individual and relationship characteristics over time. *Journal of Social and Clinical Psychology*, *23*, 857–877.
- St. Jean, Y. (1998). Let people speak for themselves: Interracial unions and the general social survey. *Journal of Black Studies*, *28*, 398–414.
- Twenge, J. M., Campbell, W. K., & Foster, C. A. (2003). Parenthood and marital satisfaction: A meta-analytic review. *Journal of Marriage and Family*, *65*, 574–583
- Urdu, J. R. (1980). Changes in the frequency of marital intercourse from panel data. *Archives of Sexual Behavior*, *9*, 319–325.
- Vaquera, E., & Kao, G. (2005). Private and public displays of affection among interracial and intraracial adolescent couples. *Social Science Quarterly*, *86*, 484–508.
- Wegner, D. M., Lane, J. D., & Dimitri, S. (1994). The allure of secret relationships. *Journal of Personality and Social Psychology*, *66*, 287–300.
- White, G., Fishbein, S., & Rutsein, J. (1981). Passionate love and the misattribution of arousal. *Journal of Personality and Social Psychology*, *41*, 56–62.
- Yabiku, S., & Gager, C. (2009). Sexual frequency and the stability of marital and cohabiting unions. *Journal of Marriage & the Family*, *71*, 983–1000.

Yeh, H. C., Lorenz, F. O., Wickrama, K. A. S., Conger, R. D., & Elder, G. H. (2006).

Relationships among sexual satisfaction, marital quality, and marital instability at midlife. *Journal of Family Psychology, 20*, 339-343.

4.11. Tables

Table 13. *Demographic Information Across Samples*

	Study 1	Study 2	Study 3
Age in Years	31.40 (12.01)	25.54 (8.60)	35.26 (10.45)
Gender			
Male	30%	27.9%	36.8%
Female	68.4%	70.5%	58.7%
Other	1.6%	1.6%	4.5%
Sexual Orientation			
Heterosexual	76.3%	84.0%	39.1%
Bisexual	13.3%	9.2%	34.6%
Pansexual	3.1%	N/A	16.6%
Lesbian/Gay	4.6%	3.0%	2.8%
Other	2.7%	2.1%	7.0%
Race			
Asian	5.4%	4.4%	1.9%
Black	1.7%	9.2%	1.6%
White	82.1%	70.5%	81.6%
Hispanic	3.0%	9.5%	4.6%
Multi-ethnic	3.8%	N/A	4.4%
Other	3.9%	4.7%	5.8%

Note. Study 1 and Study 2 consist of participants in monogamous relationships, and Study 3 consists of participants in polyamorous relationships. Numbers in parentheses represent standard deviations.

Table 14. *Model Fit Across Samples*

Models (M)	Model Fit					
	χ^2	df	CFI	TLI	RMSEA (90% CI)	SRMR
Study 1. Monogamous Partner						
M1: Hypothesized Model	80.75*	22	.98	.97	.06 (.05 - .08)	.03
M2: Alternative Model	134.59*	23	.96	.94	.08 (.07 - .10)	.06
Study 2. Monogamous Partner						
M1: Hypothesized Model	1679.72*	49	.88	.83	.14 (.13 - .15)	.06
M2: Alternative Model	1732.67	50	.87	.83	.14 (.14 - .15)	.09
Study 3. Polyamorous Primary						
M1: Hypothesized Model	153.86*	22	.96	.93	.08 (.07 - .09)	.04
M2: Alternative Model	232.75*	23	.93	.89	.10 (.09 - .11)	.07
Study 3. Polyamorous Secondary						
M1: Hypothesized Model	105.30*	22	.98	.97	.06 (.05 - .08)	.02
M2: Alternative Model	233.62*	23	.95	.92	.10 (.08 - .11)	.08

Note. χ^2 = Robust Maximum Likelihood Chi-Square; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.

* $p < .001$.

Table 15. *Factor Loadings for Hypothesized and Alternative Model*

Factors	Study 1: Monogamous	Study 2: Monogamous	Study 3: Primary	Study 3: Secondary
Factor 1: Secrecy				
Secrecy 1	.88*** ^a	.87***	.75***	.87***
Secrecy 2	.64***	.93***	.68***	.87***
Secrecy 3	N/A	.74***	N/A	N/A
Factor 2: Acceptance				
Acceptance: Friends 1	.72***	.93***	.66***	.70***
Acceptance: Friends 2	N/A	.90***	N/A	N/A
Acceptance: Family 1	.74***	.67***	.65***	.59***
Acceptance: Family 2	N/A	.65***	N/A	N/A
Factor 3: Commitment				
Commitment 1	.80***	.85***	.65***	.82***
Commitment 2	.74***	.86***	.84***	.86***
Commitment 3	.94***	.93***	.89***	.88***
Commitment 4	.94***	.70***	.88***	.91***

^a *** $p < .001$.

Table 16. *Bivariate Correlations and Cronbach's Alphas*

	1	2	3	4	A
Study 1					
1. Secrecy	1				.72
2. Acceptance	-.36***	1			.68
3. Commitment	-.25***	.45***	1		.94
4. Time spent on sex	.11**	-.14***	.05	1	
Study 2					
1. Secrecy	1				.88
2. Acceptance	-.41***	1			.73
3. Commitment	-.31***	.52***	1		.91
4. Time spent on sex	.12***	-.14***	-.07**	1	
Study 3: Primary					
1. Secrecy	1				.66
2. Acceptance	-.37***	1			.56
3. Commitment	-.15***	.35***	1	1	.88
4. Time spent on sex	.12***	-.11***	-.06		
Study 3: Secondary					
1. Secrecy	1				.87
2. Acceptance	-.38***	1			.59
3. Commitment	-.04	.27***	1	1	.92
4. Time spent on sex	.10**	-.13***	-.17***		

Note. α = Cronbach's alpha. *** $p < .001$ ** $p < .01$ * $p < .05$

4.12. Figures

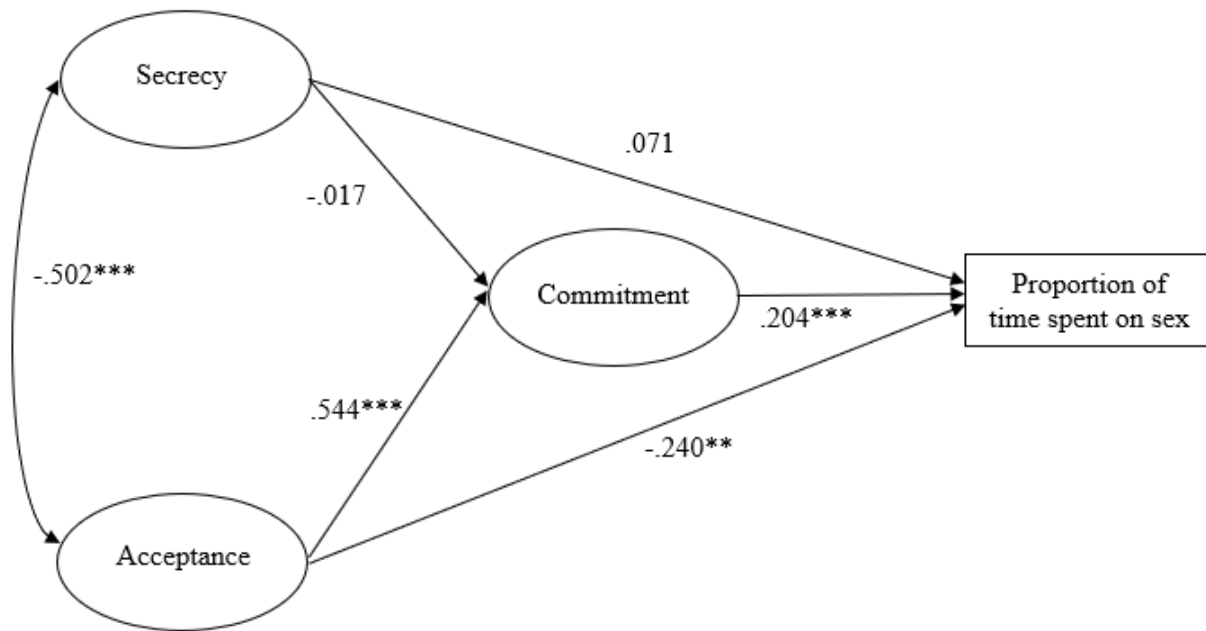


Figure 1. *Structural Equation Model for Hypothesized Model, Including Standardized Path Coefficients for Study 1*

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

^b The direct effect from secrecy to the proportion of time spent on sex was not significant ($p = .279$), and the relationship of secrecy to proportion of time spent on sex was not mediated by commitment ($p = .835$). The direct effect from acceptance to the proportion of time spent on sex was significant ($p = .011$), and the relationship of acceptance to proportion of time spent on sex was mediated by commitment ($p = .003$).

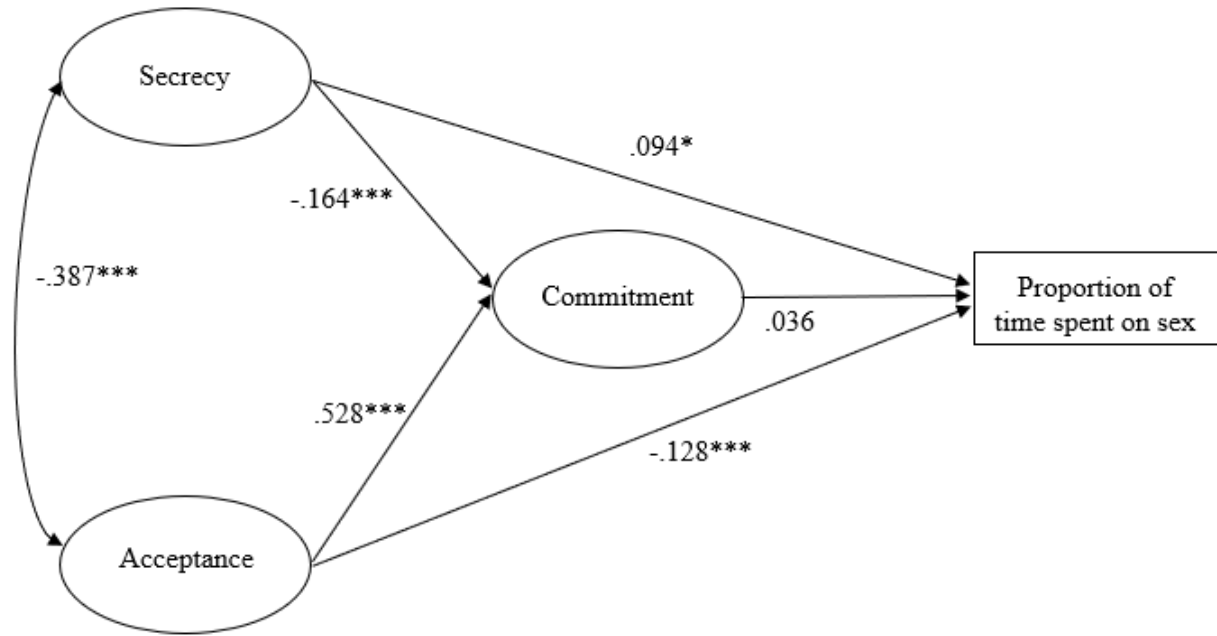


Figure 2. Structural Equation Model for Hypothesized Model, Including Standardized Path Coefficients for Study 2

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

^b The direct effect from secrecy to the proportion of time spent on sex was significant ($p = .003$), though the relationship of secrecy to proportion of time spent on sex was not mediated by commitment ($p = .305$). The direct effect from acceptance to the proportion of time spent on sex was significant ($p < .001$), though the relationship of acceptance to proportion of time spent on sex was not mediated by commitment ($p = .290$).

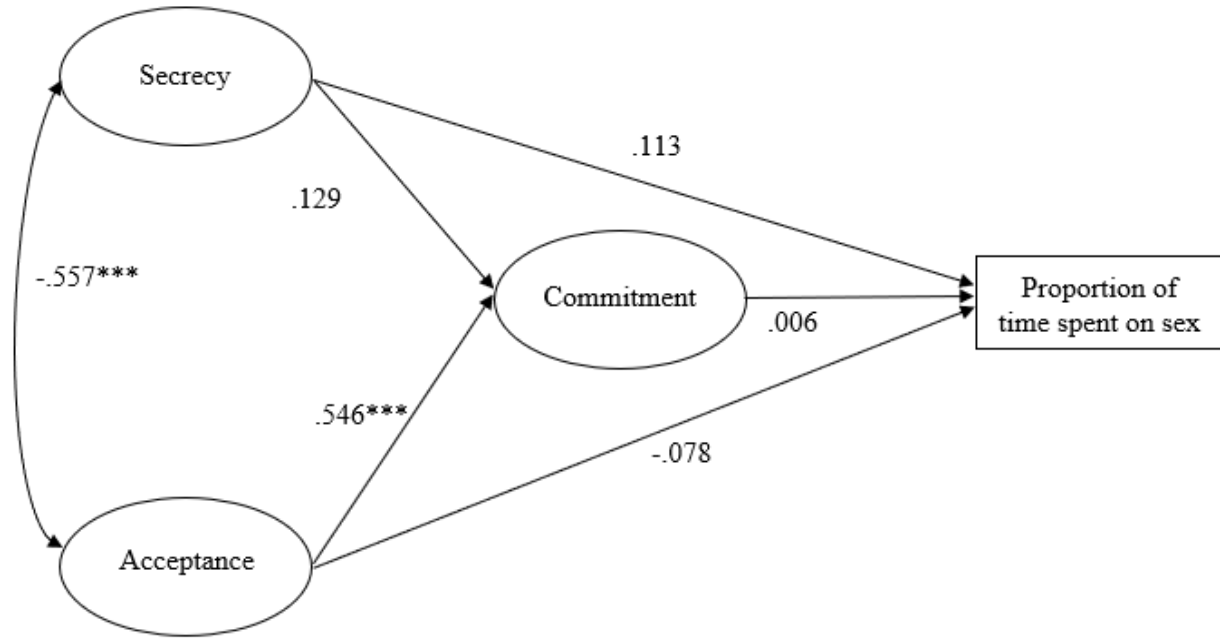


Figure 3. *Structural Equation Model for Hypothesized Model, Including Standardized Path Coefficients Study 3 Primary Partners*

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

^b The direct effect from secrecy to the proportion of time spent on sex was not significant ($p = .072$), and the relationship of secrecy to proportion of time spent on sex was not mediated by commitment ($p = .925$) for primary partners. The direct effect from acceptance to the proportion of time spent on sex was not significant ($p = .310$), nor was the relationship of acceptance to proportion of time spent on sex was also not mediated by commitment ($p = .905$).

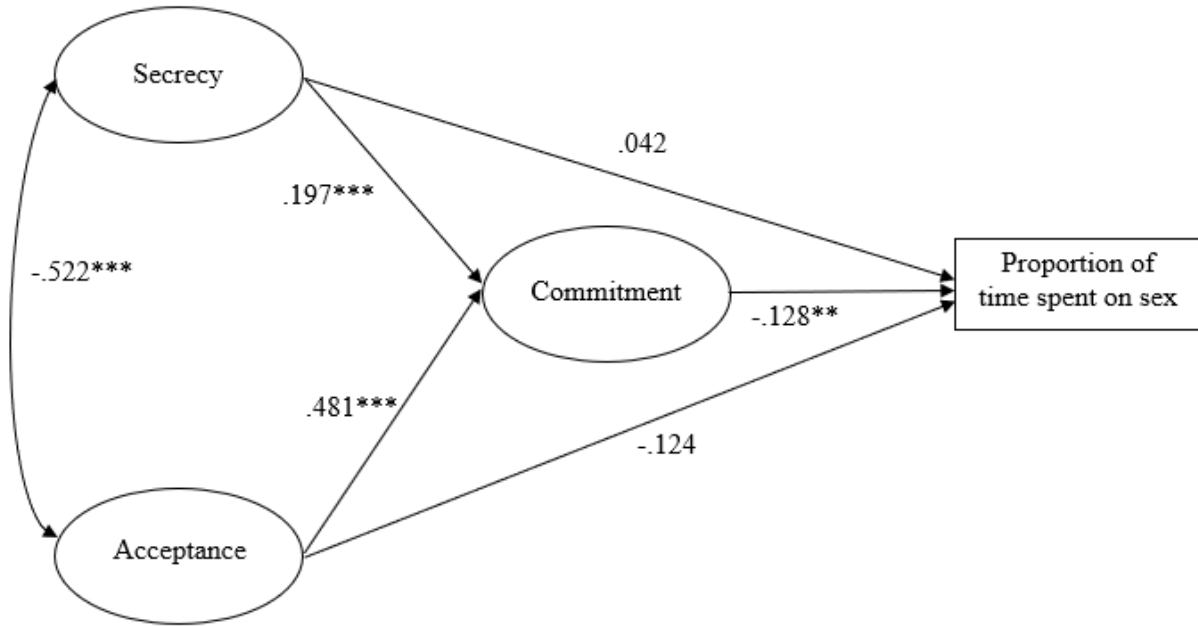


Figure 4. *Structural Equation Model for Hypothesized Model, Including Standardized Path Coefficients for Study 3 Secondary Partners*

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

^b The direct effect from secrecy to the proportion of time spent on sex was not significant ($p = .413$), though the relationship of secrecy to proportion of time spent on sex was mediated by commitment ($p = .017$) for secondary partners. The direct effect from acceptance to the proportion of time spent on sex was not significant ($p = .064$), though it was trending, and the relationship of acceptance to proportion of time spent on sex was mediated by commitment ($p = .005$).

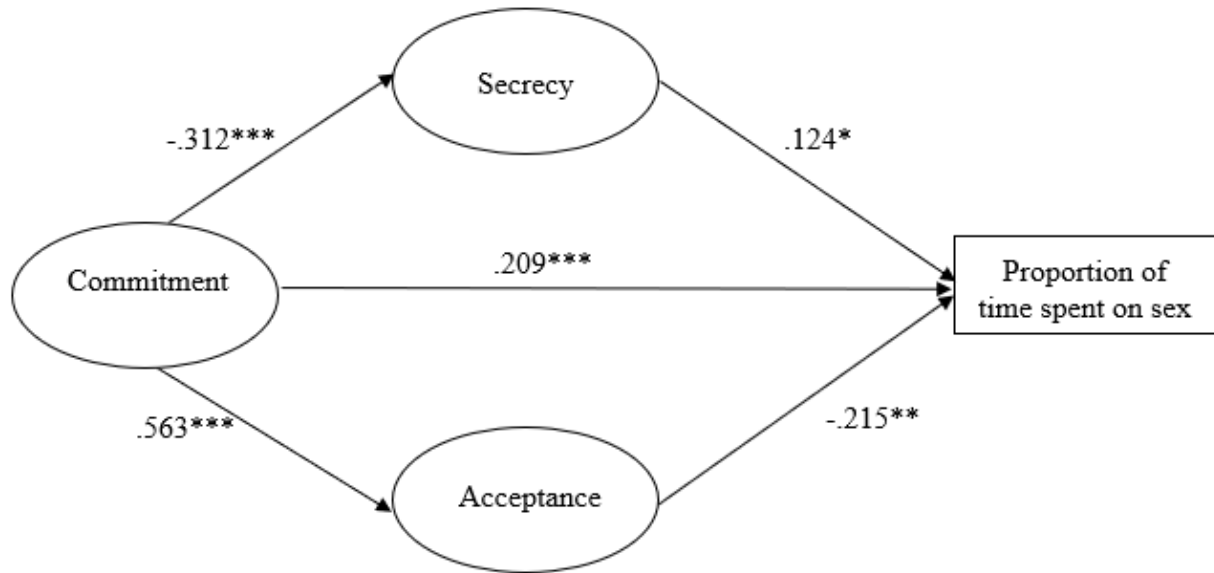


Figure 5. *Structural Equation Model for Alternative Model, Including Standardized Path Coefficients for Study 1*

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

^b The direct effect from commitment to the proportion of time spent on sex was significant ($p < .001$), and the relationship of commitment to proportion of time spent on sex was mediated by secrecy ($p = .054$) and acceptance ($p = .014$).

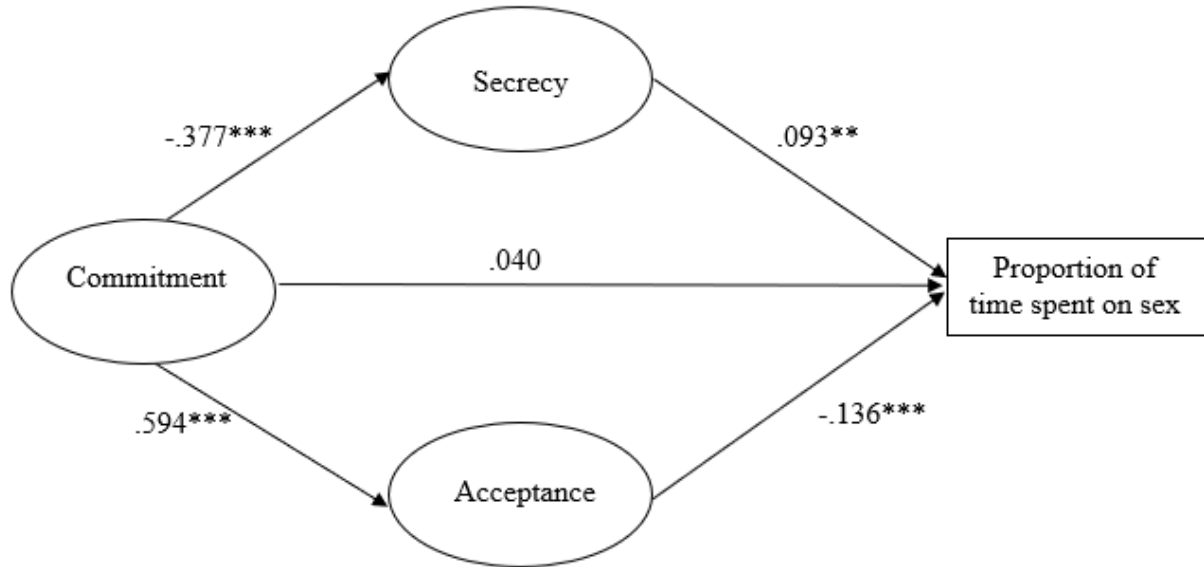


Figure 6. *Structural Equation Model for Alternative Model, Including Standardized Path Coefficients for Study 2*

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

^b The direct effect from commitment to the proportion of time spent on sex was not significant ($p = .249$), though the relationship of commitment to proportion of time spent on sex was mediated by secrecy ($p = .014$) and acceptance ($p < .001$).

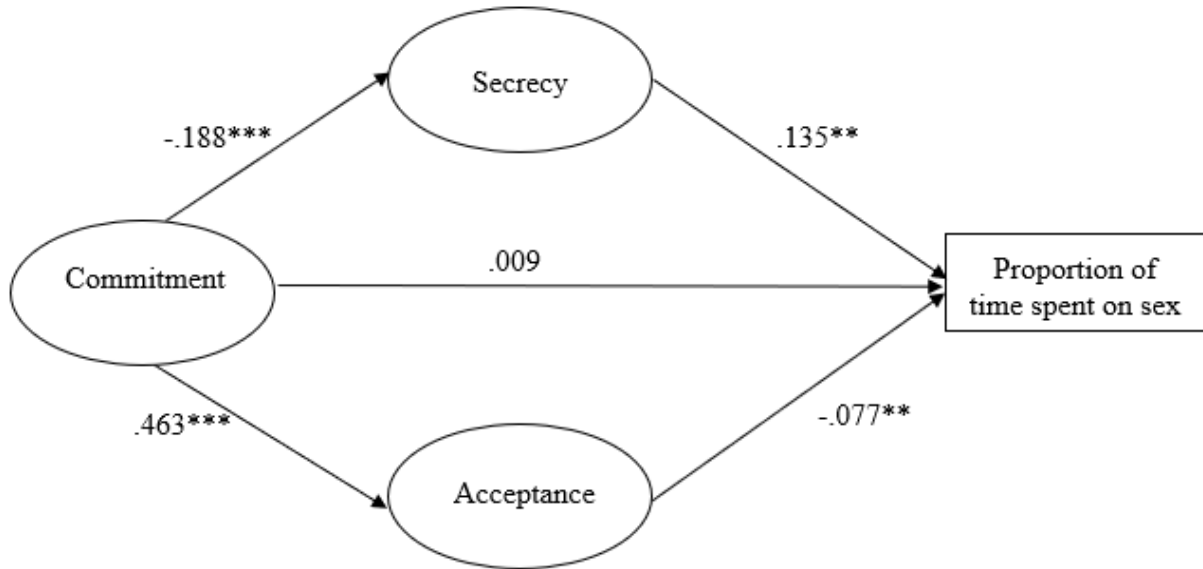


Figure 7. Structural Equation Model for Alternative Model, Including Standardized Path Coefficients for Study 3 Primary Partners

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

^b The direct effect from commitment to the proportion of time spent on sex was not significant ($p = .852$), though the relationship of commitment to proportion of time spent on sex was mediated by secrecy ($p = .048$), though it was not mediated by acceptance ($p = .177$).

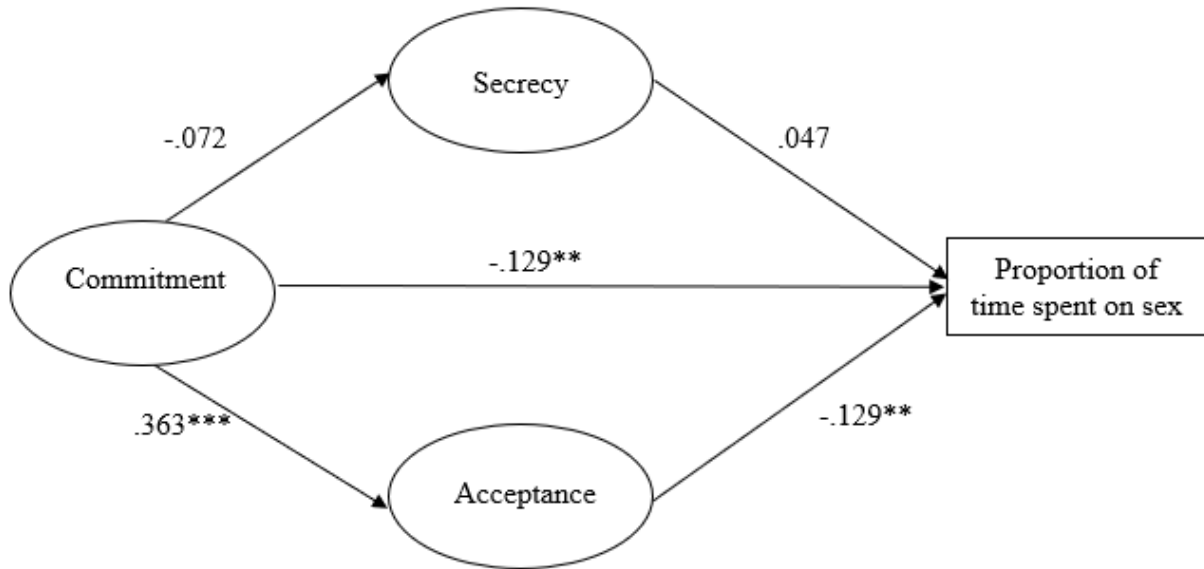


Figure 8. *Structural Equation Model for Alternative Model, Including Standardized Path Coefficients for Study 3 Secondary Partners*

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

^b Among secondary partners, the direct effect from commitment to the proportion of time spent on sex was significant ($p = .002$), though the relationship of commitment to proportion of time spent on sex was not mediated by secrecy ($p = .389$) and was mediated by acceptance ($p = .020$).

**CHAPTER FIVE: DO DIFFERENT PARTNERS IN POLYAMOROUS
RELATIONSHIPS FILL SPECIFIC ROLES? HOW EROTICISM AND NURTURANCE
DIFFER BETWEEN RELATIONSHIPS AMONG POLYAMOROUS INDIVIDUALS**

5.1. Introduction

Humans possess basic needs that are naturally satisfied by social relationships, such as the need for emotional support, care, and sexual gratification (Hazan & Shaver, 1994). As such, two central components of romantic relationships are their ability to provide individuals with nurturance and security and their ability to provide passion and meet erotic needs. It can be difficult to find a partner that meets both these needs, in part because the experience of passion and development of nurturance follow different time courses in a relationship (Tennov, 1979; Winston, 2004). As a result, individuals in relationships are often stuck trying to balance their need for security and their need for passion (Hazan & Shaver, 1994).

The fulfilment of these needs has most often been studied in the context of love, which is frequently conceptualized as either passionate or companionate (Hatfield & Walster, 1978). Passionate love, an intensely emotional state of longing for union with another person, is characterized by strong sexual desire between partners. Companionate love, in contrast, is a less intense state of connectedness, trust and reciprocal respect, where strong sexual desire is replaced by increased intimacy (e.g., caring, understanding, attachment) that require time to develop fully (Sprecher & Regan, 1998). Passionate love is most closely associated with the early stages or “honeymoon” period of a relationship, and companionate love with the later stages (Hatfield, Traupmann, & Sprecher, 1984; Sprecher & Regan, 1998).

The differing time courses of passionate and companionate love are also consistent with evolutionary perspectives about the formation of adult pair bonds. Since pair bonds require time

and close physical proximity to form, the characteristics of the early stage of a relationship include an intense longing for closeness with a partner (Hazan & Diamond, 2000; Tennov, 1979). If partners remain together over time, an attachment bond is thought to form, reducing the intensity of the desire for physical proximity and rendering the relationship more predictable and familiar (Eagle, 2007). Therefore, from an evolutionary perspective, feelings of passionate love are the mechanism by which initial attraction becomes attachment, facilitating the initiation of longer-term romantic relationships. Social and evolutionary psychologists even agree on a timeframe for this shift. Passionate love is thought to last two years, plus or minus six months (Tennov, 1979), and researchers have found that attachment bonds typically form one and a half to three years after a relationship is initiated (Winston, 2004).

Importantly, Eagle (2007) argues the features of attachment work against sexual desire and passion. According to Eagle, for a romantic partner to serve as an attachment figure they need to be available, familiar, and predictable. These characteristics, however, thwart feelings of sexual desire, which she argues is conversely ignited by novelty and unpredictability. If, in fact, familiarity and predictability are key features of an attachment figure and if sexual desire is diminished by these characteristics, then once an attachment bond is formed in a relationship, it is likely that sexual desire will decrease. Similar ideas are echoed by Mitchell (2002) and Perel (2007) who have independently argued initial erotic desire wanes as partners impose boundaries on one-another to reduce relational insecurity, and that sexual desire is negatively impacted by increasing closeness which reduces perceived separateness and mystery.

As this research and theorizing suggest, given the differing trajectories of passionate and companionate love, it can be challenging to fulfill both types of needs with one romantic partner at a single point in time. In fact, this problem is likely compounded by the burden of

contemporary social expectations about the functions of romantic relationships. Today, it is commonly assumed that marriage should meet many higher-order needs like happiness and personal fulfillment, while at the same time, modern economic and social challenges make it difficult for couples to invest the time and energy in the marriage that is needed to fulfill all these needs (Finkel et al., 2014). To “oxygenate” marriage in this social context, Finkel and colleagues suggest that couples make better use of or increase the amount of time and energy invested in their relationship. However, this may not be practical given the aforementioned barriers.

Alternatively, couples might consider revising expectations about marriage; rather than expecting one’s marriage to be the critical source of personal fulfillment and meeting of both needs for passion and companionship, looking to others in one’s social network to fulfill emotional needs may be more optimal (Finkel et al., 2014). Reflecting Finkel’s work, Conley and Moors (2014) argue that one of the lessons we can learn from consensually non-monogamous (CNM) relationships is diversifying need fulfillment. CNM relationships are those in which all parties agree it is acceptable to have additional romantic or sexual partners (Conley, Ziegler, Moors, Matsick, & Valentine, 2013)—a population that is ideal to test theoretical questions about fulfillment of meeting diverse needs in multiple consensual relationships.

Specifically, given CNM provides the opportunity to simultaneously pursue relationships, it is possible for individuals in CNM relationships to simultaneously meet their needs for passion and desire along with nurturance and companionship through relationships with various partners. Thus, if relationships tend to decline in passion and increase in nurturance over time, one important question is whether individuals may seek out secondary relationships to meet their needs for passion.

5.1.1. Polyamorous Relationships

Polyamory is one type of consensually non-monogamous relationship. Polyamory is the practice and acceptance of having multiple emotionally-close relationships (Barker & Langdridge, 2010). While polyamory includes many different styles of intimate involvements, one of the most common polyamorous relationship configurations is characterized by a distinction between primary and secondary relationship partners (Balzarini, Dharma, Kohut, Lehmillier, Harman, & Holmes, submitted). In this configuration, a primary relationship is between two partners who typically share a household and finances, who are married, and who have or are raising children together (if children are desired) (Klesse, 2006). In such arrangements, partners beyond the primary relationship are often referred to as 'secondary' partners.

In previous research, Balzarini and colleagues (2017) examined differences between relationships with primary and secondary partners within polyamorous relationships. In this research, participants reported less stigma (i.e., less secrecy and greater acceptance from friends and family), lower quality of alternatives, as well as more investment, commitment, and greater communication in their relationship with their primary partner compared to their secondary partner, whereas a greater proportion of time was spent on sexual activity with their secondary compared to primary partner (Balzarini et al., 2017). When relationship partners were differentiated by length of the relationship and cohabitation status similar patterns of relationship differences were found in polyamorous relationships in which both partners were considered to be primary (i.e., co-primaries) and relationships in which neither partner was considered a primary (i.e., non-primary). Although minor differences emerged for satisfaction, commitment, and quality of alternatives (Balzarini et al., submitted), there were clear differences in secrecy, acceptance, and proportion of time spent on sex between relationships characterized by longer

relationship length and cohabitation (“pseudoprimary”) and those characterized by shorter relationship length and lack of cohabitation (“pseudosecondary”).

Building on Balzarini et al. (2017, submitted), we sought to assess the extent to which different partners within polyamorous relationships held different roles in meeting a person’s relational needs. Specifically, as primary partners provide greater commitment, investments, communication, and other features that may be associated with more nurturing aspects of a relationship, these relationships may be characterized as more nurturing as well. Conversely, evidence suggests a greater percentage of time is spent on sexual activity with secondary partners—which provides preliminary evidence that these relationships may be characterized as more erotically fulfilling.

5.1.2. Does Eroticism and Nurturance Differ for Primary vs. Secondary Partners?

Based on the previous research assessing differences among primary and secondary partners, along with the previous research assessing frequency of sex over the course of a relationship, we predicted that participants in polyamorous relationships would report higher nurturance (Hypothesis 2) and lower eroticism (Hypothesis 3) with primary compared to secondary partners. That said, as nurturance and eroticism are not expected to be mutually exclusive (though they may be more predominant for different partners, or at different stages), we further sought to test the correlation between nurturance and eroticism. To articulate why eroticism and nurturance may correlate, consider that if people are in poor quality relationships it would intuitively make sense that they would report low nurturance and eroticism, while those who are in high quality relationships should be higher in both. Given this rationale, being high in one doesn’t necessarily mean your low in the other, and being high in both is likely optimal for

relationship outcome. Because of this, we expected the correlation between nurturance and eroticism to be moderate (exploratory 1).

5.1.3. Limitations of Current Measures

Despite the vast interest in and research assessing love in relationships, the standard approaches for measuring different types of love (Hatfield & Rapson, 1993; Hatfield & Sprecher, 1986), may inhibit researchers understanding of eroticism/passionate and nurturance/companionate processes in polyamorous relationships. Scholars have recently argued that many of the theoretical perspectives in Social Psychology and surrounding relationship science presume monogamy, and measures of relational adjustment and characteristics have similarly been created with the implicit assumption that monogamy is the most desirable relationship style (Conley, Matsick, Moors, & Ziegler, 2017). For example, the Passionate Love Scale (Hatfield & Sprecher, 1986) includes the item “I’d get jealous if I thought [my partner] were falling in love with someone else.” This item is based on the assumption that more jealousy about a third party is equivalent to more passionate love; however, researchers point out that this may not be true for individuals in consensually non-monogamous relationships who may actually experience positive affect in response to a partner finding a new relationship (i.e., a partner may feel happy when a loved one is finding joy in other relationships; Ritchie & Barker, 2006; Sheff, 2014). Because of this assumption, participants who are in CNM relationships or other non-traditional relationships would score lower on passionate love, due to lower levels of reported jealousy, despite experiences of passion and eroticism with partners (see Conley et al., 2017).

Another limitation is that both passionate and companionate love scales are long and do not have a short version. There are various instances in which this is problematic. As ecological assessments of couple’s relationships are becoming more common it is becoming increasingly

important to have short assessment tools for studies that collect daily or weekly responses. Additionally, as research on CNM is on the rise, it is important to consider that when assessing the relationship characteristics of participants who have more than one partner, participants must complete each relationship scale two or more times (i.e., once for each of their partners). In these contexts, shorter versions of scales are necessary to reduce participant burden. The current study sought to address these limitations with the Passionate and Companionate Love Scales by designing updated versions of each scale that were more inclusive across different relationship orientations (e.g., monogamous, polyamorous), and were shorter.

We identified five items related to nurturance and five items related to eroticism based on the literature and the research team's conceptualizations of these constructs (these items are listed in the methods section). The items for eroticism were premised on theories about passionate love and incorporated elements of eroticism, desire and lust, sexual excitement, and bodily pleasure (Hatfield & Rapson, 1987; Hatfield & Walster, 1978; Perel, 2007). The items for nurturance, on the other hand, tapped into security, emotional attachment, commitment, and "warmth and comfort" (Murray & Milhausen, 2012; Sprecher & Regan, 1998).

5.1.4. Hypotheses

Our research sought to correct the issues outlined with the previous scales and to develop a scale that was not premised on the experiences of a specific relationship orientation. Thus, we developed a scale that would capture both nurturance and eroticism within relationships and predicted that the items we included reflected a two-factor model encompassing nurturance (e.g., degree to which the relationship is characterized by a strong sense of security, emotional attachment, deep commitment, nurturance, and warmth and comfort) and eroticism (e.g., degree

to which the relationship is characterized by passionate love, eroticism, desire and lust, sexual excitement, and bodily pleasure; Hypothesis 1).

Building on the previous research assessing differences among primary and secondary partners, we predicted that participants in polyamorous relationships would report higher nurturance (Hypothesis 2) and lower eroticism (Hypothesis 3) with primary compared to secondary partners. However, as nurturance and eroticism were not expected to be mutually exclusive (though they may be more predominant for different partners, or at different stages), we further sought to test the correlation between nurturance and eroticism. To articulate why eroticism and nurturance may correlate, consider that if people are in poor quality relationships it would intuitively make sense that they would report low nurturance and eroticism, while those who are in high quality relationships should be higher in both. Given this rationale, being high in one doesn't necessarily mean you're low in the other and being high in both is likely optimal for ideal relationship functioning. For this reason, we expected the correlation between nurturance and eroticism to be positive and moderate in magnitude (exploratory 1).

Relationship researchers have long grappled with the question of how romantic love and sexual desire emerge and evolve over the course of intimate relationships (Aron & Aron, 1998; Hatfield, 1988) and have consequently differentiated between companionate love, which involves deep feelings of commitment, intimacy, and connection, and passionate love (or sexual desire, in our terminology), which involves powerful feelings of attraction, desire, passion, and infatuation (Diamond, 2003; Hatfield, 1988; Hatfield & Rapson, 1993; Reis & Shaver, 1988). As such, we predicted that nurturance and eroticism would predict passionate love (Hypothesis 4), companionate love (Hypothesis 5), but we expected eroticism to be more predictive of passionate love (relative to nurturance) and nurturance to be more predictive of companionate love (relative

to eroticism). We also took the opportunity to conduct univariate analyses to explore associations between demographic factors with nurturance and eroticism (i.e., gender, sexual orientation, relationship length, and primary status).

5.2. Methods

5.2.1. Participants

Participants were recruited online from Facebook and reddit to take part in the study. Many of the places in which we posted advertisements were specifically geared toward people in polyamorous relationships (e.g., Facebook groups for polyamory discussions and reddit subgroups for polyamory), and the advertisements for recruitment solicited volunteers to participate in a study about polyamorous relationships. We recruited a convenience sample of 1,168 individuals who were currently in at least two concurrent relationships and identified as polyamorous, which we defined as dating multiple people with my partner(s) acknowledgement. The demographic information for the participants can be found in Table 17. Participants were primarily white (86.2%), bisexual (43.3%), females (61.0%), who were married (34.7%) or seriously dating (33.5%) their partners and were in their early to mid-30's ($M = 33.5$, $SD = 9.2$). On average, participants were in relationships with their primary partner partners for 7.2 years ($SD = 6.9$ years) and secondary partners for 2.2 years ($SD = 3.6$ years).

5.2.2. Procedures

Participants were informed that in order to participate in the study, they must identify as polyamorous (e.g., dating multiple people with my partner(s) acknowledgement), be at least 18 years of age, and currently be in a relationship with at least two people. Prospective participants were provided a link that re-directed them to a survey hosted on Qualtrics, an online survey

program. Participants first saw a letter of information and were asked to give digital consent at the end of the letter.

Participants who agreed to participate were asked to answer several questionnaires including a participant-demographic questionnaire, partner-demographic questionnaires, and questions about the relationship arrangements between the participant's partners. Then, participants were asked to provide their partners' initials, which were piped into subsequent questions to avoid confusion about which partner they were responding about. After that, they answered questions about their relationships (e.g., commitment, romantic attraction), about relationship acceptance and romantic secrecy, and about their sexual frequency for both partners. When participants completed the survey, they were shown a debriefing form that explained the purpose of the study and were thanked for their time. This research was conducted in accordance with the ethical guidelines of the American Psychological Association and the materials and procedure for data collection were approved by our institutions ethics research board.

5.2.3. Measures

5.2.3.1. Primary Status

Primary-secondary, co-primary, and non-primary polyamorous configurations were identified by asking participants, "Do you consider your relationship with (X)⁴ to be primary?", with response options including, "Yes, (X) is my primary relationship", "Yes, (X) is my primary relationship, but I also have others that are considered primary", "No, (X) is not a primary relationship", "No, I do not believe in considering one relationship to be primary", and "None of the above (please explain)." To identify primary-secondary polyamorous configurations, those who stated that the first listed partner was primary and the second person listed was not were

⁴ Items like this were presented to participants with their partners initials in place of the (X).

considered primary-secondary relationships. To be identified as being in a co-primary polyamorous configuration, participants had to indicate that both the first person listed and the second person listed were primary partners, and for non-primary polyamorous configurations, they had to indicate that they did not identify either of their partners as primary partners. Those whose responses could not be classified under one of the three relationship categories were excluded from analyses involving primary status classifications ($n = 147$).

Within primary-secondary configurations, primary relationships were easily distinguished from secondary relationships as we could rely on participants' self-reported primary status. When participants did not identify their partners as primary-secondary (co-primaries and non-primaries), we defined pseudo-primary and pseudo-secondary relationships using a bivariate index of relationship duration and cohabitation. Specifically, participants reported relationship duration and cohabitation status for each partner separately, we then created a standardized score for both duration and cohabitation, then mean averaged them for each participant to create a single score. We then assigned the relationship with the person with the highest score the status of primary relationship and the relationship with the other person the status of secondary relationship.

5.2.3.2. Eroticism Scale

The Eroticism Scale was created by the current researchers and consisted of five items assessing how characteristic eroticism (e.g., my relationship with (X) is characterized by: “passionate love”, “eroticism”, “desire and lust”, “sexual excitement”, and “bodily pleasure”; primary $\alpha = .95$; secondary $\alpha = .92$) was of one's relationship. When items that do not belong in the scale was removed (see Results section), reliability measures were increased: primary $\alpha = .97$; secondary $\alpha = .96$. Participants rated each item on a 7-point scale (1 = *Not true at all*, 7 =

Definitely true). The five items were mean aggregated to create a composite score, with greater ratings indicating more eroticism.

5.2.3.3. Nurturance Scale

The Nurturance Scale was created by the current researchers and consisted of five items assessing how characteristic companionate love (e.g., my relationship with (X) is characterized by: “a strong sense of security”, “emotional attachment”, “deep commitment”, “nurturance”, and “warmth and comfort”; primary $\alpha = .86$; secondary $\alpha = .91$) is of one’s relationship. Participants rated each item on a 7-point scale (1 = *Not true at all*, 7 = *Definitely true*). The five nurturance items were mean aggregated to create a composite score, with greater ratings indicating more companionate love.

5.2.3.4. Passionate Love Scale

The Passionate Love Scale (Hatfield & Sprecher, 1986) assessed the extent to which participants felt passionate love for their partners with 30 items (e.g. “I will love (X) forever”, “I feel tender towards (X)”; primary $\alpha = .95$; secondary $\alpha = .96$). Participants rated each item using a 9-point scale (1 = *Not true at all*, 9 = *Definitely true*), and items were aggregated, with higher scores indicating greater passionate love.

5.2.3.5. Companionate Love Scale

The Companionate Love Scale (Hatfield & Rapson, 2013; Hatfield, 1988) captures the components of companionate love (decision/commitment, and intimacy) with four items per factor (e.g. “I expect to love my partner for the rest of my life”, “I feel emotionally close to my partner”; primary $\alpha = .89$; secondary $\alpha = .92$). Participants rated each item using a 9-point scale (1 = *Not at all true*, 9 = *Definitely true*), and the eight items were aggregated to create an overall companionate love score, with higher scores indicating greater companionate love.

5.2.4. Data Analytic Strategy

We conducted a power analysis to ensure we had sufficient power to estimate the main effects of interest. The power analysis indicated a sample size of 175 would be needed to find a statistically significant difference assuming a medium effect size ($f = .25$) with a power level of .95 (power estimated using G-Power 3.1; Faul, Erdfelder, Buchner, & Lang, 2009). As our sample consisted of well over 350 polyamorous individuals, we decided to proceed with the analyses. Exploratory analyses of responses indicated that responses were not normally distributed and were highly left skewed (i.e. majority responded with scores around 6 or 7). Hence, data were treated as an ordinal response and a CFA was conducted on the polychoric correlation matrix using STATA 14.0 (StataCorp, 2015). Goodness of fit was assessed using multiple indices, including the Comparative Fit Index (CFI), the Root Mean Squared Error of Approximation (RMSEA), and the Tucker-Lewis Index (TLI). We fit the two predicted subscales, nurturance and eroticism on each of their respective items. After finding a model with adequate fit, we created a composite measure for nurturance and eroticism based on the items that belong on each subscale.

To assess whether eroticism and nurturance differed among primary and secondary partners (hypothesis 2), we performed paired sample *t*-tests comparing the average of nurturance and eroticism between primary and secondary partners. We also assessed the association between nurturance and eroticism for each partner (to assess hypothesis 3) using the latent factor correlation (as they correct for measurement error).

To assess whether eroticism and nurturance were predictive of passionate and companionate love (hypotheses 4-5), we first conducted a series of univariate linear regressions where all scores were treated as continuous variables (Rhemtulla, Brosseau-Liard, Savalei,

2012). This was performed separately for each partner. Following the univariate analyses, we then assessed if nurturance or eroticism was more predictive of passionate or companionate love (relative to each other) by including both eroticism and nurturance in the same multivariate regression model separately for each partner. This model then tested for the difference between the two coefficients of nurturance and eroticism within the same model (i.e. $b_1 - b_2 = 0$) using STATA lincom command. Next, we conducted univariate analyses to determine association between demographic factors with nurturance and eroticism (i.e., gender, sexual orientation, relationship length, and primary status).

5.3. Results

5.3.1. CFA for Eroticism and Nurturance Scale

To begin, we tested the two factors underlying the proposed CFA model by calculating fit indices. Relative and absolute goodness of fit indices were obtained: (a) the chi-squared statistic (χ^2 and df), (b) the comparative fit index (CFI), (c) the Tucker–Lewis Index (TLI), (d) the root mean square error of approximation (RMSEA), and (e) the standardized root mean squared residual (SMSR). Based on the standards established in the literature for fit indices (Hu & Bentler, 1999; Bentler, 1990; Browne & Cudeck, 1989; Joreskog & Sorbom, 1984), our hypothesized model showed poor fit for both primary partners ($\chi^2(34) = 521.20$, CFI = .93, TLI = .91, RMSEA = .14, [CI: .13,.15], SMSR = .10) and secondary Partners ($\chi^2(34) = 584.11$, CFI = .91, TLI = .89, RMSEA = .15 [CI: .14,.17], SMSR = .12.), as shown by a high RMSEA (> .10 shows poor fit). While all items had significant factor loadings ($p < .001$; see Table 18), the item “passionate love” had a much lower loading compared to other items in the eroticism subscale (.70 for primary partners; .54 for secondary partners). We reran the CFA removing the item from the model; doing this improved model fit to an acceptable degree for both primary ($\chi^2(26) =$

249.79, CFI = .96, TLI = .95, RMSEA = .10 [CI: .09, .12], SMSR = .07) and secondary partners: $\chi^2(26) = 173.15$, CFI = .97, TLI = .96, RMSEA = .09, [CI: .08, .10], SMSR = .03). Standardized regression factors were also closer together for each item within their respective scales for both primary partners (eroticism: λ s ranging from .93 to .97; nurturance: λ s ranging from .69 to .80) and secondary partners (eroticism: λ s ranging from .90 to .97; nurturance: λ s ranging from .78 to .87). Hence, we decided to continue subsequent analyses with the nine remaining items in the scale, with eroticism containing four items and nurturance with five items (all reported statistics will be concerning these nine items, unless indicated otherwise).

5.3.2. Primary Analyses

As predicted, participants rated their relationship with primary partners as characterized by greater nurturance than their relationship with secondary partners (P1: $M = 6.23$, $SD = 1.05$; P2: $M = 5.05$, $SD = 1.51$, $t(679) = 17.76$, $p < .001$, $d = 0.68$), while relationships with secondary partners were characterized by greater eroticism (P1: $M = 4.84$, $SD = 1.91$; P2: $M = 5.67$, $SD = 1.64$, $t(679) = -8.64$, $p < .001$, $d = 0.26$) than their primary relationships. In addition, eroticism and nurturance were positively correlated among ratings for primary ($r = .24$ [.16, .31]; $p < .001$) and secondary partners ($r = .21$ [.13, .28], $p < .001$; See Table 19 for all other correlations).

As predicted (Hypothesis 3-4), higher nurturance was highly predictive of higher companionate love ($b: 0.99$ [0.94, 1.05], $p < .001$) and passionate love ($b: 0.69$ [0.61, 0.78], $p < .001$) among primary partners; similar associations were observed for both companionate love ($b: 0.92$ [0.87, 0.98], $p < .001$) and passionate love ($b: 0.62$ [0.55, 0.69], $p < .001$) among secondary partners. Similarly, eroticism was also predictive of both passionate love ($b: 0.35$ [0.30, 0.40], $p < .001$) and companionate love ($b: 0.13$, [0.08, 0.18], $p < .001$) for primary partners; similar effect was observed in the association between eroticism with passionate love

(b : 0.48 [0.41, 0.54], $p < .001$) and companionate love (b : 0.28 [0.20, 0.36], $p < .001$) among secondary partners. As predicted, in the univariate models, eroticism appeared to have a stronger association with passionate love compared to its association with companionate love; while nurturance appeared to have a stronger association with companionate love than with passionate love (Table 20)

When both nurturance and eroticism are included in the multivariate model, both constructs were still predictive of passionate and companionate love for both primary and secondary partners. The magnitude of association between eroticism and passionate love was still stronger than the association between eroticism and companionate love when adjusted for the effect of nurturance. Similarly, the magnitude of association for nurturance and companionate love still appeared stronger than the association between nurturance and passionate love when adjusted for the effects of eroticism. However, somewhat unlike what was hypothesized, comparing the within model coefficients, nurturance was a stronger predictor of both passionate love and companionate love for both primary and secondary partners ($p < .001$) compared to eroticism (Table 20); though both were still significant in the multivariable regression.

5.3.3. Eroticism and Nurturance by Sociodemographic Characteristics of Participants

Neither eroticism nor nurturance varied significantly by gender identity (Table 21). However, both nurturance and eroticism for both primary and secondary partners varied significantly by sexual orientation. The strongest differences in eroticism were observed between asexuals and heterosexuals. Specifically, asexuals reported significantly lower eroticism compared to heterosexuals for both primary (b : -2.67 [-4.19, -1.16], $p < .003$) and secondary partners (b : -3.36 [-4.67, -2.06], $p < .001$). Additionally, bisexual participants reported greater

nurturance in their relationship with primary partners compared to heterosexuals ($b: 0.23 [0.05, 0.40], p = .01$), and both bisexual ($b: 0.35 [0.04, 0.66], p = .03$) and lesbian/gay ($b: 0.86 [0.03, 1.70], p = .04$) participants reported greater eroticism in their relationship with their primary partners compared to heterosexuals, although these effects were small. There were no significant differences in levels of eroticism among various relationship structures, however, among those who do not identify with a primary-secondary hierarchy (non-primaries), there was a significantly lower level of nurturance for primary partners compared to those who identified with primary-secondary hierarchies ($b: -0.53 [-0.70, -0.36], p < .001$). Among secondary partners, nurturance was higher among those who identified with co-primaries ($b: 1.39 [1.10, 1.68], p < .001$) and no-primaries ($b: 0.97 [0.71, 1.23], p < .001$) compared to those with a primary-secondary relationship type. Relationship length was also significantly associated with both nurturance and eroticism. As predicted, levels of eroticism decreased with increases in relationship length in both primary ($b: -0.05 [-0.09, -0.04]; p < .001$) and secondary partners ($b: -0.06 [-0.09, -0.03], p < .001$), while levels of nurturance increased with longer relationship lengths for both primary ($b: 0.03 [0.02, 0.04], p < .001$) and secondary partners ($b: 0.07 [0.04, 0.09], p < .001$). Note that as evident in the reported magnitude of these associations, these increases/decreases for every one-year increase in relationship length were quite small.

5.4. Discussion

Research on romantic relationships suggests two central components of relationships are their ability to provide people with passion and nurturance. Yet, individuals in relationships are often trying to balance their need for security and passion (Hazan & Shaver, 1994), and are unfortunately faced with time course constraints, wherein passion tends to decline with time and nurturance increases with time. This study is the first to investigate the relationship between

eroticism and nurturance among people in polyamorous relationships. Consistent with the idea that polyamory can help individuals have a greater set of needs met (e.g., additive model; Muise, Laughton, Moors, & Impett, 2018; oxygenating relationships; Finkel et al., 2014), individuals reported greater nurturance with primary partners (compared to secondary) and greater eroticism with secondary partners (compares to primary). Moreover, consistent with research suggesting there is a time course for passionate and companionate processes in relationships, we found that eroticism decreased with increases in relationship length for both primary and secondary partners, while levels of nurturance increased with longer relationship lengths for both primary and secondary partners. However, contrary to our expectations, eroticism was not a stronger predictor of passionate love relative to nurturance.

There are at least two possible explanations for the current findings. First, differences in nurturance and eroticism between primary and secondary partners are consistent with previous research showing individuals in polyamorous relationship report higher commitment, investment, satisfaction, communication, and lower quality of alternatives with primary compared to secondary partners, and yet relationships with secondary partners involve more time spent having sex (Balzarini et al., 2017) and more satisfaction with sex (Balzarini et al., under review). Second, findings could be due to the fact that initial erotic desire wanes as partners impose boundaries on one-another to reduce relational insecurity, and that sexual desire is negatively impacted by increasing closeness which reduces perceived separateness and mystery, as has been suggested by Perel (2007) and Mitchell (2002). Similarly, differences in nurturance and eroticism between primary and secondary partners are consistent with the differing trajectories of passionate and companionate love, and notable differences in relationship duration between primary and secondary partners. More specifically, the average relationship length

participants reported with secondary partners ($M = 2.2$ years) coincides with the passion timeline. As such, it is possible that as relationship duration increases with secondary partners and passion perhaps declines (as it usually does), it could lead to greater turn over among secondary relationships resulting in shorter relationship durations on average.

Additionally, the current findings may have implications for differences in secrecy across partners in polyamorous relationships. Previous research has shown that individuals in polyamorous relationships report greater acceptance and lower romantic secrecy with their primary compared to their secondary partners. While these effects are likely influenced by the fact that primary partners can “pass” as monogamous and thus are less stigmatized (see Balzarini et al., 2017), it is possible that these findings are also influenced by the role of the relationship partner. Specifically, sexuality is largely considered a private rather than public topic, and as nurturance and security reflect qualities of a relationship that are more appropriate and common to publicly disclose to others, we would expect that relationships that were characterized by greater nurturance would also involve greater acceptance from friends and family, and less secrecy. Similarly, because eroticism and passion reflect qualities of a relationship that are expected to be more private, we would expect that the degree of eroticism would have no relationship with acceptance from friends or family, though eroticism should predict greater secrecy given that the erotic aspects of relationships are often private, and/or because secrecy is to some degree is exciting (Balzarini et al., under review).

These findings also have broader research implications for the study of romantic relationships. The belief that monogamy is superior is a fundamental and often unquestioned assumption underlying contemporary theories of the development of romantic relationships and intimacy (Moors & Schechinger, 2014; Moors et al., 2017), and the current findings suggest that

it is valuable to consider how CNM relationships can inform existing perspectives of relationship quality. Conley and Moors (2014) argue that monogamous relationships can be improved by outsourcing unmet needs to other non-sexual relationships. For many people, it may be unrealistic to expect one's romantic partner to meet their needs for passion and nurturance simultaneously. While CNM relationships like polyamory can afford the opportunity to have these needs met simultaneously through different partners, monogamous individuals could also choose to have unmet nurturance needs met by friends, family members, and so forth- reducing their reliance on their partner. Future research should seek extend the current findings to monogamous relationships and investigate whether outsourcing needs to others can improve one's romantic relationship.

Another implication worthy of exploration is whether having additional needs met by separate partners improves an individual's sense of fulfilment and whether there are carry-over effects across the partners, such that passion or nurturance with one partner influences the relationship outcomes of the other. If secondary partners in polyamorous relationships are sought to combat time-related declines in passion in a primary relationship, it is likely that securing a secondary partner to meet these needs will improve individual well-being or life-satisfaction. As a result, the eroticism in secondary relationship could help to maintain connection and satisfaction in a primary relationship. However, when a secondary partner no longer meets this need, it is possible individuals will become dissatisfied with their secondary relationship, which could result in greater turn over in relationships with secondary partners.

Lastly, while eroticism is more predictive of passionate love than companionate love, and nurturance is more predictive of companionate love than passionate love, inconsistent with our predictions, we found that nurturance is more predictive of passionate love than eroticism. That

is, passionate love and companionate love are more strongly predicted by items that assess nurturance than items that assess eroticism. Evidently, the current operationalization of eroticism does not perfectly correspond to passionate love. Indeed, the results seem to imply that eroticism might include more components of companionate love and nurturance than what was initially realized. This is consistent with previous research among individuals in monogamous relationships that has found that the more individuals experienced one type of love, the more they experienced the other (Sprecher & Regan, 1998). It is possible, even likely, that a person would feel an important sense of attachment and intimacy with people who fulfill important higher order needs, such as the need for passion and eroticism, thus when a partner fulfills needs for eroticism, it may inherently influence perceptions of nurturance.

5.4.1. Limitations and Future Directions

Despite the strengths, there are some features of the sample and methods that may limit the interpretation and impact of our findings. First, the current research used a convenience sample of polyamorous participants who self-selected to participate in this study; therefore, the study may be limited in generalizability. Future research should assess the scale and outcomes found in the current research among a representative sample of people from various relationship orientations beyond polyamory (e.g., monogamists, swingers, etc.). Furthermore, the current research was cross-sectional and correlational in nature. While we can show that primary and secondary relationships are characterized differently in terms of their nurturance and eroticism at one-time point, it would be important to establish how nurturance and eroticism develop and change over time within these relationships.

Additionally, the current research did not assess how differences in eroticism and nurturance impact relationship outcomes among and across partners. To address this limitation,

future research should assess whether eroticism and nurturance predict downstream personal (e.g., wellbeing), relationship (e.g., commitment) and sexual outcomes (e.g., satisfaction), and whether previous differences that have been found between polyamorous partners can be explained in part by different partners meeting different roles. If such is the case, partners may be evaluated differently depending on what role their relationship is characterized best by. For example, if one relationship is characterized by greater passion than another, developing a sexual discrepancy may be more detrimental than if the relationship was characterized by greater nurturance. It would also be interesting to consider what happens when two partners are characterized as equally nurturing, and both have equally low eroticism. Would this arrangement be beneficial on average as greater levels of nurturance may simply provide more safety and security or do individuals experience the greatest satisfaction when these roles are diversified.

Lastly, while the current research sought to remedy biases with extant self-report measures of passionate and companionate love, it is unknown whether our measures truly assess the same constructs across different partners. That is, does passion and nurturance mean the same thing with primary and secondary partners? Indeed, research has supported the existence of two types of passion, harmonious and obsessive passion (Mageau et al., 2009). Harmonious passion involves the motivational tendency to engage in an activity freely and decidedly. Additionally, harmonious passion regulates highly involving, time-consuming activities that are coherent with individuals' other life domains, values, and self-concept. In contrast, an obsessive passion originates from interesting activities that have been internalized in a non-self-determined manner. This type of passion regulates highly involving activities that are incongruent with individuals' self-concept (Mageau et al., 2009; Seguin-Levesque, Laliberte, Pelletier, & Vallerand, 2003). Based on these definitions, one might predict that harmonious passion is

higher among primary partners, whereas obsessive passion is higher among secondary partners. Though it is also worth noting that harmonious passion is positively associated with relationship quality, whereas obsessive passion is associated with commitment (Ratelle, Carbonneau, Vallerand, & Mageau, 2012), and both of these relationship outcomes tend to be higher among primary partners. Given the findings for harmonious and obsessive passion in relationships, it may be predicted that both types are higher among primary partners. The current measure for passion does not distinguish because different types of passion nor did it explore if there are different types of nurturance, and thus future research could benefit from examining whether passion and also nurturance is experienced differently across partners.

5.4.2. Concluding Remarks

The current research provides the first empirical test of differences between eroticism and nurturance among people in polyamorous relationships. The findings suggest that polyamory may provide a unique opportunity for individuals to experience both nurturance and eroticism simultaneously, such that individuals report greater nurturance with their primary and eroticism with their secondary partner. We also found that nurturance and eroticism may in fact be influenced by relationship length, such that as relationships progress eroticism decreases and nurturance increases. Future research should assess the downstream consequences of partners meeting different roles and assess whether there are personal benefits of diversified need fulfillment, or carry-over (i.e., additive) effects across partners, such that greater passion with secondary partners promotes greater satisfaction with primary partners.

5.5. References

- Acker, M., & Davis, M. H. (1992). Intimacy, passion, and commitment in adult romantic relationships: A test of the Triangular Theory of Love. *Journal of Social and Personal Relationships, 9*, 21–50.
- Aron, A., Aron, E., & Smollen, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*, 596–612.
- Appel, I., & Shmuel, S. (2015). The role of romantic attraction and conflict resolution in predicting shorter and longer relationship maintenance among adolescents. *Archives of Sexual Behavior, 44*, 777–782.
- Balzarini, R. N., Campbell, L., Kohut, T., Holmes, B. M., Lehmilller, J. J., Harman, J. J., & Atkins, N. (2017). Perceptions of primary and secondary relationships in polyamory. *PLoS ONE, 12*, 1–20.
- Balzarini, R. N., Dharma, C., Kohut, T., Holmes, B. M., Campbell, L., Lehmilller, J. J., & Harman, J. J. (2018). Demographic comparison of American individuals in polyamorous and monogamous relationships. *Journal of Sex Research*. Advanced online publication.
- Balzarini, R. N., Dobson, K., Kohut, T., & Lehmilller, J. J. (under review). The role of relationship acceptance and romantic secrecy on commitment processes and the proportion of time spent on sex. *Personality and Social Psychology Bulletin*.
- Balzarini, R. N., Dharma, C., Kohut, T., Campbell, L., Lehmilller, J. J., Harman, J. J., & Holmes, B. M. (under review). Outcomes of co-primary and non-primary polyamorous relationships: What are the implications of rejecting relationship hierarchies. *Archives of Sexual Behaviors*.

- Barker, M., & Langdrige, D. (2010). Whatever happened to non-monogamies? Critical reflections on recent research and theory. *Sexualities, 13*, 748–772.
- Bentler, P. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238–246.
- Berzon, B. (1988) *Permanent partners: Building gay and lesbian relationships that last*. New York, NY: EP.
- Blumstein, P. W., & Schwartz, P. (1983). *American couples*. New York, NY: Morrow.
- Browne, M. W., & Cudeck, R. (1989). Single sample cross-validation indices for covariance structures. *Multivariate Behavioral Research, 24*, 445–455.
- Call, V., Sprecher, S., & Schwartz, P. (1995). The incidence and frequency of marital sex in a national sample. *Journal of Marriage and the Family, 57*, 639–650.
- Diamond, L. M. (2003). What does sexual orientation orient? A biobehavioral model distinguishing romantic love and sexual desire. *Psychological Review, 110*, 173–192.
- Dion, K. L., & Dion, K. K. (1973). Correlates of romantic love. *Journal of Consulting and Clinical Psychology, 1*, 51–56.
- Edwards, J. N., & Booth, A. (1976). Sexual behavior in and out of marriage: An assessment of correlates. *Journal of Marriage and the Family, 38*, 73–81.
- Ellis, B. J., & Malamuth, N. M. (2000). Love and anger in romantic relationships: A discrete systems model. *Journal of Personality, 68*, 523–556.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149–1160.

- Fraley, B., & Aron, A. 2004. The effect of a shared humorous experience on closeness in initial encounters. *Personal Relationships, 11*, 61–78.
- Frijns, T., Finkenauer, C., & Keijsers, L. (2013). Shared secrets versus secrets kept private are linked to better adolescent adjustment. *Journal of Adolescence, 36*, 55–64.
- Hatfield, E. (1988). Passionate and companionate love. In R. J. B. Sternberg & M. L. Barnes (Eds.), *The psychology of love* (pp. 191–217). New Haven, CT: Yale University Press.
- Hatfield E., & Sprecher S. (1986). Measuring passionate love in intimate relationships. *Journal of Adolescence, 9*, 383–410.
- Hatfield, E., & Rapson, R. (1993). Love and attachment processes. In M. H. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 595–604). New York, NY: Guilford Press.
- Hatfield, E., & Rapson, R. L. (2013). Companionate love scale. *Measurement Instrument Database for Social Science*. Retrieved from www.midss.ie
- Hazan, C., & Shaver, P. R. (1994). Attachment theory as an organizational framework for research on close relationships. *Psychological Inquiry, 5*, 1–22.
- Henderson-King, D. H., & Veroff, J. (1994). Sexual satisfaction and marital well-being in the first years of marriage. *Journal of Social and Personal Relationships, 11*, 509–534.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.
- Jordan, K. M. & Deluty, R. H. (2000). Social support, coming out, and relationship satisfaction in lesbian couples. *Journal of Lesbian Studies, 4*, 145–164.
- Joreskog, K. G., & Sorbom, D. (1984). *LISREL 6: User's guide*. Mooresville, IN: Scientific Software International.

- Kaats, G. R., & Davis, K. E. (1971). Effects of volunteer biases in studies of sexual behavior and attitudes. *Journal of Sex Research*, 7, 26–34.
- Kinsey, A. C., Pomeroy, W. P., & Martin, C. E. (1948). *Sexual behavior in the human male*. Philadelphia, PA: Saunders.
- Kinsey, A. C., Pomeroy, W. P., Martin, C. E., and Gebhard, P. (1953). *Sexual behavior in the human female*. Philadelphia, PA: Saunders.
- Klesse, C. (2006). Polyamory and its ‘others’: Contesting the terms of non-monogamy. *Sexualities*, 9, 565–583.
- Kline, R. B. (2011). *Convergence of structural equation modeling and multilevel modeling*. na.
- Lehmiller, J. J. (2009). Secret romantic relationships: Consequences for personal and relational well-being. *Personality and Social Psychology Bulletin*, 35, 1452–1466.
- Lehmiller, J. J., & Agnew, C. R. (2006). Marginalized relationships: The impact of social disapproval on romantic relationship commitment. *Personality and Social Psychology Bulletin*, 32, 40–51.
- Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago, IL: University of Chicago Press.
- MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding and suppression effect. *Prevention Science*, 1, 173–181.
- MacNeil, S., & Byers, E. S. (2009). Role of sexual self-disclosure in the sexual satisfaction of long-term heterosexual couples. *Journal of Sex Research*, 46, 3–14.
- Mageau, G. A., Vallerand, R. J., Charest, J., Salvy, S.-J., Lacaille, N., Bouffard, T., & Koestner, R. (2009). On the development of harmonious and obsessive passion: The role of autonomy

support, activity specialization and identification with the activity. *Journal of Personality*, 77, 601–646.

Morton, H., & Gorzalka, B. B. (2015). Role of partner novelty in sexual functioning: a review. *Journal of Sex & Marital Therapy*, 41, 593–609.

Muise, A., Laughton, A. K., Moors, A., & Impett, E. A. (2018). Sexual need fulfillment and satisfaction in consensually nonmonogamous relationships. *Journal of Social & Personal Relationships*. Advanced online publication.

Murray, S. H., & Milhausen, R. R. (2012). Sexual desire and relationship duration in young men and women. *Journal of Sex & Marital Therapy*, 38, 28–40.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (2000). Self-esteem and the quest for felt security: How perceived regard regulates attachment processes. *Journal of Personality and Social Psychology*, 78, 478–498.

Murray, S. L. (2005). Regulating the risks of closeness: A relationship-specific sense of felt security. *Current Directions in Psychological Science*, 14, 74–78.

Penke, L., & Asendorpf, J. B. (2008). Beyond global sociosexual orientations: A more differentiated look at sociosexuality and its effects on courtship and romantic relationships. *Journal of Personality and Social Psychology*, 95, 1113–1135

Perel, E. (2007). *Mating in captivity: Unlocking erotic intelligence*. New York, NY: HarperCollins

Ratelle, C. F., Carbonneau, N., Vallerand, R. J., & Mageau, G. (2013). Passion in the romantic sphere: A look at relational outcomes. *Motivation and Emotion*, 37, 106–120.

Reis, H. T., & Shaver, P. (1988). Intimacy as an interpersonal process. In S. Duck & D. F. Hay (Eds.), *Handbook of personal relationships: Theory, research and interventions* (pp. 367–389). Oxford, EN: Wiley.

- Ritchie, A., & Barker, M. (2006). "There aren't words for what we do or how we feel so we have to make them up": Constructing polyamorous languages in a culture of compulsory monogamy. *Sexualities*, 9, 584–601.
- Rhemtulla, M., Brosseau-Liard, P. É., & Savalei, V. (2012). When can categorical variables be treated as continuous? A comparison of robust continuous and categorical SEM estimation methods under suboptimal conditions. *Psychological methods*, 17, 354–373.
- Rosseel, Y. (2010). Lavaan: An R package for structural equation modeling and more. Version 0.3-1. Retrieved from <http://cran.r-project.org/web/packages/lavaan/>
- Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology*, 16, 172–186.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5, 357–391.
- Schmiedeberg, C., & Schröder, J. (2016). Does sexual satisfaction change with relationship duration? *Archives of Sexual Behavior*, 45, 99–107.
- Seguin-Levesque, C., Laliberte, M. L. N., Pelletier, L. G., Blanchard, C., & Vallerand, R. J. (2003). Harmonious and obsessive passion for the Internet: Their associations with the couple's relationship. *Journal of Applied Social Psychology*, 33, 197–221.
- Sheff, E. (2014). *The polyamorists next door: Inside multiple partner relationships and families*. Lanham, MD: Rowman & Littlefield.
- Simpson, J. A. (1987). The dissolution of romantic relationships: Factors involved in relationship stability and emotional distress. *Journal of Personality and Social Psychology*, 53, 683–69.

- Smith, T. W. (1994). *The demography of sexual behavior*. Menlo Park, CA: Kaiser Family Foundation.
- Sprecher, S. (2002). Sexual satisfaction in premarital relationships: Associations with satisfaction, love, commitment and stability. *Journal of Sex Research, 39*, 190–196.
- Sprecher, S. & Regan, P.C. (1998). Passionate and companionate love in courting and young married couples. *Sociological Inquiry, 68*, 163–185.
- StataCorp. 2015. *Stata Statistical Software: Release 14*. College Station, TX: StataCorp LP.
- Wegner, D. M., Lane, J. D., & Dimitri, S. (1994). The allure of secret relationships. *Journal of Personality and Social Psychology, 66*, 287–300.
- Yabiku, S., & Gager, C. (2009). Sexual frequency and the stability of marital and cohabiting unions. *Journal of Marriage & the Family, 71*, 983–1000.
- Yeh, H.-C., Lorenz, F. O., Wickrama, K. A. S., Conger, R. D., & Elder, G. H. (2006). Relationships among sexual satisfaction, marital quality, and marital instability at midlife. *Journal of Family Psychology, 20*, 339–343.

5.6. Tables

Table 17. *Demographic Information for Participants*

	<i>n</i> (%)
Gender Identity	
Woman	781 (60.6%)
Man	330 (25.6%)
Gender-queer/Non-binary	134 (10.4%)
Agender	27 (2.1%)
Other	16 (1.2%)
Race*	
White	1097 (85.2%)
Multi-Racial	66 (5.1%)
African American	38 (3.0%)
Asian	25 (1.9%)
Hispanic	23 (1.8%)
Native American	11 (0.9%)
Native Hawaiian or Another Pacific Islander	2 (0.2%)
Other	25 (1.9%)
Sexual Orientation	
Heterosexual	399 (31.0%)
Lesbian / Gay	37 (2.9%)
Bisexual	556 (43.2%)
Asexual	15 (1.2%)
Other	281 (21.8%)
Relationship Status	
Single	30 (2.3%)
Casually dating	78 (6.1%)
Seriously dating	443 (34.4%)
Engaged	79 (6.1%)
Married	432 (33.5%)
Divorced	10 (0.8%)
Widowed	3 (0.2%)
Other	213 (16.5%)
Primary Partner	
Primary Relationship	521 (44.6%)
Primary relationship but have others	224 (19.2%)
Not a primary	56 (4.8%)
Do not believe in one as primary	328 (28.1%)
Other	39 (3.3%)
Secondary Partner	
Primary Relationship	17 (1.6%)
Primary relationship but have others	224 (21.7%)
Not a primary	456 (44.1%)
Do not believe in one as primary	310 (30.0%)

Other	27 (2.6%)
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Note: * indicates the column may add up to more than the total, since participants can select more than one option. Others may not add up to totals due to missing data.

Table 18. *Factor Loadings and Standardized Regression factors for Hypothesized 2-Factor Model*

Factors	Primary Partners (<i>n</i> = 758)		Secondary Partners (<i>n</i> = 679)	
	Model 1	Model 2	Model 1	Model 2
Factor 1: Eroticism				
Eroticism	.94*** ^a	.94***	.90***	.90***
Passionate love	.70***	-	.54***	-
Sexual excitement	.96***	.97***	.97***	.97***
Bodily pleasure	.93***	.93***	.90***	.90***
Desire and lust	.94***	.94***	.94***	.94***
Factor 2: Nurturance				
Strong sense of security	.73***	.73***	.78***	.78***
Emotional attachment	.78***	.78***	.87***	.87***
Deep commitment	.69***	.69***	.79***	.79***
Nurturance	.80***	.80***	.84***	.84***
Warmth and comfort	.77***	.77***	.85***	.85***
Covariance between nurturance and eroticism [95% CI]	.25 [.18, .33]	.24 [.16, .31]	.22 [.15, .30]	.21 [.13, .28]

^a ****p* < .001.

Table 19. Summary of the Correlations, Means, and Standard Deviations of the Focal Variables

	1	2	3	4	5	6	7	M	SD
Nurturance Primary (1)	1.00							6.18 ¹	1.07
Nurturance Secondary (2)	.12**	1.00						5.05	1.51
Eroticism Primary (3)	.21 ² ***	.02	1.00					4.83 ¹	1.89
Eroticism Secondary (4)	.14***	.24 ² ***	.02	1.00				5.67	1.64
CLS Primary ³ (5)	.78***	.12**	.19***	.11**	1.00			7.94 ¹	1.38
CLS Secondary (6)	.13***	.79***	-.05	.26***	.21***	1.00		6.87	1.77
PLS Primary ⁴ (7)	.51***	.06	.45***	.06	.62***	.06	1.00	6.24 ¹	1.49
PLS Secondary (8)	.17***	.56***	-.12**	.46***	.20***	.68***	.26***	5.94	1.67

*** $p < .001$; ** $p < 0.01$; * $p < 0.05$

¹ Participants report significantly higher nurturance ($p < .001$), companionate love ($p < .001$), and passionate love ($p < .001$) for primary compared to secondary partners, though reports for eroticism were higher among secondary partners compared to primary ($p < .001$).

² These correlations were presented using the latent correlations from CFA models. All other correlations were presented with the Pearson correlations.

³ CLS signifies the Companionate Love Scale

⁴ PLS signifies the Passionate Love Scale

Table 20. Association Between Nurturance and Eroticism with Passionate Love and Companionate Love

	Primary Partners		Secondary Partners	
	Passionate Love	Companionate Love	Passionate Love	Companionate Love
Univariate Model				
Nurturance (<i>b1</i>)	0.69 (0.61, 0.78)***	0.99 (0.94, 1.05)***	0.62 (0.55, 0.69)***	0.92 (0.87, 0.98)***
Eroticism (<i>b1</i>)	0.35 (0.30, 0.40)***	0.13 (0.08, 0.18)***	0.48 (0.41, 0.54)***	0.28 (0.20, 0.36)***
Multivariable Model				
Nurturance (<i>b1</i>)	0.60 (0.52, 0.68)***	0.98 (0.93, 1.04)***	0.55 (0.48, 0.61) ***	0.90 (0.84, 0.95) ***
Eroticism (<i>b2</i>)	0.28 (0.24, 0.33)***	0.03 (0.00, 0.06)	0.38 (0.32, 0.44) ***	0.12 (0.07, 0.17) ***

*** $p < .001$; ** $p < 0.01$; * $p < 0.05$

Note. Univariate model refers to the regression model with one predictor (i.e., either nurturance or eroticism); multivariable model refers to the regression model with both nurturance and eroticism included as predictor variables. In all cases the p -value comparing $b1 - b2 = 0$ was greater than or equal to .001.

Table 21. *Univariate Association of Nurturance and Eroticism by Gender Identity, Sexual Orientation, Relationship Length and Primary Status*

	<i>B</i> (95% CI) for nurturance		<i>B</i> (95% CI) for eroticism	
	Primary Partners	Secondary Partners	Primary Partners	Secondary Partners
Primary Status				
Primary-secondary	Ref (0.00)	Ref (0.00)	Ref (0.00)	Ref (0.00)
Co-primaries	-0.07 (-0.27, 0.13)	1.39 (1.10, 1.68)***	-0.35 (-0.74, 0.04)	0.16 (-0.18, 0.50)
Non-primaries	-0.59 (-0.77, -0.41)***	0.97 (0.71, 1.23)***	-0.05 (-0.41, 0.30)	-0.10 (-0.41, 0.20)
Gender Identity				
Woman	Ref (0.00)	Ref (0.00)	Ref (0.00)	Ref (0.00)
Man	-0.02 (-0.20, 0.15)	0.00 (-0.27, 0.27)	-0.03 (-0.34, 0.28)	0.27 (-0.02, 0.56)
Genderqueer/Non-binary	-0.07 (-0.33, 0.20)	0.19 (-0.21, 0.58)	-0.11 (-0.58, 0.36)	-0.31 (-0.74, 0.11)
Agender	0.02 (-0.65, 0.59)	0.57 (-0.30, 1.44)	-0.23 (-1.32, 0.86)	0.22 (-0.72, 1.15)
Other	-0.40 (-1.26, 0.47)	-0.27 (-1.60, 1.06)	-0.60 (-2.13, 0.92)	-1.49 (-2.93, -0.05)*
Sexual Orientation				
Heterosexual	Ref (0.00)	Ref (0.00)	Ref (0.00)	Ref (0.00)
Lesbian / gay	-0.11 (-0.59, 0.37)	0.42 (-0.33, 1.16)	0.86 (0.03, 1.70)*	0.11 (-0.69, 0.90)
Bisexual	0.23 (0.05, 0.40)*	-0.08 (-0.35, 0.18)	0.35 (0.04, 0.66)*	-0.24 (-0.52, 0.05)
Asexual	0.83 (-0.04, 1.69)	1.00 (-0.22, 2.23)	-2.67 (-4.19, -1.16)**	-3.36 (-4.67, -2.06)***
Other	0.02 (-0.19, 0.24)	0.18 (-0.13, 0.50)	0.39 (0.02, 0.77)*	-0.29 (-0.63, 0.05)

Relationship length (Years)	0.03 (0.02, 0.04) ***	0.07 (0.04, 0.09) ***	-0.05 (-0.09, -0.04) ***	-0.06 (-0.09, -0.03) ***
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*** $p < .001$; ** $p < 0.01$; * $p < 0.05$

**CHAPTER SIX: DIMMING THE “HALO” AROUND MONOGAMY: RE-ASSESSING
STIGMA SURROUNDING CONSENSUALLY NON-MONOGAMOUS ROMANTIC
RELATIONSHIPS AS A FUNCTION OF PERSONAL RELATIONSHIP**

ORIENTATION

6.1. Introduction

Monogamy remains the most common relationship arrangement in North America. And yet, consensual non-monogamy (CNM) is increasingly prominent in mainstream society with roughly 4-5% of Americans practicing some form of CNM relationship (Conley, Ziegler, Moors, Matsick, & Valentine, 2012b; Rubin, Moors, Matsick, Ziegler, & Conley, 2014) and over 20% having some experience with CNM in their lifetimes (Hauptert, Gesselman, Moors, Fisher, & Garcia, 2017). Though many people consider their relationship orientation to be consensually non-monogamous, evidence suggests there is robust stigma towards CNM relationships and a “halo effect” surrounding monogamous relationships, even among those who consider themselves to be consensually non-monogamous (Conley, Moors, Matsick, & Ziegler, 2013; Moors, Matsick, Ziegler, Rubin, & Conley, 2013). A “halo effect” is a cognitive bias in which an individual is rated positively based on a single attribute (Thorndike, 1920), such as being monogamous. In a series of studies, Conley and colleagues (2013) reported monogamous targets were rated more positively than CNM targets in relationship-relevant (e.g., trust, passion) and relationship-irrelevant (e.g., pays taxes on time, teeth flossing) domains. Importantly, both monogamous and non-monogamous participants rated monogamous targets more favorably than non-monogamous targets. Recent research extended these findings showing that CNM relationships are also more dehumanized when compared to monogamous ones (Rodrigues, Fasoli, Huic, & Lopes, 2017). However, our understanding of whether the halo effect replicates

when different variations of CNM are distinguished from one another is limited. In fact, collapsing each target orientation into one category, such as CNM, may blur the boundaries between non-monogamous participants naturally occurring in-groups and out-groups, which may give rise to participants feeling less inclusion and belonging (Pickett & Brewer, 2005) to the more general CNM category/targets. For example, asking polyamorists to rate consensually non-monogamist, a group that includes their relationship orientation and others, may result in polyamorous participants feeling less inclusion to the CNM category.

In the current research, we assessed people’s willingness to participate in social contacts of varying degrees of closeness (e.g., family member, friend) with members of diverse relationship orientations (e.g., monogamy, swinging, open relationships, polyamory), including the three most common types of CNM relationship (Barker, 2011). Given evidence of a halo effect surrounding monogamy (Conley, et al., 2013; Moors et al., 2013; Rodrigues et al., 2017), we predicted participants’ desired social distance from monogamous targets would be smaller than their desired social distance from CNM targets and that such differences would emerge regardless of whether participants themselves were either monogamous or CNM (Hypothesis 1). Importantly, this should be especially (or only) true when the different types of CNM relationships were not differentiated among participants and between targets (i.e., collapsing swingers, open and polyamorous participants into a CNM group, replicating previous findings).

Extant evidence documenting a halo effect for monogamous targets has compared monogamous and CNM participants’ evaluations of monogamous targets to their evaluations of CNM targets more generally by collapsing across all forms of CNM into one category, rather than comparing evaluations of monogamous targets to evaluations of specific CNM types separately (e.g., ratings for polyamorous targets, swinger targets, and open targets).

Consequently, examining the extent to which CNM participants favor their specific relationship orientation and stigmatize other relationship orientations is essential for determining whether the halo effect around monogamy applies to non-monogamous people. Furthermore, there are plausible reasons why the evaluations of specific CNM target orientations may differ among CNM persons because previous research suggests tension between specific CNM subgroups. For example, swingers and polyamorous individuals are quick to reject each other. On one hand, polyamorists critique swingers' supposed focus on recreational sex and the stereotypically gendered nature of swinging (Barker & Langdrige, 2010; Frank & DeLamater, 2010). On the other hand, swingers criticize purported “conservative” attitudes that polyamorists have of sex, and polyamorists' ideas that love can occur outside of a couple (Barker & Langdrige, 2010; Frank & DeLamater, 2010). In a similar vein, Ritchie (2010) found news reports on polyamory quoted interviewees as presenting polyamory as more meaningful than swinging and being based on love, rather than casual sex. Given this documented antipathy, we expected differences to emerge among various CNM categories with regards to desired social distance, an expectation that is consistent with research that suggests that people typically favor members from their own groups over members of other groups (e.g., in-group bias; Bettencourt et al., 2001; Mullen et al., 1992). Thus, we predicted that CNM participants' social distance ratings of members of their own relationship orientation would not differ from their social distance ratings for monogamous individuals (Hypothesis 2). For example, among individuals who identify as polyamorous, we predicted that their rating for polyamorous targets would not differ from ratings of monogamous targets. As such, we also expected individuals in CNM relationships to rate their own relationship orientation with low social distance.

Previous research suggests that some forms of CNM, specifically polyamory, are viewed more favorably than others, such as swinging or open relationships (Matsick et al., 2014). Despite polyamory being perceived more favorably, approximately 25.8% of people who practice polyamory report experiencing discrimination (Fleckenstein et al., 2012). While current efforts to study CNM have documented stigma and levels of acceptance (Moors et al., 2013; Balzarini et al., 2017), at this point, little research has examined the reasons why CNM relationships are less accepted than monogamous relationships, or why some forms of CNM relationships are more accepted than others. Initial research by Matsick and colleagues (2014) suggests that monogamous participants perceived polyamorous targets more positively than open or swinging targets presumably because polyamorous relationships are associated with a romantic attachment to the partner(s), as opposed to swinging or open relationships that are perceived to be predominately sexual in nature. Thus, some potential reasons for stigma may include beliefs about promiscuity, or perceived likelihood of having sexually transmitted infections (STIs), given that increased promiscuity may be suggestive of greater likelihood of having an STI. This line of reasoning is supported by previous research that suggests that monogamous relationships are overwhelmingly perceived by the public to prevent the spread of STIs (Aral & Leichliter, 2010; Conley et al., 2015; Conley, Moors, Ziegler, & Karathanasis, 2012a; Moors et al., 2013) and previous research that suggests that CNM relationships are perceived to be riskier because people believe CNM offers less protection from STIs (Conley et al., 2013). However, previous research has not examined the associations between discriminatory attitudes (i.e., social distance) and perceptions about the likelihood of having STIs or beliefs about promiscuity across varying CNM orientations and among targets of varying relationship orientations.

The distinction between different forms of CNM relationships might result in differential perceptions of STI likelihood and promiscuity and these perceptions may follow from intrinsic differences in the nature of the extradyadic sexual and emotional bonds that characterize each type of CNM relationship. As eluded to previously, swinger relationships typically involve couples openly engaging in sexual—but generally not emotionally close—relationships as a couple. In contrast, individuals in open relationships have extradyadic sexual relationships with others separately from their partners (Adam, 2006; Barker & Langdrige, 2010; Jenks, 1998). Polyamory, broadly speaking, is the practice of having multiple emotionally-close relationships that may or may not be sexual (Barker & Langdrige, 2010). Monogamous relationships are those in which partners are not permitted to seek out sexual interactions or emotional intimacy with people who are outside their relationship (see Jonason & Balzarini, 2016, for a review of relationship orientations).

As monogamous agreements exclude consensual extradyadic relations by definition, we predicted monogamous targets would be rated as the least promiscuous regardless of participants' relationship orientation. With regards to ratings towards CNM targets, ratings of open and polyamorous targets should follow monogamous, with the greatest promiscuity ratings reported for swinging targets (Hypothesis 3), since there appears to be the most stigma towards individuals in swinging relationships and since these relationships are defined by sexual relations without emotional connection. With regards to polyamorous and open ratings, while some research suggests that polyamorous relationships are rated more favorably than open and swinging relationships (Matsick et al., 2014), other research has shown that polyamorous participants are similar to open participants with regards to permissiveness, instrumentality, erotophobia, and sociosexuality (Balzarini, Shumlich, Kohut, & Campbell, 2018). In fact,

swinger participants had the most permissive and instrumental attitudes, were the most erotophilic, and were the most unrestricted sexually. Conversely, monogamists scored the lowest on these traits, with polyamorous and open ratings consistently falling in the middle.

Additionally, one of the most commonly perceived benefits of monogamy includes the prevention of STIs (Conley et al., 2012a), and monogamy is considered to be, and is promoted as, an effective strategy for STI prevention (Misovich, Fisher, & Fisher, 1997). Therefore, we predicted that monogamous targets would be associated with the lowest perceived STI rates, and that this would occur despite participant’s own relationship orientation. In line with the hypothesized promiscuity ratings, we hypothesized that open and polyamorous targets would be perceived to have higher STI rates than monogamous targets by all participants, though would likely be lower than ratings of swinging targets. More specifically, recent research suggests that swingers are more sexually active, report more factors associated with sexual risk behavior, and are more likely to be diagnosed with an STI compared to the general population (Platteau, Lankveld, Ooms, & Florence, 2017). Additionally, a series of studies on the prevalence and correlates of STIs among swingers has been published by a Dutch research team from an STI clinic (Dukers-Muijrrers, Niekamp, Brouwers, & Hoebe, 2010; Niekamp, Hoebe, Spauwen, & Dukers-Muijrrers, 2011; Spauwen, Niekamp, Hoebe, Dukers-Muijrrers, 2014). Across their studies, they conclude that swingers are vulnerable to STI acquisition, corroborating prior research documenting a link between STIs and swingers (Jenks, 1992). As such, we expected the greatest perceived STI rates to be reported for swinging targets, regardless of participants own relationship orientation (Hypothesis 4).

Having an STI and being perceived as promiscuous should be indicative of desired social distance. For example, other groups that have been perceived to have STIs due to their high

promiscuity (e.g., gay males with HIV) have notoriously experienced social exclusion and stigma (see Mason, 2001; Ware et al., 2006). As an extreme example of social exclusion stemming from STI risk, it was once suggested that individuals with HIV/AIDS have their genitals tattooed with glow-in-the-dark ink to prevent them from infecting unsuspecting partners (Delery-Edwards, 2014, pp. 12). It has been further suggested that people with HIV/AIDS should be put in “quarantine” (i.e., camps; Delery-Edwards, 2014) and, in some cases, individuals with HIV/AIDS have actually been placed in quarantine (e.g., Cuba, see Hansen & Groce, 2001).

As most STIs are not directly observable, avoiding them depends on indirect cues to infection. A person’s relationship orientation could be one such cue. In fact, in the wake of the HIV/AIDS epidemic, public health officials actively promoted monogamy (often not precisely defined) to protect against STIs (Koop, 1987; Misovich et al., 1997; National Center for HIV/AIDS et al., 2012). As such, relationship orientation may serve as cue for disease, whether or not this is accurate. However, these cues and our perception of them are biased, which can lead to costly mistakes. Indeed, from an error-management perspective, human cognition is biased to make more false-positive errors (detecting an infection when it does not exist) than false-negative errors (failing to detect an infection when one is actually present). These biases can lead to overgeneralizations and avoidant attitudes towards groups (e.g., foreigners) or certain social interactions (e.g., sexual promiscuity; Curtis et al., 2011; Faulkner et al., 2004; Markel & Stern, 2002; Schaller et al., 2015). On the basis of these conceptual, theoretical, and empirical connections, we predicted that the perceived likelihood of individuals in various relationship orientations of having an STI and beliefs about these individuals’ promiscuity should predict social distance towards these groups from participants of all relationship orientations (Hypothesis 5).

Lastly, it has been noted by scholars that sexually prejudice attitudes have become increasingly central to conservative political and religious ideologies since the 1980s (Herek, 2000). Recent research assessing attitudes towards polyamory specifically found that participants who held more traditional beliefs (such as favorable attitudes towards monogamy, politically conservative beliefs and fundamentalist religious beliefs) were more likely to have negative attitudes towards polyamory (Hutzler, Giuliano, Herselman, & Jonhson, 2016; Johnson, Giuliano, Herselman, & Hutzler, 2015). However, to our knowledge, much of the research assessing a halo effect has not controlled for political and religious affiliation. As such, we sought to test our predictions while also controlling for political and religious affiliation to explore whether political or religious affiliation impacted social distance ratings, along with judgements for STI risk and promiscuity.

6.1.1. Current Study

While previous research demonstrates that both monogamous and CNM participants viewed monogamous targets more positively than CNM targets, it has failed to compare ratings of monogamous targets with targets representing specific subtypes of CNM relationships. Additionally, previous research reporting a “halo effect” surrounding monogamous relationships is at odds with the view that *people typically favor members from their own groups* over members of other groups. In the present research, we re-examined the halo effect, using a more direct measure of stigma (i.e., desired social distance), in a methodological context that differentiated between the three most common types of CNM relationships. For this purpose, we asked participants to provide social distance ratings for a hypothetical person in a monogamous, polyamorous, swinging, and open relationship, with the order of relationship orientation randomly presented. After, we asked participants about their perceived likelihood that people of

each relationship orientation would have an STI, as well their perceptions of how promiscuous they would be. We sought to further assess whether social distance is partly attributable to the perception of STI risk, or perceptions of promiscuity, and to do so while controlling for participants political and religious orientation. Our specific predictions were as follows:

1. Participants' would desire less social distance from monogamous targets than CNM targets (as an overall category) and that such differences would emerge regardless of whether participants themselves were monogamous or CNM.
2. CNM individuals' social distance ratings of members of their own relationship orientation would not differ from their social distance ratings for monogamous individuals (e.g., if participant is polyamorous, their social distance ratings for polyamorous target and monogamous target would not differ).
3. As monogamous agreements exclude consensual extradyadic relations by definition, we predicted monogamous targets would be rated as the least promiscuous regardless of participants' relationship orientation, and swinger targets would be rated as the most promiscuous.
4. One of the most commonly perceived benefits of monogamy includes the prevention of STIs. Therefore, we predicted that monogamous targets would be associated with the lowest perceived STI rates, with the greatest perceived STI rates reported for those in swinging relationships.
5. The perceived likelihood of having an STI and beliefs about these individuals' promiscuity should predict social distance towards these groups

Additionally, we further sought to explore whether the above effects were influenced by one's political or religious orientation (exploratory). All hypotheses and data analyses were pre-

registered with the Open Science Framework, and all data and materials have been made publicly available⁵. The exploratory tests for political and religious affiliation were not pre-registered with the hypotheses, though were included given that recent research suggests religious and political affiliation could impact attitudes towards CNM orientations.

6.2. Method

6.2.1. Power analysis

A power analysis indicated that a sample size of 280 would be needed to find a statistically significant interaction in a 4 (between) x 4 (within) analysis of covariance (ANOVA) assuming a medium effect size ($f = .25$) with a power level of .95 (power estimated using G-Power 3.1; Erdfelder et al., 1996; Faul et al., 2009). To ensure we had sufficient participants in each cell, we aimed to recruit a minimum of 350 participants (25% over the N indicated by our power analysis to account for incomplete data, or participants who do not meet inclusion criteria), and continued to collect data until there was a minimum of 50 participants per cell, a target recommended by previous research (see Simmons et al., 2013).

6.2.2. Sampling

Participants were recruited from Amazon’s Mechanical Turk (MTurk) website, an online crowdsourcing platform that is commonly used for psychological research. Four advertisements (for individuals who were currently in either a monogamous, open, swinging, or polyamorous relationship or who self-identified with such orientations) were placed on the MTurk website for all MTurk users with active accounts to see. The ad contained information about the inclusion criteria (e.g., speak and read English fluently, at least 18 years old, have a 97% approval rating on Mturk, and identify as either monogamous, swinger, open, or polyamorous) as well as a link

⁵ The hypotheses, study materials, and data for this study can be accessed through the Open Science Framework at <https://osf.io/ndytw/>

to the survey. Eligible and interested participants followed the link that re-directed them to a survey hosted on Qualtrics⁶, where the letter of information and consent was presented. Informed consent was received from each participant digitally and each participant indicated they read the consent form and agreed to take part before proceeding.

6.2.3. Participants

A convenience sample of individuals ($N = 641$) who self-identified as either monogamous ($n = 447$), open ($n = 80$), polyamorous ($n = 62$), or swinger ($n = 52$) were recruited. The demographic information for the participants broken down by relationship orientation can be found in Table 22. Overall, the majority of respondents identified as Caucasian (65.8%) heterosexual (84.6%) males (58.2%), who were either Christian (43.5%) or agnostic/atheist (37%), married (38.2%) or dating (38.6%), and were diverse in political orientation (Republican: 19.5%, Democrat: 36.5%, Independent/Unaffiliated: 30.6%; Other: 13.4%). The mean age ($M_{\text{age}} = 32.07$, $SD = 9.45$, range 18- 71) of the sample indicated a tendency toward young and emerging adulthood (75% of sample were 18-35), though there was substantial variation.

6.2.4. Procedure

Participants were told that the purpose of this study was to better understand sociosexual orientation (SOI) and attitudes towards sex. Following the informed consent procedure, participants were asked to answer a short questionnaire assessing demographic information, including a question about their current relationship orientation. Next, participants were asked to complete a questionnaire that assessed their desired social distance for each of the four different relationship orientations (Bogardus, 1933). Additionally, we assessed beliefs about promiscuity and beliefs about the likelihood of having an STI for each orientation. The order in which

⁶ Qualtrics QSF file and experimental stimulus available at the following link: <https://osf.io/a29f5/>

relationship orientations were presented was randomly assigned for each participant. Lastly, participants answered three questionnaires that assessed their sexual attitudes, sexual opinions, and SOI to be consistent with the cover story. Only the measures of social distance, promiscuity, and STI ratings were used in this study. The remaining items were included for other purposes and are not discussed further. After the study, participants were fully debriefed regarding the true purpose of the study and were provided a code to claim compensation. The research was conducted in accordance with the ethical guidelines of the American Psychological Association and the materials and procedure were reviewed and approved by Western University’s research ethics board before study initiation.

6.2.5. Measures

6.2.5.1. Social Distance

The Bogardus Social Distance Scale (1933) is a one-item assessment of individual’s willingness to participate in social contacts of varying degrees of closeness with members of selected social groups. The current study used this scale to determine desired social distance from individuals who were monogamous, open, swingers, or polyamorous, with the relationship orientations presented in a random order. Participants were provided a definition of each relationship orientation and were asked about the extent that they would be willing to accept such an individual on a scale that varied by degree of closeness of social contact. For example, if a monogamous participant was randomly assigned to be asked about a polyamorous person, they would first be told that polyamorous relationships are those in which partners are permitted to seek out sexual interactions as a couple or independently that can involve emotional intimacy with people outside the dyad. Participants were then asked, “to what extent would you be willing to accept an individual who is in a polyamorous relationship as a ...” Response options included:

(a) close relative by marriage, (b) close personal friend, (c) a neighbor on the same street, (d) a co-worker in the same occupation, (e) a citizen in my country, (f) a non-citizen visitor in my country, or (g) would exclude from entry into my country, with higher scores indicating greater desired social distance.

6.2.5.2. Promiscuity

A one-item measure was used to assess beliefs about promiscuity for each relationship orientation. Specifically, participants were asked, “In general, how promiscuous do you think individuals in (either monogamous, open, swinging, polyamorous) relationships are?”

Participants responded to items using a 7-point Likert-like scale ranging from 1 (“*not at all*”) and 7 (“*extremely*”), with higher scores indicating greater perceived promiscuity. The order in which each relationship orientation was presented was randomly assigned.

6.2.5.3. STI Ratings

As there is not a validated scale that is commonly used to assess perceptions of STI’s, a one-item measure was used to assess beliefs about the likelihood of STIs for each relationship orientation. Specifically, participants were asked, “In general, how likely do you think individuals in (either monogamous, open, swinging, polyamorous) relationships are to have an STI?” Participants responded using a 7-point Likert-like scale ranging from 1 (“*not at all*”) and 7 (“*extremely*”), with higher scores indicating greater perceived STI risk. The order in which each relationship orientation was presented was randomly assigned.

6.2.6. Analytic Strategy

To replicate previous findings reported by Conley and colleagues (2013), we began by conducting a mixed 2 within-subjects (target’s relationship orientation: monogamous or CNM) × 2 between-subjects (participants’ self-identified relationship orientation: monogamous or CNM)

analysis of variance (ANCOVA), with social distance ratings serving as the dependent variable, and with religious and political affiliation as covariates. After assessing the effects of CNM at the aggregate level, we assessed whether social distance ratings differed as a function of participants' specific CNM relationship orientation (testing Hypothesis 1). Specifically, we conducted a mixed 4 within- (target's relationship orientation: monogamous, polyamorous, open relationship, swinging relationship) \times 4 between-subject (participants' self-identified relationship orientation: monogamous, polyamorous, open relationship, swinging relationship) ANCOVA with social distance ratings serving as the dependent variable, and conducted analyses with and without religious and political affiliation as covariates.

Next, to assess whether CNM individuals rated their own relationship orientation with comparable social distance to monogamists, we conducted within-subject pair-wise comparisons of ratings across the targets' relationship orientations within participants' own relationship orientation for CNM participants only, specifically focusing on the comparisons between CNM participants' ratings for monogamy and their group-affiliated ratings (testing Hypothesis 2). For example, to assess polyamorous ratings, we selected cases from polyamorous individuals only and compared their social distance ratings for polyamorous individuals to their ratings for monogamous individuals. We then did the same for open and swinging relationships. To control for the experiment-wise error rate in hypothesis testing associated with conducting a large number of statistical tests (Kirk, 1982), the criteria for statistical significance for our pre-registered hypotheses was corrected by using the Bonferroni method; dividing $\alpha = .05$ by the number of pair-wise tests ($.05 / 3 = .017$). Therefore, the p -value used across these analyses was set at $p < .017$ level rather than the typical $p < .05$ level.

Subsequently, to assess attitudes and beliefs about relationship orientations, we conducted two mixed 4 within- (target's relationship orientation: monogamous, polyamorous, open relationship, swinging relationship) \times 4 between-subjects (participants' self-identified relationship orientation: monogamous, polyamorous, open relationship, swinging relationship) ANCOVAs where promiscuity ratings and likelihood of having an STI served as separate dependent variables (testing Hypotheses 3 and 4). Religious and political affiliation were added as covariates. This allowed us to assess whether there was a main effect of relationship type, a main effect of participants' relationship orientation, and whether there was an interaction of one's own relationship orientation and ratings of others' relationship orientation for each dependent variable.

To assess whether beliefs about STIs and promiscuity predict social distance, we conducted a 4 blocked regression analyses (testing Hypothesis 5) for each relationship orientation. Religious and political affiliation were entered in step 1, and beliefs about STIs and promiscuity were entered in step 2, with social distance as a dependent variable.

Lastly, we sought to assess whether the various relationship orientations differed with regards to political and religious affiliation to determine if such variables should be controlled for while conducting primary analyses. To do so, cross-tabs (Chi-squared statistic) were calculated for political and religious affiliation among the various orientations. To avoid violating rules for calculating a cross-tab matrix, we recoded religion (1 = Agnostic/Atheist; 2 = Christian; 3 = Other) and political orientation variables (1 = Democrat; 2 = Republican; 3 = Other). When significant differences were found, we recoded variables into dummy codes and then added these dummy variables to the above regression and ANOVA analyses as covariate variables, controlling for the effects of religious affiliation and political affiliation. In all cases,

the effects with and without controlling for political and religious affiliation were extremely similar and did not change in significance- as such, we present results controlling for political and religious affiliation. To see results with and without these control variables, please view the results on the OSF at: <https://osf.io/96jah/>.

6.3. Results

6.3.1. Preliminary Data

Bivariate correlations between social distance, promiscuity, and STI ratings are in Table 23. The social distance ratings and promiscuity ratings were significantly correlated for targets in open ($r = .13, p = .001$) and polyamorous ($r = .22, p < .001$) relationships. Social distance ratings and promiscuity ratings were not significantly correlated when participants were asked about monogamous relationships ($r = .07, ns$) and swinging relationships ($r = .08, ns$). The social distance ratings and STI ratings were significantly correlated for targets in open ($r = .19, p < .001$), polyamorous ($r = .33, p < .001$), and swinging ($r = .27, p < .001$) relationships. The social distance and STI ratings were not significantly correlated when participants were asked about monogamous relationship ($r = .07, ns$). The correlation between target promiscuity and STI ratings were significant for all four relationship orientations: monogamous ($r = .52, p < .001$), open ($r = .45, p < .001$), polyamorous ($r = .59, p < .001$), and swinging ($r = .51, p < .001$).

Chi-squared analyses of religious and political affiliation revealed that political affiliation ($\chi^2(6) = 24.71, p < .001$) but not religious affiliation ($p > .05$) differed as a function of relationship orientation. Post-hoc tests show that the proportion of individuals who identified as Republican was significantly different ($p < .05$) between monogamous (48.55%) and polyamorous (29.03%) participants.

6.3.2. Social Distance as a Function of Relationship Orientation

Consistent with previous research, on an aggregate level, consensually non-monogamous (CNM) orientations were rated significantly less favorably ($M = 3.03$, $SD = 1.61$) than monogamous relationships ($M = 2.04$, $SD = 1.42$), $F(1, 629) = 79.27$, $p < .001$, $\eta_p^2 = .11$, and this was true for both CNM participants (monogamous: $M = 2.10$, $SD = 1.28$; CNM: $M = 2.48$, $SD = 1.28$) and monogamous participants (monogamous: $M = 2.01$, $SD = 1.48$; CNM: $M = 3.27$, $SD = 1.68$), $F(1, 629) = 9.83$, $p < .001$, $\eta_p^2 = .02$. Additionally, a significant interaction between social distance ratings and one's own relationship orientation emerged, $F(1, 629) = 32.91$, $p < .001$, $\eta_p^2 = .05$, such that monogamous participants rated CNM targets significantly worse than CNM participants.

Additionally, as outlined in our pre-registered predictions, the effect emerged even when we separated the CNM relationship orientations of participants (assessed polyamory, open, and swinging as their own groups; see Figure 9). More specifically, there was a significant main effect of the targets' relationship orientation on reported social distance, ($F(3, 1857) = 28.77$, $p < .001$, $\eta_p^2 = .04$). Post-hoc tests revealed that social distance was lowest for monogamous targets ($M = 2.08$, $SE = .08$) and greatest for swinger targets ($M = 2.79$, $SE = .10$). The social distance rating for monogamous targets was significantly different from open, polyamorists, and swinger targets (all $p < .001$). The social distance ratings for targets in open relationships was significantly different from targets in polyamorous and swingers targets ($ps < .001$). The difference in social distance ratings between polyamorous targets ($M = 2.76$, $SE = .10$) and swinger targets was nonsignificant ($p = .826$). There was also a significant main effect of participants' self-identified relationship orientations, ($F(3, 619) = 7.74$, $p < .001$, $\eta_p^2 = .04$), such that social distance ratings were significantly different from each other based on one's relationship orientation. Monogamous participants reported the greatest overall social distance

($M = 2.96$, $SE = .07$) and swinger participants reported the lowest overall social distance ($M = 2.27$, $SE = .19$). Furthermore, monogamous participants' social distance ratings significantly differed from ratings of participants in open relationships ($p = .011$), polyamorous relationships ($p = .001$) and swinging relationships ($p = .001$). Finally, and most importantly, there was a significant interaction between participants' relationship orientation and targets' relationship orientation on social distance ratings ($F(9, 1857) = 7.93$, $p < .001$; $\eta_p^2 = .04$). The interaction was largely due to the greater social distance difference reported for monogamous participants in their rating of monogamous ($M = 2.02$, $SE = .07$) compared to swinger ($M = 3.32$, $SE = .08$) targets, in comparison to swinger participants who reported less difference in social distance between monogamous ($M = 2.09$, $SE = .20$) and swinger ($M = 2.41$, $SE = .24$) targets.

To assess our pre-registered pair-wise comparisons, within subject tests of simple effects within each CNM participant category were conducted to compare participants' social distance ratings for monogamous targets to their social distance ratings for targets that had same relationship orientation as the participant. Open participants' ratings of social distance for targets in open relationships ($M = 2.44$, $SE = .19$) did not significantly differ from their ratings of monogamous targets ($M = 2.06$, $SE = .16$), $t(621) = -1.95$, $p = .051$. Polyamorous participants' ratings of social distance for polyamorous targets ($M = 2.30$, $SE = .23$) did not significantly differ from ratings of monogamous targets ($M = 2.14$, $SE = .19$), $t(621) = -0.65$, $p = .515$. Lastly, swinging participants' ratings of social distance for swinger targets ($M = 2.41$, $SE = .24$) did not significantly differ from ratings of monogamous targets ($M = 2.09$, $SE = .20$), $t(621) = -1.26$, $p = .210$). Thus, in all cases, social distance ratings for monogamy did not significantly differ from social distance ratings for one's own relationship orientation.

6.3.3. Beliefs About STI's and Promiscuity as a Function of Relationship Orientation

Next, we assessed whether meaningful differences emerged for beliefs about STIs and promiscuity for each relationship orientation (see Figure 10 and Figure 11 for mean ratings). With respect to beliefs about promiscuity, a significant main effect of the targets' relationship orientation, $F(3, 1869) = 48.56, p < .001, \eta_p^2 = .07$, a significant main effect of participants' self-identified relationship orientations, $F(3, 623) = 2.95, p = .032, \eta_p^2 = .01$, and a significant interaction, $F(9, 1869) = 6.40, p < .001, \eta_p^2 = .03$, emerged. Post hoc analyses revealed clear support for the predicted pattern of ratings for monogamous participants (in all cases, $p < .001$) and to a lesser extent for open, polyamorous, and swinger participants (specific results available upon request). Taken together, this pattern of results suggests that despite one's relationship orientation, individuals who are monogamous are consistently perceived to be the least promiscuous, and individuals who are swingers are perceived to be the most promiscuous (unless participants identified as a swinger), and all CNM participants reported similar levels of promiscuity when asked about targets in open and polyamorous relationships. Essentially, the interaction effect seemed to be largely driven by the fact that monogamous individuals reported the expected trend yet CNM participants had more blurred boundaries.

With respect to the estimates of the likelihood of having an STI, there was also a significant main effect of the targets' relationship orientation (see Figure 3), $F(3, 1857) = 72.74, p < .001, \eta_p^2 = .11$, a significant main effect of participants' self-identified relationship orientations, $F(3, 619) = 4.24, p = .006, \eta_p^2 = .02$, and a significant interaction, $F(9, 1857) = 6.92, p < .001, \eta_p^2 = .03$. Post hoc analyses revealed clear support for the predicted pattern of ratings for monogamous participants (in all cases, $p < .001$), and to a lesser extent for open and polyamorous participants, and to an even less extent for swinger participants. Taken together, the results indicated that despite one's relationship orientation, perceptions about the likelihood of

having an STI were consistently the lowest for monogamous targets while swinger targets were perceived to be the most likely to have an STI (unless participants also identified as a swinger).

6.3.4. Social Distance as a Function of Beliefs About STIs and Promiscuity

We conducted a series of blocked regression analyses to evaluate whether beliefs about STIs and promiscuity were related to social distance ratings for each of the four relationship orientation targets while controlling for religious and political affiliation. Scores for both religious and political affiliation were entered in Step 1 and STI ratings and promiscuity ratings were entered in Step 2 as the independent variables. The dependent variable was social distance ratings for each relationship orientation. Perceptions about the likelihood of having an STI and beliefs about promiscuity were not significant for predicting social distance for monogamous targets ($p > .05$). The model incorporating religious and political affiliation, likelihood of having an STI, and beliefs about promiscuity was significant for targets in open ($F(6, 626) = 7.13, p < .001$), polyamorous ($F(6, 628) = 15.32, p < .001$), and swinger ($F(6, 622) = 9.84, p < .001$) relationships. Ratings of the likelihood of having an STI significantly predicted social distance for targets in open relationships ($\beta = 0.12, t(6) = 2.78, p = .006$) and accounted for 1.17% of the overall variance. The overall variance explained for targets in open relationships was $R^2 = 0.07$. For polyamorous targets, ratings of the likelihood of having an STI significantly predicted social distance ($\beta = 0.26, t(6) = 5.74, p < .001$) and accounted for 4.62% of the overall variance. The overall variance explained for targets in polyamorous relationships was $R^2 = 0.13$. For targets in swinging relationships, ratings of likelihood of having an STI also significantly predicted social distance ($\beta = 0.25, t(6) = 6.14, p < .001$) and accounted for 5.57% of the overall variance. The overall variance explained for individuals in swinging relationships was $R^2 = 0.09$. In all cases,

beliefs about STIs predicted social distance for CNM targets (polyamorous, open and swinging individuals), but beliefs about promiscuity did not (all $ps > .05$).

6.4. Discussion

The goals of the current research were three-fold. First, consistent with prior research (Conley et al., 2013) we sought to replicate the halo effect of monogamy compared to three different types of consensually non-monogamous (CNM) relationships. Consistent with this first goal, we found that all individuals, regardless of their relationship orientation, rated monogamous individuals with lower social distance, specifically when the CNM categories were collapsed together. This effect also emerged when controlling for political and religious affiliation. This is in line with previous research that demonstrates that CNM individuals are generally perceived less positively than monogamous individuals (Conley et al., 2013; Moors et al., 2013).

Second, we sought to determine how the halo effect relates to specific CNM relationship identification and whether beliefs about promiscuity and the likelihood of having an STI were related to desired social distance. As prior research has not distinguished between distinct kinds of CNM relationships, the previous research may have overestimated a halo effect by erasing important variation that exists between CNM groups, thus blurring the boundaries of the in-group, which would result in participants feeling less inclusion and belonging (Pickett & Brewer, 2005) to the more general CNM category and thus report relatively more approving ratings for monogamous than CNM targets. The results of the current research suggest that the subtleties between CNM relationships are important to consider. The halo effect around monogamy dims when looking at social distance and distinguishing between open relationships, polyamorous relationships, and swinging relationships both among participants and as targets. Instead, CNM

individuals appear to similarly favor monogamy and their own relationship orientation relative to the other CNM categories.

There are several reasons why we would expect individuals to value their own relationship orientation either equal to or more than monogamy, despite monogamy being the norm. First, people typically favor members from their own group (Marques et al., 1998). While people in CNM relationships generally rated their orientation similarly to monogamous relationships, they still rated monogamy very favorably, and thus it would seem that our results are somewhat consistent with the idea that in-group favoritism can predict social distance in this context. However, if in-group favoritism entirely explained this effect, we may expect individuals to rate their self-identified orientation as superior to monogamy, which was not the case. Thus, it is likely that additional mechanisms may be at work here. For example, from a social exchange perspective (Cook et al., 2013; Emerson, 1976), people who practice polyamory may perceive their orientation to provide rewards, such as greater need fulfillment or more sexual variety. Despite the fact that monogamy places limits on these rewards, polyamorous individuals might also perceive some benefits to monogamy, such as greater relationship acceptance and less romantic secrecy. Additionally, or alternatively, perceptions of group “realness” might contribute to group identification. For example, previous research suggests that marginalization of bisexuals is partially based on the “invisibility” of bisexual experiences (e.g., people cannot visibly see bisexual sexual orientation) and positioning bisexual women as either truly lesbian or truly heterosexual (e.g., perceiving bisexual relations to be transient, and ultimately leading one to choose a final orientation of lesbian or heterosexual; Hayfield et al., 2014). This might also be the case regarding different CNM relationships. For example, individuals might perceive monogamy to be more “real” than other relationship orientations

based on social conventions and norms (see Henrich et al., 2012, for a discussion of normative monogamy). The perceived realness of different CNM categories might therefore influence individuals' in-group identification.

Consistent with our predictions, monogamous individuals were rated as the least promiscuous and least likely to have an STI, followed by individuals in open and polyamorous relationships, while swingers were rated as the most promiscuous and were perceived to have the highest STI risk (by everyone but swingers). The differences that emerged remained when controlling for religious and political affiliation and were suspected to arise due to the different emphasis on sexual and emotional connection of these CNM relationship orientations (as was outlined in the introduction). Furthermore, these results are consistent with previous research suggesting that individuals who practice CNM are perceived to be more likely to spread STIs. Importantly, however, other research suggests that perceptions that people in CNM relationships are more likely to have an STI are inaccurate (see Lehmiller, 2015, for a review). Specifically, according to some research, CNM individuals are more likely than monogamous individuals to engage in safer sex practices, such as using condoms and getting tested for STIs (Conley et al., 2012a; Hutzler et al., 2016). Furthermore, unfaithful monogamous individuals are less likely to practice safer sex than openly non-monogamous individuals (Conley et al., 2012a; Hinton-Dampf, 2011; Lehmiller, 2015). Conservative estimates from national surveys suggest that 20% to 25% of all Americans will have extramarital sex (Greeley, 1994; Laumann et al., 1994; Wiederman, 1997). In romantic relationships, the number one assumption of college students in committed relationships is that their partner will be sexually faithful to them (Feldman & Cauffman, 1999), even though this normative assumption of monogamy coincides with frequent infidelity (Campbell & Wright, 2010). Therefore, with infidelity occurring in a reliable minority

of American marriages and monogamous romantic relationships, it would seem that concern about CNM relationships and STI risk is somewhat overblown while concern for STI risk within monogamous relationships may be underappreciated. This idea is consistent with recent findings suggesting that monogamy might be less effective at preventing STIs than expected (Conley et al., 2015).

In spite of the emphasis on safer sex in CNM relationships, there appears to be an overall perception that promiscuity and STI risk is higher for non-monogamists. Distinguishing between CNM relationships, there were interactions between self-identified relationship orientation and targets' relationship orientation. Overall, monogamous participants rated all three CNM relationship orientations as more promiscuous and to have higher STI risk than themselves. Interestingly, for STI risk, polyamorous and swinging participants rated their own relationship orientation as the lowest STI risk apart from monogamous targets, which might reflect emphasis and knowledge of safe sex practices among individuals in CNM relationships (Conley et al., 2012a; Hutzler et al., 2016).

Despite the interaction effects for promiscuity and STI risk, there appears to be a blurred boundary between social distance, promiscuity, and STI likelihood ratings for some CNM relationship orientations. More specifically, while monogamous targets tended to have the lowest social distance, were perceived to have the lowest STI risk, and to be the least promiscuous, and swinger targets were the recipients of the greatest social distance, and perceived to have highest STI risk, and be the most promiscuous, observations for polyamorous and open relationship targets were often indistinguishable and did not consistently differ significantly from each other. Although swinging, open relationships, and polyamory are recognizably different relationship orientations, many individuals may move freely between them before picking the orientation that

is best suited for them and their relationship(s). Further, since polyamorous group marriages or arrangements can be sexually closed or open (i.e., polyfidelity vs. polyamory; see Sheff, 2014), drawing a line between these orientations is often difficult (Kurtz, 2003). Thus, an explanation for the lack of differences between polyamorous and open relationships may be that participants had difficulty distinguishing between these groups, regardless of providing participants with definitions for each orientation. Furthermore, the interactions between participants' relationship orientation and the relationship orientation of the target seems to be largely driven by the fact that monogamous individuals show the expected trend, yet CNM groups had more blurred boundaries.

We further sought to assess whether beliefs about promiscuity or one's likelihood of having an STI would influence social distance ratings. With regards to this third goal, the results suggest that social distance can be partially attributed to the perception of STI risk but does not seem to be related to beliefs about promiscuity. These results are substantiated by the correlational results, which show that higher social distance ratings are associated with higher ratings of STI risk for open, polyamorous, and swinging targets. From an error-management perspective (Haselton & Buss, 2000; Haselton et al., 2005), we expected individuals to be biased to make more false-positive errors (detecting an infection when it does not exist) than false-negative errors (failing to detect an infection when one is actually present) about the risk posed by individuals who identified with a CNM group. It is possible that this cognitive bias influenced the social distance ratings of individuals who are polyamorous, open, or swinging. This is also consistent with research suggesting that monogamy evolved to prevent against the spread of STI's (see Bauch & McElreath, 2016, for a review of the evolution of socially imposed monogamy). More specifically, in larger groups, STIs become endemic and have an impact on

fertility. As such, monogamy may be prompted to prevent against the spread of infection and punishing individuals who deviate from monogamy improves monogamist fitness within groups by reducing their STI exposure, and between groups by enabling punishing monogamist groups to outcompete non-monogamy (Bauch & McElreath, 2016). In the current research, we further show that one such punishment may be social distance, and that individuals in CNM relationships perceive other CNM orientations to be more inclined to have STIs and thus also report greater desired social distance. This provides a clue concerning desired social distance, and thus stigma and discrimination, towards atypical relationship orientations. However, given the relatively small effect sizes, there are clearly other factors that contribute to perceptions of social distance. Factors that could be explored in future research include perceptions of trust and morality (Conley et al., 2013), lack of knowledge about these relationship orientations, misperceptions about STI risk, or perceptions of realness of the relationship orientation.

6.4.1. Limitations

There are some features of the sample and methods that may limit the interpretation and impact of our findings. First, the current research used a convenience sample of participants who self-selected to participate in this study; therefore, the study may be limited in generalizability. Furthermore, the definitions of various CNM relationships in this study may not accurately reflect definitions participants had of these relationship orientations (e.g., do those who practice group sex identify as swingers?). Additionally, this survey had various one-item measures (i.e., the social distance, promiscuity, and STI ratings), though these ratings were asked in a repeated, within-subject manner. Lastly, this research is correlational and thus causality cannot be assessed.

6.4.2. Concluding Remarks

Considered together, our results indicate that the halo effect around monogamy is not particularly robust when researchers take into account the relationship configuration of the participant him/herself and when the different CNM relationships are examined separately. More specifically, in all cases, CNM participants ratings of social distance for targets in the relationship orientation they identify with did not significantly differ from ratings for monogamous targets (e.g., polyamorous participants' ratings of social distance for polyamorous targets did not significantly differ from polyamorous participants ratings of monogamous targets). Furthermore, results suggest that perceptions of STI likelihood may contribute to stigma towards CNM relationships, whether warranted or not, and also suggests that not all CNM relationships are viewed equally (consistent with previous work by Matsick and colleagues, 2014). Given the increasing visibility of CNM relationships in mainstream society, distinguishing between CNM relationship orientations and determining reasons for differing levels of stigma towards these relationship orientations warrants consideration in future research. We encourage researchers to consider that conceptualizing or operationalizing CNM as a general category inaccurately reflects the diversity of CMN and may lead to erroneous conclusions.

6.5. References

- Adam, B. D. (2006). Relationship innovation in male couples. *Sexualities*, 9, 5–26.
- Aral, S. O., & Leichliter, J. S. (2010). Non-monogamy: Risk factor for STI transmission and acquisition and determinant for STI spread in populations. *Sexually Transmitted Infections*, 86, 29–36.
- Barker, M. (2011). Monogamies and non-monogamies: A response to ‘The challenge of monogamy: Bringing it out of the closet and into the treatment room’ by Marianne Brandon. *Sexual and Relationship Therapy*, 26, 281–287.
- Barker, M., & Langdridge, D. (2010). Whatever happened to non-monogamies? Critical reflections on recent research and theory. *Sexualities*, 13, 748-772.
- Balzarini, R. N., Campbell, L., Kohut, T., Holmes, B. M., Lehmilller, J. J., Harman, J. J., & Atkins, N. (2017). Perceptions of primary and secondary relationships in polyamory. *PLoS ONE*, 12, 1–20.
- Balzarini, R. N., Dharma, C., Kohut, T., Campbell, L., Holmes, B. M., Lehmilller, J. J., & Harman, J. J. (2018). Demographic comparison of American individuals in polyamorous and monogamous relationships. *Journal of Sex Research*. Advanced online publication.
- Balzarini, R. N., Shumlich, E., Kohut, T., & Campbell, L. (revision submitted). Sexual attitudes, opinions, and sociosexual orientation differ based on relationship orientation. *Journal of Sex Research*.
- Bauch, C. & McElreath, R. (2016). Disease dynamics and costly punishment can foster socially imposed monogamy. *Nature Communications*, 7, 1–9.

- Bettencourt, B., Charlton, K., Dorr, N., & Hume, D. L. (2001). Status differences and in-group bias: a meta-analytic examination of the effects of status stability, status legitimacy, and group permeability. *Psychological Bulletin*, *127*, 520–542.
- Bogardus, E.S. (1933). A Social Distance Scale. *Sociology and Social Research*, *17*, 265–271.
- Campbell, K., & Wright, D. W. (2010). Marriage today: Exploring the incongruence between Americans' beliefs and practices. *Journal of Comparative Family Studies*, *3*, 329–345.
- Conley, T. D., Matsick, J. L., Moors, A. C., Ziegler, A., & Rubin, J. D. (2015). Re-examining the effectiveness of monogamy as an STI-preventive strategy. *Preventive Medicine*, *78*, 23–28.
- Conley, T. D., Moors, A. C., Matsick, J. L., & Ziegler, A. (2013). The fewer the merrier: Assessing stigma surrounding non-normative romantic relationships. *Analyses of Social Issues and Public Policy*, *13*, 1–30.
- Conley, T. D., Moors, A. C., Ziegler, A., & Karathanasis, C. (2012a). Unfaithful individuals are less likely to practice safer sex than openly nonmonogamous individuals. *Journal of Sexual Medicine*, *9*, 1559–1565.
- Conley, T. D., Ziegler, A., Moors, A. C., Matsick, J., Valentine, B. (2012b). A critical examination of popular assumptions about the benefits and outcomes of monogamous relationships. *Personality and Social Psychology Review*, *2*, 124–141.
- Cook, K. S., Cheshire, C., Rice, E. R., & Nakagawa, S. (2013). Social exchange theory. In J. DeLamater & A. Ward (Eds.), *Handbook of social psychology* (pp. 61–88). Dordrecht, the Netherlands: Springer.

- Curtis, V., de Barra, M., & Aunger, R. (2011). Disgust as an adaptive system for disease avoidance behaviour. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 366, 389–401.
- Delery-Edwards, C. (2014). *The up stairs lounge arson: Thirty-two deaths in a New Orleans gay bar, June 24, 1973*. Jefferson, NC: McFarland.
- Dukers-Muijers, N. H., Niekamp, A. M., Brouwers, E. E., & Hoebe, C. J. (2010). Older and swinging: Need to identify hidden and emerging risk groups at STI clinics. *Sexually Transmitted Infections*, 86, 315–317.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers*, 28, 1–11.
- Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology*, 2, 335–362.
- Faulkner, J., Schaller, M., Park, J. H., & Duncan, L. A. (2004). Evolved disease-avoidance mechanisms and contemporary xenophobic attitudes. *Group Processes & Intergroup Relations*, 7, 333–353.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149–1160.
- Feldman, S. S., & Cauffman, E. (1999). Your cheatin' heart: Attitudes, behaviors, and correlates of sexual betrayal in late adolescents. *Journal of Research on Adolescence*, 9, 227–252.
- Fleckenstein, J., Bergstrand, C. R., & Cox, D. W. (2012). What Do Polys Want?: An Overview of the 2012 Loving More Survey. *Loving More*. Retrieved from <http://www.lovemore.com/polyamory-articles/2012-lovemore-polyamory-survey/>

- Frank, K., & DeLamater, J. (2010). Deconstructing monogamy: Boundaries, identities, and fluidities across relationships. In M. Barker and D. Langdrige (Eds.), *Understanding non-monogamies* (pp. 9–22). New York, NY: Routledge.
- Greeley, A. (1994). Marital infidelity. *Society*, 57, 9–13.
- Hansen, H., & Groce, N. E. (2001). From quarantine to condoms: Shifting policies and problems of HIV control in Cuba. *Medical Anthropology*, 19, 259–292.
- Haselton, M. G., & Buss, D. M. (2000). Error management theory: A new perspective on biases in cross-sex mind reading. *Journal of Personality and Social Psychology*, 78, 81–91.
- Haselton, M.G., Nettle, D., & Andrews, P.W (2005). The evolution of cognitive bias. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (pp. 724–746). New York, NY: Wiley.
- Hauptert, M., Gesselman, A., Moors, A., Fisher, H., & Garcia, J. (2017). Prevalence of experiences with consensual non-monogamous relationships: Findings from two nationally representative samples of single Americans. *Journal of Sex and Marital Therapy*, 43, 424–440.
- Hayfield, N., Clarke, V., & Halliwell, E. (2014). Bisexual women’s understandings of social marginalisation: ‘The heterosexuals don’t understand us but nor do the lesbians’. *Feminism & Psychology*, 24, 352–372.
- Henrich, J., Boyd, R., & Richerson, P. J. (2012). The puzzle of monogamous marriage. *Philosophical Transactions of the Royal Society B*, 367, 657–669.
- Herek, G. M. (2000). The psychology of sexual prejudice. *Current Directions in Psychological Sciences*, 9, 19–22.

- Hinton-Dampf, A. M. (2011). *Non-monogamous individuals compared to monogamous individuals: The differences in their relationships, specifically sexual risk behaviors and level of trust* (Unpublished doctoral dissertation). University of Missouri, Columbia, MO.
- Hutzler, K. T., Giuliano, T. A., Herselman, J. R., & Johnson, S. M. (2016). Three's a crowd: Public awareness and (mis)perceptions of polyamory. *Psychology & Sexuality, 7*, 69–87.
- Jenks, R. J. (1998). Swinging: A review of the literature. *Archives of Sexual Behavior, 27*, 507–521.
- Jenks, R. (1992). Fear of AIDS among swingers. *Annals of Sex Research, 5*, 227–237.
- Johnson, S. M., Giuliano, T. A., Herselman, J. R., & Hutzler, K. T. (2015). Development of a brief measure of attitudes towards polyamory. *Psychology & Sexuality, 6*, 325–339.
- Jonason, P. K., & Balzarini, R. N. (2016). Unweaving the rainbow of human sexuality: A review of one-night stands, serious romantic relationships, and the relationship space in between. In K. Aumer (Ed.), *The psychology of love and hate in intimate relationships* (pp. 13–28). New York, NY: Springer International Publishing.
- Kirk, R. E. (1982). *Experimental design: Procedures for the behavioural sciences* (2nd ed.). Belmont, CA: Wadsworth, Inc.
- Koop, C. E. (1987). Surgeon General's report on acquired immune deficiency syndrome. *Public Health Reports, 102*, 1–3.
- Kurtz, S. (2003). Beyond gay marriage. *The Weekly Standard*. Retrieved from <https://www.weeklystandard.com/stanley-kurtz/beyond-gay-marriage>
- Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago, IL: University of Chicago Press.

- Lehmiller, J. J. (2015). A comparison of sexual health history and practices among monogamous and consensually nonmonogamous sexual partners. *Journal of Sexual Medicine, 12*, 2022–2028.
- Markel, H., & Stern, A. M. (2002). The foreignness of germs: the persistent association of immigrants and disease in American society. *The Milbank Quarterly, 80*, 757-788.
- Marques, J., Abrams, D., Paez, D., & Martinez-Taboada, C. (1998). The role of categorization and in-group norms in judgments of groups and their members. *Journal of Personality and Social Psychology, 75*, 976–988.
- Mason, T. (2001). *Stigma and social exclusion in healthcare*. London; EN: Routledge.
- Matsick, J. L., Conley, T. D., Ziegler, A., Moors, A. C., & Rubin, J. D. (2014). Love and sex: Polyamorous relationships are perceived more favourably than swinging and open relationships. *Psychology & Sexuality, 5*, 339–348.
- Misovich, S. J., Fisher, J. D., & Fisher, W. A. (1997). Close relationships and elevated HIV risk behavior: Evidence and possible underlying psychological processes. *Review of General Psychology, 1*, 72–107.
- Moors, A. C., Matsick, J. L., Ziegler, A., Rubin, J. & Conley, T. D. (2013). Stigma toward individuals engaged in consensual non-monogamy: Robust and worthy of additional research. *Analyses of Social Issues and Public Policy, 13*, 52–69.
- Mullen, B., Brown, R., & Smith, C. (1992). Intergroup bias as a function of salience, relevance, and status: An integration. *European Journal of Social Psychology, 22*, 103–122.
- National center for HIV/AIDS, Viral hepatitis, STD, TB Prevention (2012). New HIV infections in the United States (Fact Sheet). *Centers for Disease Control and Prevention*. Retrieved from <http://www.cdc.gov/nchhstp/newsroom/docs/2012/hiv-infections-2007-2010.pdf>

- Niekamp, A. M., Hoebe, C. J. P. H., Spauwen, L. W. L., & Dukers-Muijrs, N. H. T. M. (2011). Concurrent sexual partnerships and group sex as determinants of STI within sexual networks of swingers. *Sexually Transmitted Infections*, *87*, A192.
- Pickett, C. L., & Brewer, M. B. (2005). The role of exclusion in maintaining ingroup inclusion. In D. Abrams, M. A. Hogg, & J. M. Marques (Eds.), *The social psychology of inclusion and exclusion* (pp. 89–112). New York, NY: Psychology Press.
- Platteau, T., van Lankveld, J., Ooms, L., & Florence, E. (2017). Sexual behavior and sexually transmitted infections among swingers: Results from an online survey in Belgium. *Journal of Sex and Marital Therapy*, *43*, 709–719.
- Ritchie, A. (2010). Discursive constructions of polyamory in mono-normative media culture. In M. Barker and D. Langdrige (Eds.), *Understanding non-monogamies* (pp. 46–54). New York, NY: Routledge.
- Rodrigues, D., Fasoli, F., Huic, A., & Lopes, D. (2017). Which partners are more human? Monogamy matters more than sexual orientation for dehumanization in three European countries. *Sexuality Research and Social Policy*. *Advanced online publication*.
- Rubin, J. D., Moors, A. C., Matsick, J. L., Ziegler, A., Conley, T. D. (2014). On the margins: Considering diversity among consensually non-monogamous relationships. *Journal fur Psychologie*, *22*, 1–23.
- Schaller, M., Murray, D. R., & Bangerter, A. (2015). Implications of the behavioural immune system for social behaviour and human health in the modern world. *Philosophical Transactions of the Royal Society of Biology*, *370*, 20140105.
- Sheff, E. (2014). Seven forms of non-monogamy: Exploring the wide world of extra-dyadic sexual relationships. *Psychology Today*. Retrieved from

<https://www.psychologytoday.com/blog/the-polyamorists-next-door/201407/seven-forms-non-monogamy>

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2013). Life after p-hacking. Meeting Society of Personality Social Psychology, New Orleans, LA. Retrieved from <http://ssrn.com/abstract=2205186>.

Spauwen, L. W., Niekamp, A. M., Hoebe, C. J., & Dukers-Muijrs, N. H. (2014). Drug use, sexual risk behaviour and sexually transmitted infections among swingers: A cross-sectional study in The Netherlands. *Sexually Transmitted Infections, 91*, 31–36.

Thorndike, E. L. (1920). A constant error in psychological ratings. *Journal of Applied Psychology, 4*, 25–29.

Ware, N. C., Wyatt, M. A., & Tugenberg, T. (2006). Social relationships, stigma and adherence to antiretroviral therapy for HIV/AIDS. *AIDS Care, 18*, 904–910.

Wiederman, M. W. (1997). Extramarital sex: Prevalence and correlates in a national survey. *Journal of Sex Research, 34*, 167–174.

6.6. Tables

Table 22. *Demographic Information for Monogamous, Polyamorous, Open, and Swinging Participants*

	Overall	Monogamous	Polyamorous	Open	Swinging
Age (Years)	32.07 (9.45)	32.35 (9.99)	32.02 (8.39)	31.49 (8.68)	30.63 (6.69)
Gender					
Male	58.28%	54.14%	66.13%	65.00%	73.08%
Female	41.41%	45.64%	32.26%	35.00%	25.00%
Other	0.31%	0.22%	1.61%	0.00%	1.92%
Race					
White	65.83%	71.81%	43.55%	48.75%	67.31%
Asian	18.56%	13.65%	29.03%	33.75%	25.00%
Black	6.08%	6.94%	4.84%	6.25%	0.00%
Hispanic	5.62%	5.15%	12.90%	5.00%	1.92%
American Indian	1.72%	0.89%	4.84%	2.50%	3.85%
Other	2.18%	1.57%	4.84%	3.75%	1.92%
Religious affiliation					
Agnostic and Atheist	36.97%	36.24%	40.32%	33.75%	44.23%
Buddhist and Hindu	10.76%	6.94%	17.74%	22.50%	17.31%
Christian	43.53%	48.55%	29.03%	35.00%	30.77%
Jewish	2.18%	2.91%	0.00%	0.00%	1.92%
Muslim	1.25%	0.89%	0.00%	2.50%	3.85%
Other	5.30%	4.47%	12.90%	6.25%	1.92%
Political affiliation					
Democrat	36.51%	37.36%	29.03%	32.50%	44.23%
Republican	19.50%	21.48%	11.29%	17.50%	15.38%
Independent/Unaffiliated	30.58%	32.21%	33.87%	26.25%	19.23%
Other	13.42%	8.94%	25.80%	23.75%	21.16%
Sexual orientation					
Heterosexual	84.56%	89.26%	67.74%	77.50%	75.00%
Lesbian / Gay	3.43%	2.91%	4.84%	5.00%	3.85%
Bisexual	10.30%	6.26%	24.19%	16.25%	19.23%
Other	1.72%	1.57%	3.23%	1.25%	1.92%

Relationship status					
Single	17.63%	19.02%	11.29%	17.50%	13.46%
Dating	38.53%	33.33%	58.07%	51.25%	40.38%
Engaged	5.62%	6.71%	1.61%	3.75%	3.85%
Married	38.22%	40.94%	29.03%	27.50%	42.31%

Table 23. *Correlations Between Social Distance Ratings, Promiscuity Ratings, and STI Ratings Based on Target Relationship Orientation*

Target Relationship Orientation	1	2
Monogamous		
1. Social Distance	—	
2. Promiscuity Rating	.07	—
3. STI Ratings	.07	.52**
Open Relationships		
1. Social Distance	—	
2. Promiscuity Rating	.13**	—
3. STI Ratings	.19**	.45**
Polyamorous		
1. Social Distance	—	
2. Promiscuity Rating	.22**	—
3. STI Ratings	.33**	.59**
Swingers		
1. Social Distance	—	
2. Promiscuity Rating	.08	—
3. STI Rating	.27**	.51**

Note. ** $p < .01$.

6.7. Figures

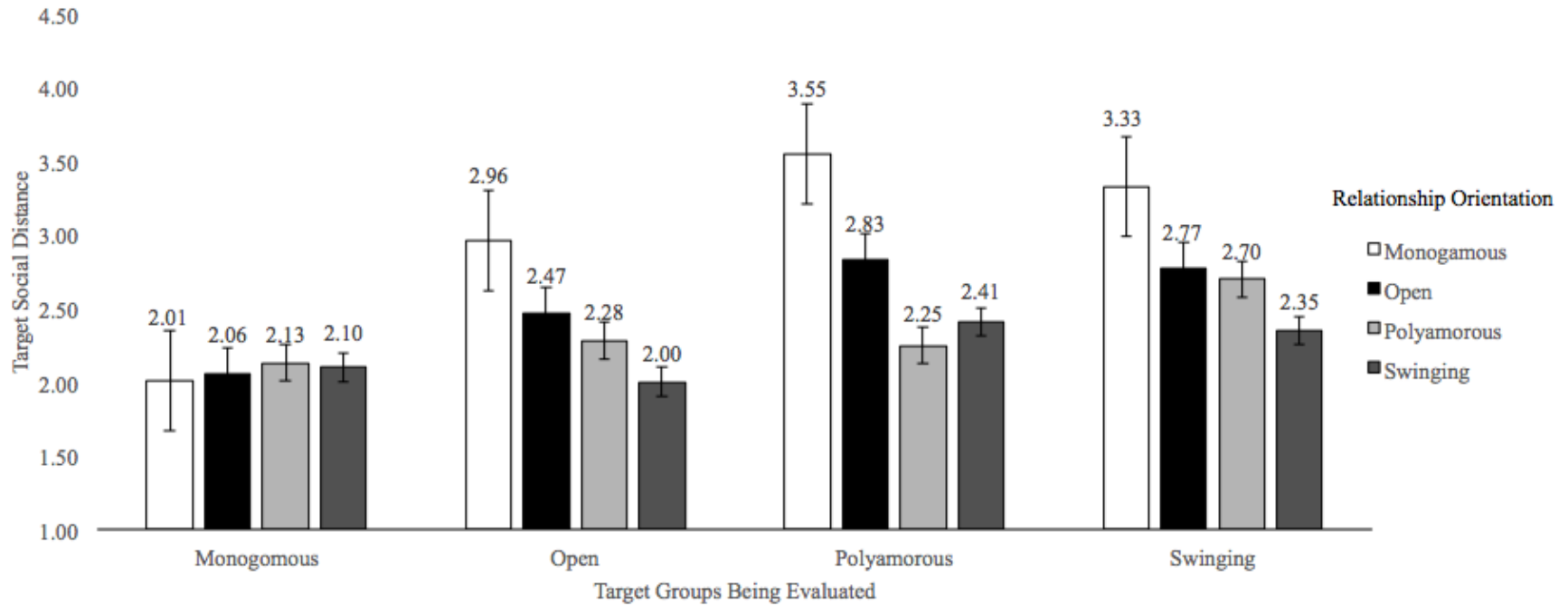


Figure 9. Mean Social Distance Ratings

Notes: Mean Social Distance for the Bogardus Social Distance Scale (1933). Ratings are based on a 7-point scale with greater values indicating greater social distance.

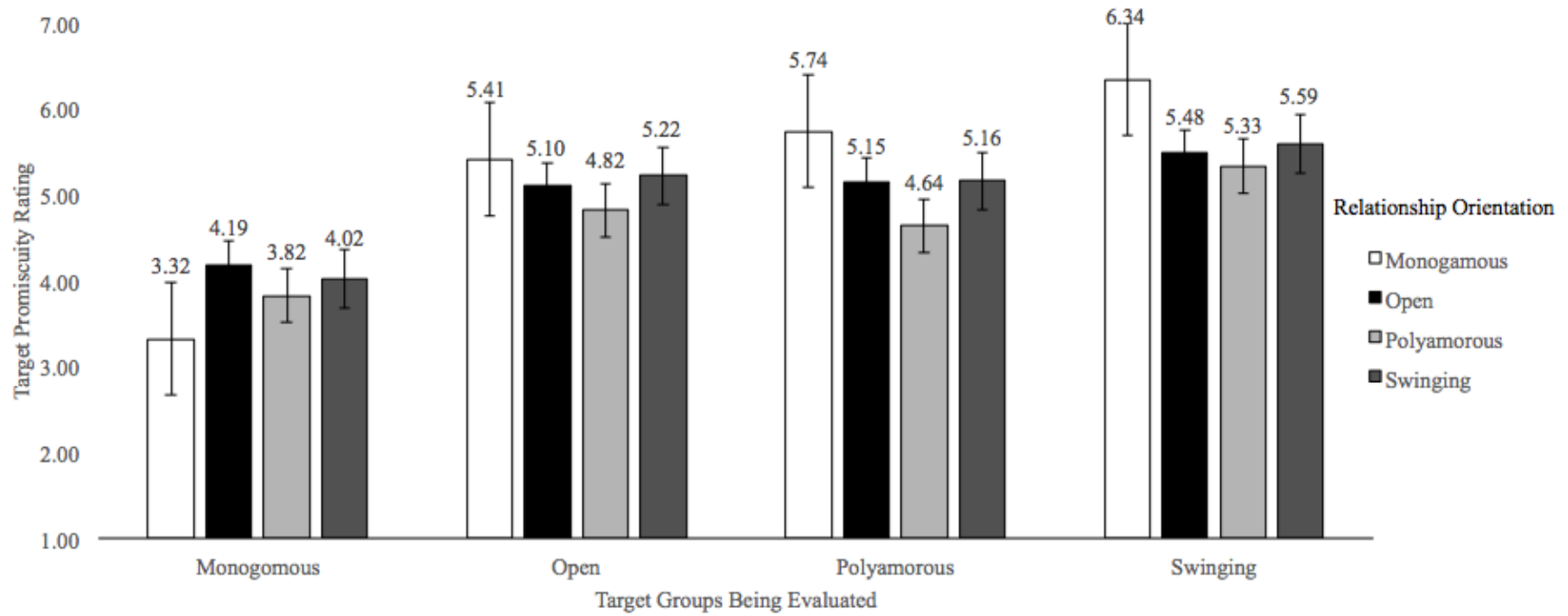


Figure 10. *Mean Promiscuity Ratings*

Notes: Ratings are based on a 7-point scale with greater values indicating greater perceived promiscuity ratings.

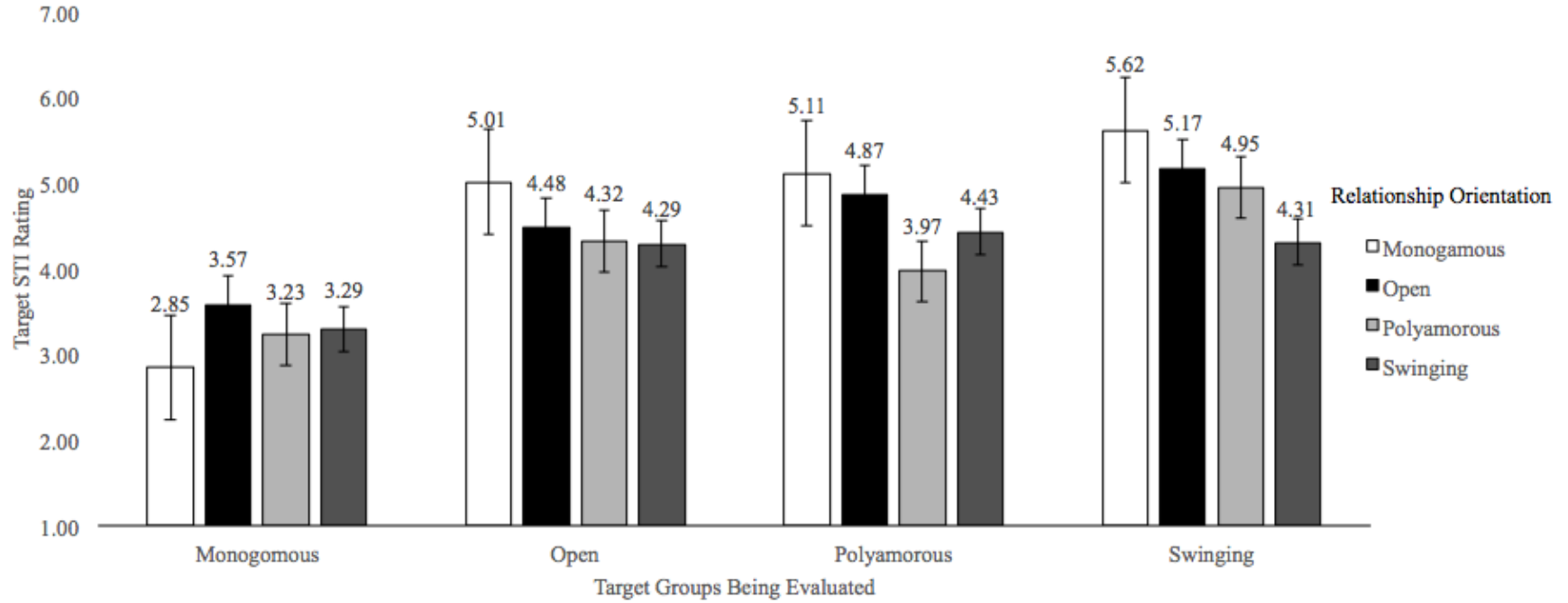


Figure 11. *Mean STI Ratings*

Notes: Ratings are based on a 7-point scale with greater values indicating greater perceived likelihood of having an STI.

CHAPTER SEVEN: SEXUAL ATTITUDES, EROTOPHOBIA, AND SOCIOSEXUAL ORIENTATION DIFFER BASED ON RELATIONSHIP ORIENTATION

7.1. Introduction

Consensual non-monogamy (CNM) has become increasingly visible in public and academic discourse, with more than 20% of Americans practicing some form of CNM in their lifetime (Hauptert, Gesselman, Moors, Fisher, & Garcia, 2017). CNM is an umbrella term for relationship orientations that differ based on the degree to which sexual and/or emotional needs are consensually fulfilled outside of a single romantic dyad (Barker & Langdrige, 2010). The three most common CNM relationships are swinging relationships, open relationships, and polyamory (Barker, 2011). Swinging relationships involve couples who engage in extradyadic sexual activity together, typically without emotional attachment or love for their extradyadic partners (Matsick, Conley, Ziegler, Moors, & Rubin, 2014). Open relationships involve extradyadic sex without love and without a romantic partner's involvement in that extradyadic sex, whereas polyamorous individuals love more than one person, and often have multiple, emotionally-close relationships that may or may not include sexual involvement (Barker & Langdrige, 2010; Matsick et al., 2014).

Given the distinctions between different forms of CNM relationships, research has examined differences in attitudes *towards* various CNM relationship orientations. Swingers, for example, are often perceived more negatively than people in other CNM relationships (e.g., polyamorists), possibly as the result of stigma towards their strictly sexual relationships (Matsick et al., 2014), or stigma towards promiscuity (Balzarini, Shumlich, Kohut, & Campbell, 2018). Despite different attitudes held towards people practicing different types of CNM relationships, it is unclear if the psychosexual characteristics of individuals actually engaging in these different

CNM relationships differ in a manner consistent with these attitudinal distinctions. What little is known suggests certain personality dimensions, such as openness to experience and conscientiousness, predict desire to engage in CNM (Moors, Selterman, & Conley, 2017), while the dimension of sociosexuality predicts the desire to engage in extradyadic sex (Seal, Agostinelli & Hannett, 1994), as well as CNM experiences (Rodrigues, Lopes, & Smith, 2017). Relatedly, attitudes towards CNM are also more positive among people who engage in CNM than people who do not (Balzarini et al., 2018). An important limitation of this emerging body of research is it does not differentiate between distinct CNM groups (e.g., swinging vs. open vs. polyamorous relationships). Our aim, therefore, was to examine possible differences in sexual attitudes, inclinations to approach or avoid sexual stimuli (i.e., erotophobia-erotophilia), and sociosexuality among CNM and monogamous individuals. This study advances knowledge by examining nuanced differences between monogamous, polyamorous, open, and swinger's sexual attitudes, erotophilia-erotophobia, and sociosexual orientation. This information could be useful in future hypothesis generation and could help provide insights into predicting who is likely to enter and remain in the various relationship orientations.

7.1.1. Sexual Attitudes

Sexual attitudes reflect a variety of values, beliefs, and orientations to sex. Sexual attitudes can be organized along four dimensions (Hendrick & Hendrick, 1987; Hendrick, Hendrick, & Reich, 2006): permissiveness, birth control, communion, and instrumentality. Permissiveness reflects attitudes toward casual sex. Previous research shows that emerging adults with permissive attitudes towards casual sex are more willing to engage in non-consensual extradyadic relationships (i.e., infidelity, Seal et al., 1994) and casual sexual relationships (Vrangalova & Ong, 2014). Since swinging relationships focus on extradyadic sex rather than

emotional attachment (Barker & Langdrige, 2010), and permissiveness correlates negatively with commitment (Hendrick et al., 2006), we expected swingers to score higher than the other relationship orientations on permissive sexual attitudes, given that swinging is primarily defined by extra-dyadic sexual relationships. Following swingers, we expected individuals in open and polyamorous relationships would report lower but relatively high permissiveness, as these orientations permit consensual extra-dyadic sexual and emotional relationships. We further postulated that the difference between permissive attitudes for those who identify as polyamorous and open may be difficult to differentiate, as previous research shows that perceptions of promiscuity among these two relationship orientations do not differ (Balzarini et al., 2018). In summary, we predicted that monogamists would be the least permissive, since these relationships exclude extradyadic relationships by definition, followed by polyamorous and open relationships (with open being more or equally permissive to polyamory), and swingers being the most permissive (Hypothesis 1).

Instrumentality reflects the biological and utilitarian aspects of sex. For example, someone who is high in instrumental sexual attitudes would endorse the following statements: “Sex is primarily physical,” and “The main purpose of sex is to enjoy yourself” (Hendrick et al., 2006). Research shows instrumentality correlates strongly with permissiveness and is related to disinhibition and boredom susceptibility, with the probable link between the three being a restless need for pleasure without regard for any particular rules (Hendrick & Hendrick, 1987). These results are most consistent with swinging individuals high on sensation seeking (Houngbedji & Guillem, 2016). In fact, swingers tend to rate their sex lives as very satisfying and overwhelmingly (97.5%) report swinging has made their life more exciting (Levitt, 1988; Rubel & Bogaert, 2015). Given swinging relationships are geared towards sexual aspects of

extradyadic relationships, typically without emotional attachment with the extradyadic partners (Matsick et al., 2014), and often involve exciting sexual experiences (Levitt, 1988; Rubel & Bogaert, 2015), we predicted that swingers would report the highest instrumentality scores. Consistent with the rationale outlined for permissiveness, we expected swingers to be followed by open and polyamorous individuals (with open either greater than or equal to polyamory), and monogamous individuals to report the lowest instrumentality scores (Hypothesis 2).

We did not expect to find differences in communion or attitudes towards birth control ratings based on relationship orientation. Communion reflects the degree to which individuals endorse idealistic attitudes towards sex (e.g., “Sex is the closest form of communication between two people,” and “Sex is a very important part of life”, Hendrick et al., 2006). Communion positively correlates with commitment (Hendrick & Hendrick, 1995), and while CNM relationships may consist of multiple partners, these relationship orientations still involve commitment (emotionally, sexually, or both) to one or more people. For example, polyamorous participants report higher commitment for their primary than their secondary partners, though in both cases the ratings for commitment are high and above the mid-point of the scale (see Balzarini et al., 2017), and overall, individuals in CNM relationships often report a primary partner with whom they are committed to (Cohen, 2016; Zimmerman, 2012). Therefore, we predicted that participants of all relationship orientations would similarly endorse communion beliefs (Hypothesis 3).

Attitudes towards birth control generally reflect attitudes towards sexual responsibility. For example, individuals who are high in such attitudes would endorse the following statement: “Birth control is part of responsible sexuality” (Hendrick et al., 2006). Research shows that people in CNM relationships place emphasis on engaging in safe sex practices, such as condom

use and STI testing (Conley Moors, Ziegler, & Karathanasis, 2012; Hutzler, Giuliano, Herselman, & Johnson, 2016). Safe sex practices are also predicted to be relevant and important in monogamous individuals' relationships, especially with women increasingly seeking pregnancy later in life (Garcia, Reiber, Massey, & Merriwether, 2012), and some women choosing not to have children at all (Abma & Martinez, 2006; Gillespie, 2003). Thus, engaging in safe sex practices and endorsing sexually responsible attitudes may be equally important for monogamous and CNM individuals. Therefore, we predicted that all relationship orientations would endorse similar attitudes towards birth control (Hypothesis 4).

7.1.2. Erotophobia-Erotophilia

Erotophobia-erotophilia is a sexual dimension of personality that reflects approach or avoidance orientations towards sexual stimuli (Fisher, White, Byrne, & Kelley, 1988a). Individuals high on erotophobia have negative attitudes towards sex and sexuality (Lanciano, Soleti, Guglielmi, Mangiulli, & Curcia, 2016). Those who are erotophobic tend to have more conservative sex roles and attitudes towards sex (Fisher et al., 1988b; Johnson, Giuliano, Herselman, & Hutzler, 2015), experience guilt when they partake in numerous sexual activities, including masturbation and oral sex (Lanciano et al., 2016), have fewer sexual fantasies, less sexual familiarity, and are less likely to engage sex-related health care or utilize contraception (Fisher et al., 1988a; Gerrard, Kurylo, & Reis, 1991; Lanciano et al., 2016; Rudolph, 2016). Conversely, erotophilic people report positive attitudes towards sex and sexuality (e.g., are more "sex positive", see Ivanksi, 2017). An erotophilic person is more likely to engage in diverse facets of sexuality (Lanciano et al., 2016; Rye, Serafini & Bramberger, 2015), to think about sex more often, to masturbate and fantasize more frequently, and have more intercourse partners than erotophobic individuals (Fisher et al., 1988b). Erotophilic people are also more likely to engage

in sex-related health care and use contraception (Fisher et al., 1988b; Herbenick, Reece, & Hollub, 2009; Rudolph, 2016).

Therefore, it seems likely that CNM individuals would endorse more erotophilic views. As swingers often engage in extradyadic relationships without any commitment, they are likely more permissive of extradyadic sex (consistent with Hypothesis 1). Given the nature of different CNM relationships, it was predicted swingers would be the most erotophilic, followed by individuals in open relationships since those in open relationships typically engage in sexual relationships outside of the dyad. Those in polyamorous relationships were predicted to follow next due to the emphasis on committed relationships, with monogamous individuals predicted to report the least erotophilic, most erotophobic ratings (Hypothesis 5).

7.1.3. Sociosexual Orientation

A single bipolar trait of restricted to unrestricted sociosexuality is comprised of three distinct components: behavior (i.e., the behavioral tendencies and personal histories of uncommitted sex), attitudes, (i.e., the evaluative disposition toward uncommitted sex, said to be influenced by socialization and culture), and desire (i.e., the interest in uncommitted sex often associated with sexual arousal and sexual fantasies) (Penke & Asendorpf, 2008; Rodrigues et al., 2017). More sociosexually unrestricted individuals tend to pursue short-term mating strategies (e.g., greater number of sexual partners), and are more likely to identify as polyamorous (Morrison, Beaulieu, Brockman, & Beaglaioich, 2013), whereas more restricted individuals adopt long-term mating strategies (Ostovich & Sabini, 2004; Petersen & Hyde, 2011; Simpson & Gangestad, 1991, 1992). Sociosexuality reliably predicts flirting (Asendorpf & Penke, 2005), future sexual infidelity (Shaw, Rhoades, Allen, Stanley, & Markman, 2013), and desire for closeness and commitment in a relationship prior to engaging in sexual activity with a partner

(Simpson & Gangestad, 1991), in both males and females. However, sociosexually unrestricted individuals are also motivated to develop stable romantic relationships (Simpson & Gangestad, 1991; Simpson, Wilson, & Winterheld, 2004) and are sexually invested in their relationships (Rodrigues, Lopes, & Pereira, 2016; Tempelhof & Allen, 2008). In line with this, there is evidence that while CNM individuals are more sexually unrestricted than monogamous individuals, there are no differences between these groups in relationship satisfaction or commitment (Rodrigues et al., 2017). However, research has yet to explore differences in sociosexuality between the different types of CNM relationships.

Given this research, it was predicted that monogamous individuals would endorse a relatively more restricted sociosexual orientation. Conversely, based on the different emphasis of various CNM relationships, it was predicted that swingers would have the most unrestricted sociosexual orientation. Individuals in open and polyamorous relationships were predicted to follow those in swinging relationships, with open individuals predicted to have a more unrestricted or equally unrestricted sociosexual orientation as polyamorous individuals, as these individuals often form some sort of emotional connection or commitment with extradyadic partners (Hypothesis 6).

7.2. Method

7.2.1. Power Analysis

Our power analysis indicated that a sample size of 280 would be needed to find a statistically significant effect for a 4-way, between-subjects, analysis of variance (ANOVA) assuming a medium effect size ($f = .25$) with a power level of .95 (power estimated using G-Power 3.1; Erdfelder, Faul, & Buchner, 1996; Faul, Erdfelder, Lang, & Buchner, 2007). To ensure we had sufficient participants in each cell, we aimed to recruit a minimum of 350

participants (25% over the N indicated by our power analysis to account for incomplete data, or participants who do not meet inclusion criteria), and continued to collect data until there was a minimum of 50 participants per cell (see Simmons, Nelson, & Simonsohn, 2013). This ensured that we recruited at least 50 participants for each relationship orientation.

7.2.2. Participants and Procedure⁷

A convenience sample of individuals ($N = 641$) who self-identified as either monogamous ($n = 447$), open ($n = 80$), polyamorous ($n = 62$), or swinger ($n = 52$) were recruited from Amazon's Mechanical Turk (MTurk) website, an online crowdsourcing platform that is commonly used for psychological research. Four advertisements (for individuals who self-identified as either monogamous, open, swinging, or polyamorous) were placed on the MTurk website for all MTurk users with active accounts in the United States to see. The advertisement contained information about the inclusion criteria (e.g., speak and read English fluently, at least 18 years old, have a 97% approval rating on MTurk, and identify as either monogamous, swinger, open, or polyamorous) as well as a link to the survey. Participants were primarily white (65.8%), heterosexual (84.6%), males (58.3%), who were married (38.2%) or dating (38.5%) their partners and were in their early 30's ($M = 32.1$, $SD = 9.5$). Demographic information for the participants broken down by relationship orientation can be found in Table 24.

Eligible and interested participants followed the link that redirected them to a survey hosted on Qualtrics, where the letter of information and consent was presented. Within the letter of consent, participants were told that the purpose of this study was to better understand sociosexual orientation (SOI) and attitudes towards sex. Informed consent was received from each participant digitally and each participant indicated they read the consent form and agreed to

⁷ Note that Chapter 6 and 7 uses the same sample.

take part before proceeding. After consenting, participants completed a short questionnaire that assessed demographic information, followed by questionnaires that assessed their sexual attitudes, erotophobia-erotophilia, and sociosexual orientation. Once questionnaires were complete, participants were forwarded to a debriefing page. On this page, they there were provided debriefing information (i.e., further details about the study's hypotheses) along with a code which could be used to claim their compensation for taking part in the study. To see copies of the letter of information, advertisement or debriefing for, please see: <https://osf.io/vmp59/>.

The hypotheses concerning sexual attitudes, the tendency to approach or avoid sexual stimuli, and sociosexual orientation among different relationships orientations were preregistered prior to conducting analyses though after data was collected, and all study materials are available through the Open Science Framework (see: <https://osf.io/sy94j/>).

7.2.3. Measures

7.2.3.1. Relationship Orientation

Relationship orientation was verified in two ways. First, participants selected into the survey from one of four advertisements that were directed to either monogamous, polyamorous, open, or swingers. Second, participants were asked to identify their current relationship orientation (e.g., "What best characterizes your current relationship orientation?") and were provided the following options: monogamous, polyamorous, open, swinger, or other. Participants who indicated that they identified with another orientation were excluded from analyses.

7.2.3.2. Sexual Attitudes

The Brief Sexual Attitudes Scale (BSAS; Hendrick et al., 2006) was used to assess attitudes towards permissiveness, instrumentality, birth control, and communion. Participants were asked to indicate the extent they agreed or disagreed with a series of statements for each

subscale. Items were divided in four components: permissiveness (ten items; $\alpha = .93$; e.g., “I do not need to be committed to a person to have sex with him/her”), instrumentality (five items; $\alpha = .81$; e.g., “The main purpose of sex is to enjoy oneself”), communion (five items; $\alpha = .88$; e.g., “Sex is the closest form of communication between two people”), and birth control (three items; $\alpha = .92$; e.g., “Birth control is part of responsible sexuality”). Participants responded using a 5-point Likert-like scale ranging from 1 (“strongly agree”) to 5 (“strongly disagree”). Items for each subscale were reverse scored and mean averaged to create scores that ranged from low to high endorsement for each attitude. The BSAS has demonstrated good reliability and validity (e.g., Hendrick et al., 2006).

7.2.3.3. Erotophobia-Erotophilia

The Sexual Opinion Survey (SOS; Fisher et al., 1988b) was used to assess erotophobia-erotophilia. Participants were asked to indicate the extent they agreed or disagreed with 21 statements such as, “Almost all erotic (sexually explicit) material is nauseating” and “If people thought I was interested in oral sex, I would be embarrassed” ($\alpha = .87$). Participants responded using a 7-point Likert-like scale ranging from strongly agree to strongly disagree. This was scored according to the original authors criteria (see Fisher et al., 1988b, for scoring instructions), with scores ranging from 0 (most erotophobic) to 126 (most erotophilic). This short form has been found to be a good predictor of total SOS scores for both women and men (Fisher et al., 1998b). The SOS has shown good test-retest reliability as well as construct and discriminant validity.

7.2.3.4. Sociosexual Orientation

The Revised Sociosexual Orientation Inventory (SOI-R; Penke & Asendorpf, 2008) was used to assess willingness to engage in uncommitted sexual encounters. Items are divided in

three components: behavior (three items; $\alpha = .82$; e.g., “With how many different partners have you had sex within the past 12 months?”), attitudes (three items; $\alpha = .81$; e.g., “Sex without love is okay”), and desire (three items; $\alpha = .91$; e.g., “How often do you have fantasies about having sex with someone with whom you do not have a committed romantic relationship?”). The responses were mean aggregated to create a total score ($\alpha = .88$), where higher mean scores on each component signify more unrestricted behaviors, attitudes, and desires (i.e., unrestricted sociosexual orientation). The SOI-R has demonstrated good reliability and validity (e.g., Penke & Asendorpf, 2008).

7.2.4. Data Analytic Strategy

To assess how attitudes and behaviors differ among various relationship configurations, we conducted a between-subject (self-identified relationship orientation: monogamous vs. polyamorous vs. open relationship vs. swinging relationship) analyses of variance (ANOVA) for each of the outcome measures: BSAS, SOS, SOI-R. These analyses were conducted using a Bonferoni correction. The effect size, or eta squared, is presented with the results for each ANOVA. The effect sizes can be interpreted based on Cohen’s (1988) guidelines, which suggests 0.01 is a small effect, 0.059 is a medium effect, while 0.138 or above is a large effect. Furthermore, we sought to assess whether the CNM subtypes differed with regards to various demographics (e.g., age, gender, sexual orientation, race, religion, political affiliation) and conducted analyses of covariance (ANCOVAs) controlling for demographic differences when they emerged (specifically with gender, sexual orientation, race, and religious affiliation).

7.3. Results

7.3.1. Preliminary Data

Pearson's zero-order correlations were calculated. The permissiveness ratings were positively correlated with instrumentality, communion, birth control, erotophobia-erotophilia, and sociosexuality. Instrumentality ratings were positively correlated with communion, birth control, erotophobia-erotophilia, and sociosexuality. The communion ratings correlated with birth control, erotophobia-erotophilia, though did not correlate with sociosexuality. The birth control ratings positively correlated with erotophobia-erotophilia, and sociosexuality. Lastly, a positive correlation between erotophobia-erotophilia and sociosexuality emerged. The overall correlations and the correlations for each variable broken down by relationship orientation are presented in Table 25. In most cases, results among each relationship orientation (e.g., among those who identify as monogamous, polyamorous, etc.) were consistent with the overall results discussed above. However, interestingly, monogamous individuals' ratings for permissiveness were not correlated with communion, though these variables were positively correlated for all CNM orientations. In fact, in follow-up analyses comparing correlation coefficients for those who identified as monogamous and each CNM subtype indicated that the magnitude of these correlations differed significantly between monogamous people and people from each CNM subtype (all $p < .001$).

7.3.2. Confirmation of Assumptions of Normality

After conducting analyses, the distribution of the residuals for each analysis were assessed to confirm assumptions of normality. The skewness and kurtosis of all residuals were examined – following West and colleagues (1995) guidelines, wherein a skewness of ± 2 , and kurtosis of ± 7 are deemed acceptable. In all instances the skewness and kurtosis fell below these standards and thus the assumption of normality was met, and analyses are presented without any corrections.

7.3.3. Primary Findings

7.3.3.1. Sexual Attitudes

Consistent with hypothesis that sexual attitudes would differ based on relationship orientation, with monogamists reporting the least permissive attitudes and swingers reporting the most (Hypothesis 1), there was a significant main effect of the participants' relationship orientation on reported permissiveness, $F(3, 626) = 41.50, p < .001, \eta_p^2 = .17$. Based on Cohen's (1988) standards for interpreting eta squared, this effect would be considered large.

Permissiveness was lowest among monogamous individuals and highest among swingers, with open and polyamorous individuals in the middle. Monogamists' permissiveness ratings were significantly different from those provided by participants in polyamorous, open, and swinging relationships (all $p < .001$; see Table 27). There was also a significant difference between individuals who identified as open and swingers on permissiveness ratings. The differences in ratings between individuals in other CNM orientations were not significantly different from one another. Importantly, effects remained significant when controlling for gender, sexual orientation, race, and religious affiliation, $F(3, 625) = 35.74, p < .001, \eta_p^2 = .15$.

Similarly, we expected instrumentality to be impacted by relationship orientation, such that those who identify as monogamous would report the lowest instrumentality while those who identify as swingers would endorse the most instrumentality (Hypothesis 2). Consistent with this hypothesis, there was a significant main effect of the participants' relationship orientation on reported instrumentality, $F(3, 626) = 13.74, p < .001, \eta_p^2 = .06$. The effect size for differences in instrumentality was moderate, and instrumentality was lowest for monogamous individuals and greatest for swingers. The instrumentality rating for monogamists was significantly different from individuals who identified as polyamorous, open, and swingers. Among those who identified as CNM, there was a significant difference between polyamorists and swingers.

Differences in ratings among other CNM orientations were non-significant. Effects for instrumentality remained significant when controlling for gender, sexual orientation, race, and religious affiliation, $F(3, 625) = 13.51, p < .001, \eta_p^2 = .06$.

Unlike permissiveness and instrumentality, null effects for relationship orientation were predicted for communion (Hypothesis 3) and attitudes towards birth control (Hypothesis 4). Consistent with the predictions, there was not a significant main effect of the participants' relationship orientation on reported communion, $F(3, 626) = 1.39, p = .244, \eta_p^2 = .01$, and birth control, $F(3, 626) = 1.58, p = .193, \eta_p^2 = .01$, and these effects remained not significant when we controlled for demographic differences.

7.3.3.2. Erotophilia-Erotophobia

We expected one's propensity to approach or avoid sexual stimulus to be impacted by relationship orientation (Hypothesis 5), such that those who identify as monogamous would be the most erotophobic while those who identify as swingers would be the most erotophilic. Consistent with this hypothesis, a significant main effect emerged in the analysis assessing erotophobia-erotophilia scores, $F(3, 623) = 8.66, p < .001, \eta_p^2 = .04$. Monogamous individuals were the most erotophobic and swingers were the least erotophobic/most erotophilic, though the effect size for these differences were small. Post-hoc tests revealed that the erotophobia rating for monogamists were significantly different from polyamorists, and swingers, though did not differ from individuals in open relationships. The differences in ratings between individuals in open, swinging, and polyamorous relationships were not significant. Importantly, effects remained significant when controlling for gender, sexual orientation, race, and religious affiliation, $F(3, 622) = 7.33, p < .001, \eta_p^2 = .04$.⁸

⁸ As individuals can consider themselves to be monogamous, polyamorous, etc., regardless of their current relationship status (e.g., when single), we include individuals who are single as well as in a relationship in our

7.3.3.3. Sociosexual Orientation

Lastly, we expected sociosexual orientation to differ based on relationship orientation, such that monogamous individuals would report the most restricted sociosexuality while swingers would report the most unrestricted sociosexuality (Hypothesis 6). Consistent with this prediction, there was a significant main effect of the participants' relationship orientation on their sociosexual orientation, $F(3, 630) = 50.27, p < .001, \eta_p^2 = .19$, and the effect size for this finding is large. Descriptive statistics revealed that monogamous individuals were the most sexually restricted and swingers were the most sexually unrestricted, with individuals who identified as open and polyamorous in the middle. Furthermore, the sociosexuality ratings for monogamists was significantly different from individuals who identified as polyamorous, and swingers, though the differences in ratings between open, swinging, and polyamorous individuals were not significantly different from one another. Importantly, effects remained significant when controlling for gender, sexual orientation, race, and religious affiliation, $F(3, 629) = 44.96, p < .001, \eta_p^2 = .18$.

7.4. Discussion

The goals of the current research were to better understand how sexual attitudes, one's inclination to approach or avoid sexual stimuli (i.e., erotophobia-erotophilia), and sociosexuality differ among individuals based on their relationship orientation. The current research suggests that individuals in CNM and monogamous relationships have differing sexual attitudes, erotophobia-erotophilia, and sociosexuality. In terms of sexual attitudes, results show monogamists endorsed the least permissive and instrumental attitudes towards sex, whereas individuals in swinging relationships endorsed the most permissive and instrumental attitudes.

analyses. However, the results reported held when we assessed effects among those who were currently in relationship excluding single participants, and vice versa.

There were no differences between relationship orientations in terms of communion and birth control, as predicted. In terms of erotophobia-erotophilia, monogamists were most erotophobic, while swingers were the most erotophilic. Lastly, results suggest that monogamous individuals were the most sexually restricted, whereas individuals in CNM relationships endorsed more unrestricted sexuality. Across the findings, the effect sizes ranged from small to large, with the smallest effect size emerging for differences in erotophobia-erotophilia, and the largest effect emerging among differences in sociosexuality. Furthermore, all effects remained when controlling for gender, sexual orientation, race, and religious affiliation.

Despite general support for the predictions, the differences among those in CNM orientations (especially among open and polyamorous participations) were surprisingly small, with only a few significant differences in dependent measure ratings. The hypotheses for the current study were premised on the assumption that the subtypes of CNM orientations differ in the extent to which partners value love and emotional involvement to be a part of their multiple relationships, such that some relationship orientations emphasize loving more than one person (i.e., polyamory), while others emphasize having sex without love (i.e., swinging), or involve having sex without love without a partner's participation (i.e., open relationships) (Matsick et al., 2014). Previous research also suggests there are normative boundaries and different levels of stigma directed towards specific CNM relationship orientations (Frank & DeLameter, 2010; Balzarini et al., 2017), such that polyamory is evaluated more positively than purely pleasure-focused relationship orientations, such as swinging. Given the definitional differences among the different subtypes of CNM and considering the documented antipathy these group express for each other, we expected greater differences to exist between the CNM orientations than the current results show.

There are a few explanations for the lack of differences between CNM groups. It is possible our measures were not sensitive enough to the variation between CNM relationship orientations, since these measures were validated on monogamous samples. For example, items from the sociosexuality measure (SOI-R) presume that sex without love, fantasies of uncommitted sex, and the raw number of sexual partners in a year are representative of unrestricted sexuality. However, all of these SOI-R items may be more likely among CNM relationships. As such, this scale may not be representative of what unrestricted sexuality might look like among various CNM relationships.

Another potential explanation for the lack of differences between CNM groups may be reflective of actual similarities between individuals in these relationship orientations. Previous research looking at these groups are based on perceptions of these groups, rather than actual differences (Balzarini et al., 2018; Conley, Moors, Matsick, & Ziegler, 2013; Moors, Matsick, Ziegler, Rubin, & Conley, 2013), and there may be more similarities than suggested by research which has shown differences in perceptions of and stigma towards the most common CNM relationship orientations. Further, the definitions of CNM relationship orientations may not necessarily reflect actual differences among those in CNM relationships, rather they may be premised on perceptions and beliefs. A further complication is that individuals in CNM relationships may not necessarily identify with a specific relationship orientation because there is likely a degree of fluidity across these categories, such that individuals may switch between relationship orientations (Manley, Diamond, & van Anders, 2015), or have relationships that do not necessarily fit within a specific category (e.g., someone who identifies as polyamorous may be in a relationship that more closely resembles an open relationship).

Lastly, the lack of significant differences may be due to relatively low statistical power in our CNM participant groups. While we ensured that we had at least 50 participants per relationship orientation, we had substantially fewer CNM participants than we did monogamous participants. The sensitivity of the analyses comparing the CNM subgroups is therefore relatively low. In this connection, it may also be that differences between the CNM subgroups are smaller than the differences between monogamous and CNM groups overall, requiring larger sample sizes within those groups.

Additional novel findings in this study, and in line with our predictions, are that communion and birth control ratings did not differ between relationship orientations. These findings may counter popular expectations that CNM participants endorse less idealistic attitudes towards sex (Conley et al., 2013) or have less positive attitudes towards safe sex compared to monogamists (as individuals who practice CNM are perceived to be more likely to spread STIs; Johnson et al., 2015). However, these results are in line with previous research that shows that individuals who engage in CNM relationships report high levels of commitment, intimacy, and satisfaction in their relationships (Balzarini et al., 2017; Bonello & Cross, 2010; Conley, Matsick, Moors, & Ziegler, 2017; Ritchie & Barker, 2006), and engage in sex safe sex (Conley et al., 2012; Hutzler et al., 2016).

Another noteworthy finding involves the correlations among the scales. Interestingly, there were some correlations between these scales that emerged for non-monogamists though did not for monogamists or were weaker among monogamous individuals (see Table 25). For example, permissiveness and communion (i.e., idealistic attitudes towards sex) were not correlated for monogamists but were strongly correlated for all other CNM orientations. Previous research has reported small correlations for these variables (Hendrick et al., 2006), but has

suggested these findings were not conceptually significant. We posit these findings could be meaningful, especially in the context of including subtypes of CNM, such that for monogamous individuals, extradyadic relationships are antithetical to their relationship agreements.

Conversely, the ability to experience communion and permissiveness simultaneously may be more consistent with the agreements made in CNM relationships, such that one can experience sex with love in one relationship, for example in the primary relationship, and yet pursue extradyadic relationships with varying levels of commitment (or no commitment). Similarly, while the correlation for instrumentality and communion was significant, though small, for monogamous participants, it was significantly stronger among individuals CNM relationships. In previous research with monogamous participants (Hendrick & Hendrick, 1987; Hendrick et al., 2006), the relationship between instrumentality and communion was not significant.

The findings from this study could be useful in future hypothesis generation. For example, one promising direction to explore is whether differences in sexual attitudes and opinions influence stigma. Previous research has shown that individuals in CNM relationships experience robust stigma (Conley et al., 2013; Moors, Matsick, Ziegler, Rubin, & Conley, 2013), though among CNM targets polyamorous individuals are the least stigmatized and swingers are the most (Balzarini et al., 2018; Matsick et al., 2014). Some research suggests that sexual promiscuity may contribute to this effect (Matsick et al., 2014), and other research suggests that perceptions of STIs but not promiscuity contributed to stigma towards CNM orientations (Balzarini et al., 2018), with open, polyamorous, and monogamous individuals perceiving swingers to be the most likely to have an STI. As such, it is possible that stigma towards swingers also stems from their differing sexual attitudes, inclination to approach or avoid sexual stimuli, and sociosexuality. Furthermore, if individuals can accurately perceive these qualities, as

previous research on sociosexuality suggests (see Stillman & Maner, 2008, which shows that sociosexuality can be accurately detected by strangers based on thin slices of observable behavior), then it is possible that such views influence perceptions of STI risk which could then influence stigma.

Additionally, this research could help provide insights into predicting who is likely to enter and remain in the various relationship orientations. More specifically, it is possible that individuals with various orientations seek out relationships that are consistent with their sexual attitudes, inclination to approach or avoid sexual stimuli, and sociosexuality. For example, it would make sense that individuals who have conservative sexual attitudes, express aversions to sexual stimuli, and are typically restricted sexually would prefer a monogamous relationship orientation. Conversely, those who express liberal sexual attitudes, tend to seek out sexual stimulus, and are unrestricted sexually should prefer a non-monogamous relationship.

Additionally, because similarity regarding opinions, values, and interests is one of the strongest determinants of interpersonal attraction (Alves, 2018; Byrne, 1961, 1971; Montoya, Horton, & Kirchner, 2008) and couples' sexual attitude similarity predicts satisfaction and commitment (Cupach & Metts, 1995), individuals may be more attracted to and satisfied with partners who report similar sexual attitudes, inclination to approach sexual stimulus, sociosexuality, and relationship orientation.

Lastly, this research could have important clinical implications. In addition to pervasive discrimination of CNM individuals (Conley et al., 2013), individuals may experience greater levels of discrimination the further away they are from the "in-group" (i.e., monogamy) (Bettencourt, Charlton, Borr, & Hume, 2001). Non-monogamous individuals who deviate most from monogamy (i.e., have a higher number of relationships, are more apt to seek out sexual

stimuli, and are sexually unrestricted) experience more discrimination, harassment, and violence (Witherspoon, 2016). The greater differences between monogamy and swingers suggest that swingers may be particularly vulnerable to pervasive stigma, discrimination, harassment, violence, and judgement, including from health care professionals (Jordon, 2018), which is in line with previous research documenting greater stigma towards swingers than polyamorists or individuals in open relationships. Furthermore, some of the most commonly used scales and assessment tools in research and in clinical work have been developed from a monogamous framework (Girard & Brownlee, 2015); therefore, CNM individuals may not be properly represented or treated within the health care system. The current research provides a greater understanding of the nuances between CNM relationships that could inform ongoing efforts to advise mental health care professionals of relationship orientations outside of monogamy (e.g., Girard & Brownlee, 2015). For example, mental health care professionals have been advised how to validate CNM clients' experiences and identity (Moors & Schechinger, 2014), which may also include validating individuals' sociosexuality, and sexual attitudes, beliefs, and behaviors.

7.4.1. Limitations and Directions for Future Research

The current research has some limitations that may impact the interpretability of our findings. First, our data were cross-sectional and did not allow for causal inferences. It is possible that one's decision to identify with and pursue a subtype of CNM is influenced by sexual attitudes, erotophilia-erotophobia, and sociosexuality, or, conversely, that one's relationship orientation has influences on their sexual attitudes, erotophilia-erotophobia, and sociosexuality. This limitation could be addressed through longitudinal research examining sexual attitudes, erotophilia-erotophobia, and sociosexuality over time. Second, results may be

influenced by participants' self-selection to participate in a study about sex; therefore, there may be self-selection for individuals who are more comfortable and have an approach orientation to sexual stimuli (Saunders, Fisher, Hewitt, & Clayton, 1985) than those who would reject participation. Future research should seek to replicate these findings with a more generalizable sample.

7.4.2. Concluding Remarks

A non-trivial number of individuals engage in CNM relationships, yet researchers are just beginning to understand what might motivate individuals to seek out CNM relationships. This research is among the first to examine whether sexual attitudes, inclination to approach or avoid sexual stimuli (i.e., erotophobia-erotophilia), and sociosexuality differ among individuals who self-identify as monogamy, polyamorous, open, or swinger. As such, results suggest individual's sexual attitudes, erotophobia, and sociosexuality differ based on their relationship orientation. These qualities may influence individual's decision to seek out consensually non-monogamous arrangements (e.g., individuals who are erotophilic and sexually unrestricted may be more apt to seek out CNM), and consequently, may be more indicative of low satisfaction in monogamous relationships than CNM relationships. Furthermore, as previous research has shown that individuals in CNM relationship are stigmatized, it is possible that perceptions of high permissiveness, instrumentality, erotophilia, and sociosexuality influences stigma (e.g., if a monogamous individual perceives swingers to be sexually unrestricted and to have permissive sexual attitudes, do they then stigmatize swingers more?). As such, the implications of these differences and similarities in sexual attitudes, erotophobia-erotophilia, and sociosexuality warrant further exploration.

7.5. References

- Abma, J. C., & Martinez, G. M. (2006). Childlessness among older women in the United States: Trends and profiles. *Journal of Marriage and Family*, *68*, 1045–1056.
- Alves, H. (2018). Sharing rare attitudes attracts. *Personality and Social Psychology*, *44*, 1270–1283.
- Balzarini, R. N., Campbell, L., Kohut, T., Holmes, B. M., Lehmillier, J. J., Harman, J. J., & Atkins, N. (2017). Perceptions of primary and secondary relationships in polyamory. *PLoS ONE*, *12*, 1–20.
- Balzarini, R. N., Shumlich, E., Kohut, T., & Campbell, L. (2018). Dimming the “halo” around Monogamy: Re-assessing stigma surrounding consensually non-monogamous romantic relationships as a function of personal relationship orientation. *Frontiers in Psychology*, *9*, 1–12.
- Barker, M. (2011). Monogamies and non-monogamies: A response to ‘The challenge of monogamy: Bringing it out of the closet and into the treatment room’ by Marianne Brandon. *Sexual and Relationship Therapy*, *26*, 281–287.
- Barker, M., & Langdridge, D. (2010). Whatever happened to non-monogamies? Critical reflections on recent research and theory. *Sexualities*, *13*, 748–772.
- Bettencourt, B., Charlton, K., Dorr, N., & Hume, D. L. (2001). Status differences and in-group bias: A meta-analytic examination of the effects of status stability, status legitimacy, and group permeability. *Psychological Bulletin*, *127*, 520–542.
- Bonello, K., & Cross, M. C. (2010). Gay monogamy: I love you but I can’t have sex with only you. *Journal of Homosexuality*, *57*, 117–139.

- Byrne, D. (1961). Interpersonal attraction and attitude similarity. *The Journal of Abnormal and Social Psychology, 62*, 713–715.
- Byrne, D. (1971). *The attraction paradigm*. New York, NY: Academic Press.
- Cohen, M. T. (2016). An exploratory study of individuals in non-traditional, alternative relationships: How "open" are we? *Sexuality and Culture, 20*, 295–315.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Conley, T. D., Matsick., J., Moors., A. C., & Ziegler, A. (2017). Investigation of consensually nonmonogamous relationships: Theories, methods, and new directions. *Perspectives on Psychological Science, 12*, 205–232.
- Conley, T. D., Moors, A. C., Matsick, J. L., & Ziegler, A. (2013). The fewer the merrier?: Assessing stigma surrounding consensually non-monogamous romantic relationships. *Analyses of Social Issues and Public Policy, 13*, 1–30.
- Conley, T. D., Moors, A. C., Ziegler, A., & Karathanasis, C. (2012). Unfaithful individuals are less likely to practice safer sex than openly nonmonogamous individuals. *The Journal of Sexual Medicine, 9*, 1559–1565.
- Cupach, W. R., & Metts, S. (1995). The role of sexual attitude similarity in romantic heterosexual relationships. *Personal Relationships, 2*, 287–300.
- Fisher, W. A., Grenier, G., Watters, W. W., Lamont, J., Cohen, M., & Askwith, J. (1988a). Students' sexual knowledge, attitudes toward sex, & willingness to treat sexual concerns. *Academic Medicine, 63*, 379–385.
- Fisher, W. A., White, L. A., Byrne, D., & Kelley, K. (1988b). Erotophobia-erotophilia as a dimension of personality. *Journal of Sex Research, 25*, 123–151.

- Garcia, J. R., Reiber, C., Massey, S. G., & Merriwether, A. M. (2012). Sexual hookup culture: A review. *Review of General Psychology, 16*, 161–176.
- Gerrard, M., Kurylo, M., & Reis, T. (1991). Self-esteem, erotophobia, and retention of contraceptive information in the classroom. *Journal of Applied Social Psychology, 21*, 368–379.
- Gillespie, R. (2003). Childfree and feminine: Understanding the gender identity of voluntarily childless women. *Gender and Society, 17*, 122–136.
- Girard, A., & Brownlee, A. (2015). Assessment guidelines and clinical implications for therapists working with couples in sexually open marriages. *Sexual and Relationship Therapy, 30*, 462–474.
- Hauptert, M., Gesselman, A., Moors, A., Fisher, H., & Garcia, J. (2017). Prevalence of experiences with consensual non-monogamous relationships: Findings from two nationally representative samples of single Americans. *Journal of Sex and Marital Therapy, 43*, 424–440.
- Hendrick, S. S., & Hendrick, C. (1987). Multidimensionality of sexual attitudes. *Journal of Sex Research, 23*, 502–526.
- Hendrick, S. S., & Hendrick, C. (1995). Gender differences and similarities in sex and love. *Personal Relationships, 2*, 55–65.
- Hendrick, C., Hendrick, S. S., & Reich, D. A. (2006). The brief sexual attitudes scale. *Journal of Sex Research, 43*, 76–86.
- Herbenick, D., Reece, M., & Hollub, A. (2009). Inside the ordering room: Characteristics of women's in-home sex toy parties, facilitators and sexual communication. *Sexual Health, 6*, 318–327.

- Houngbedji, A., & Guillem, E. (2016). Profiles and sexual practices of current and past swingers interviewed on French websites. *Sexologies, 25*, 1–4.
- Hutzler, K. T., Giuliano, T. A., Herselman, J. R., & Johnson, S. M. (2016). Three's a crowd: Public awareness and (mis)perceptions of polyamory. *Psychology and Sexuality, 7*, 69–87.
- Ivanski, C. (2017). *Sexual Attitudes Sale development* (honour's thesis). Western University, London, Canada.
- Johnson, S. M., Giuliano, T. A., Herselman, J. R., & Hutzler, K. T. (2015). Development of a brief measure of attitudes towards polyamory. *Psychology & Sexuality, 6*, 325–339.
- Lanciano, T., Soleti, E., Guglielmi, F., Mangiulli, I., & Curci, A. (2016). Fifty shades of unsaid: Women's explicit and implicit attitudes towards sexual morality. *European Journal of Psychology, 12*, 550–566.
- Levitt, E. E. (1988). Alternative life style and marital satisfaction: A brief report. *Analysis of Sex Research, 1*, 455–461.
- Manley, M. H., Diamond, L. M., & van Anders, S. M. (2015). Polyamory, monogamy, and sexual fluidity: A longitudinal study of identity and sexual trajectories. *Psychology of Sexual Orientation and Gender Diversity, 2*, 168–180.
- Matsick, J. L., Conley, T. D., Ziegler, A., Moors, A. C., & Rubin, J. D. (2014). Love and sex: Polyamorous relationships are perceived more favourably than swinging and open relationships. *Psychology & Sexuality, 5*, 339–348.
- Moors, A. C., & Schechinger, H. (2014). Understanding sexuality: Implications of Rubin for relationship research and clinical practice. *Sexual and Relationship Therapy, 29*, 476–482.

- Moors, A. C., Matsick, J. L., Ziegler, A., Rubin, J. & Conley, T. D. (2013). Stigma toward individuals engaged in consensual non-monogamy: Robust and worthy of additional research. *Analyses of Social Issues and Public Policy, 13*, 52–69.
- Moors, A. C., Selterman, D., & Conley, T. D. (2017). Personality correlates of desire to engage in consensual non-monogamy among lesbian, gay, and bisexual individuals. *Journal of Bisexuality, 4*, 418–434.
- Morrison, T. G., Beaulieu, D., Brockman, M., & Beaglaioich, C. Ó. (2013). A comparison of polyamorous and monoamorous persons: Are there differences in indices of relationship well-being and sociosexuality? *Psychology & Sexuality, 4*, 75–91.
- Ostovich, J. M., & Sabini, J. (2004). How are sociosexuality, sex drive, and lifetime number of sexual partners related? *Personality and Social Psychology Bulletin, 30*, 1255–1266.
- Penke, L., & Asendorpf, J. B. (2008). Beyond global sociosexual orientations: A more differentiated look at sociosexuality and its effects on courtship and romantic relationships. *Journal of Personality and Social Psychology, 95*, 1113–1135.
- Petersen, J. L., & Hyde, J. S. (2011). Gender differences in sexual attitudes and behaviors: A review of meta-analytic results and large datasets. *Journal of Sex Research, 48*, 149–165.
- Ritchie, A., & Barker, M. (2006). ‘There aren’t words for what we do or how we feel so we have to make them up’: Constructing polyamorous languages in a culture of compulsory monogamy. *Sexualities, 9*, 584–601.
- Rodrigues, D., Lopes, D., & Pereira, M. (2016). “We agree and now everything goes my way”: Consensual sexual nonmonogamy, extradyadic sex, and relationship satisfaction. *Cyberpsychology, Behavior, and Social Networking, 19*, 373–379.

- Rodrigues, D., Lopes, D., & Smith, C. V. (2017). Caught in a “bad romance”? Reconsidering the negative association between sociosexuality and relationship functioning. *Journal of Sex Research, 54*, 1118–1127.
- Rubel, A. N., & Bogaert, A. F. (2015). Consensual nonmonogamy: Psychological well-being and relationship quality correlates. *Journal of Sex Research, 52*, 1–22.
- Rudolph, K. (2016). *Sexual risk behaviors in college women: Perceived norms, attitudes, and sexual motives* (Unpublished masters thesis). East Carolina University, Greenville, NC.
- Rye, B. J., Serafini, T., & Bramberger, T. (2015). Erotophobic or erotophilic: What are young women’s attitudes towards BDSM?. *Psychology and Sexuality, 6*, 340–356.
- Saunders, D. M., Fisher, W. A., Hewitt, E. C., & Clayton, J. P. (1985). A method for empirically assessing volunteer selection effects: Recruitment procedures and responses to erotica. *Journal of Personality and Social Psychology, 49*, 1703–1712.
- Seal, D. W., Agostinelli, G., & Hannett, C. A. (1994). Extradyadic involvement: Moderating effects of sociosexuality and gender. *Sex Roles, 31*, 1–22.
- Shaw, A. M., Rhoades, G. K., Allen, E. S., Stanley, S. M., & Markman, H. J. (2013). Predictors of extradyadic sexual involvement in unmarried opposite-sex relationships. *Journal of Sex Research, 50*, 598–610.
- Simpson, J. A., & Gangestad, S. W. (1991). Individual differences in sociosexuality: Evidence for convergent and discriminant validity. *Journal of Personality and Social Psychology, 60*, 870–883.
- Simpson, J. A., & Gangestad, S. W. (1992). Sociosexuality and romantic partner choice. *Journal of Personality, 60*, 31–51.

- Simpson, J., Wilson, C., & Winterheld, H. (2004). Sociosexuality and romantic relationships. In J. H. Harvey, A. Wenzel, & S. Sprecher (Eds.), *The handbook of sexuality in close relationships* (pp. 87-112). Mahwah, NJ: Erlbaum.
- Tempelhof, T., & Allen, J. (2008). Partner-specific investment strategies: Similarities and differences in couples and associations with sociosexual orientation and attachment dimensions. *Personality and Individual Differences, 45*, 41–48.
- Vrangalova, Z., & Ong, A. D. (2014). Who benefits from casual sex? The moderating role of sociosexuality. *Social Psychological and Personality Science, 5*, 883–891.
- Zimmerman, K. J. (2012). Clients in sexually open relationships: Considerations for therapists. *Journal of Feminist Family Therapy: An International Forum, 24*, 272–289.

7.6. Tables

Table 24. *Demographic Information for Monogamous, Polyamorous, Open, and Swinging Participants*

	Overall	Monogamous	Polyamorous	Open	Swinging
Age – Mean (SD)	32.07 (9.45)	32.35 (9.99)	32.02 (8.39)	31.49 (8.68)	30.63 (6.69)
Gender					
Male	58.28%	54.14%	66.13%	65.00%	73.08%
Female	41.41%	45.64%	32.26%	35.00%	25.00%
Other	0.31%	0.22%	1.61%	0.00%	1.92%
Race					
White/Caucasian	65.83%	71.81%	43.55%	48.75%	67.31%
Asian	18.56%	13.65%	29.03%	33.75%	25.00%
Black	6.08%	6.94%	4.84%	6.25%	0.00%
Hispanic	5.62%	5.15%	12.90%	5.00%	1.92%
American Indian	1.72%	0.89%	4.84%	2.50%	3.85%
Other	2.18%	1.57%	4.84%	3.75%	1.92%
Religious Affiliation					

Agnostic and Atheist	36.97%	36.24%	40.32%	33.75%	44.23%
Buddhist and Hindu	10.76%	6.94%	17.74%	22.50%	17.31%
Christian	43.53%	48.55%	29.03%	35.00%	30.77%
Jewish	2.18%	2.91%	0.00%	0.00%	1.92%
Muslim	1.25%	0.89%	0.00%	2.50%	3.85%
Other	5.30%	4.47%	12.90%	6.25%	1.92%
Political Affiliation					
Democrat	36.51%	37.36%	29.03%	32.50%	44.23%
Republican	19.50%	21.48%	11.29%	17.50%	15.38%
Independent/Unaffiliated	30.58%	32.21%	33.87%	26.25%	19.23%
Other	13.42%	8.94%	25.80%	23.75%	21.16%
Sexual Orientation					
Heterosexual	84.56%	89.26%	67.74%	77.50%	75.00%
Lesbian / Gay	3.43%	2.91%	4.84%	5.00%	3.85%
Bisexual	10.30%	6.26%	24.19%	16.25%	19.23%
Other	1.72%	1.57%	3.23%	1.25%	1.92%
Relationship Status					

Single	17.63%	19.02%	11.29%	17.50%	13.46%
Dating	38.53%	33.33%	58.07%	51.25%	40.38%
Engaged	5.62%	6.71%	1.61%	3.75%	3.85%
Married	38.22%	40.94%	29.03%	27.50%	42.31%

Table 25. *Correlations Between Sexual Attitudes, Erotophobia-Erotophilia, and Sociosexuality Among Each Relationship Orientations*

Target Relationship Orientation	1. Permissiveness	2. Instrumentality	3. Communion	4. Birth Control	5. Erotophobia-Erotophilia	6. Sociosexual Orientation
Monogamous						
1.	—					
2.	.35**	—				
3.	.01	.21**	—			
4.	.23**	.19**	.54**	—		
5.	.55*	.27**	.09	.32**	—	
6.	.63**	.18**	-.05	.06	.50**	—
Polyamorous						
1.	—					
2.	.54**	—				
3.	.59**	.41**	—			
4.	.65**	.25	.54**	—		
5.	.44**	.01	.31**	.41**	—	
6.	.43**	.12	.16	.10	.43**	—
Open						
1.	—					
2.	.25**	—				
3.	.39**	.39**	—			
4.	.66**	.25*	.58**	—		
5.	.54**	.03	.26*	.51**	—	
6.	.43**	-.13	-.09	.18	.38**	—
Swinger						
1.	—					
2.	.70**	—				
3.	.69**	.66**	—			
4.	.83**	.52**	.63*	—		

5.	.51**	.30*	.24	.48**	—	
6.	.48**	.24	.01	.29*	.56**	—

Note. ** is significant at $p < .001$. * is significant at $p < .05$.

Table 26. *Mean Scores on Dependent Measures and Mean Differences Between Monogamous and CNM Ratings*

	Monogamous		Polyamorous		Open		Swinging	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Sexual Attitudes Scale								
Permissiveness	2.88	0.05	3.82*	0.13	3.68*	0.12	4.10*	0.14
Instrumentality	3.02	0.04	3.31	0.12	3.46*	0.12	3.75*	0.13
Communion	3.74	0.48	3.84	0.13	3.64	0.12	3.99	0.13
Birth Control	4.08	0.06	4.21	0.14	3.89	0.13	4.30	0.05
Sexual Opinion Survey								
Erotophobia- Erotophilia	77.37	1.04	88.67*	2.50	81.34	2.72	89.57*	3.21
Sociosexual Orientation Inventory	3.58	0.08	4.96*	0.18	4.97*	0.19	5.85*	0.23

*indicates a significant difference ($p < .05$) compared to monogamous partner evaluations.

Table 27. Mean Scores on Dependent Measures and Mean Differences Between Monogamous and CNM Ratings

	SAS Permissiveness			SAS Instrumentality			SAS Communion			SAS Birth Control			Erotophobia-Erotophilia			Sociosexual Orientation		
	<i>t</i>	<i>d</i>	<i>df</i>	<i>t</i>	<i>d</i>	<i>df</i>	<i>t</i>	<i>d</i>	<i>df</i>	<i>t</i>	<i>d</i>	<i>df</i>	<i>t</i>	<i>d</i>	<i>df</i>	<i>t</i>	<i>d</i>	<i>df</i>
Mono-Poly	-6.65**	-	49	-2.33*	-	49	-	-	499	-	-	499	-	-0.53	497	-6.44**	-	501
		0.91	9		0.32	9	0.69	0.09		0.85	0.12		3.84**				0.88	
Mono-Open	-6.16**	-	51	-3.96**	-	51	0.81	0.10	513	1.29	0.16	513	-1.43	-0.18	510	-7.03**	-	517
		0.77	3		0.50	3											0.87	
Mono-Swinger	-7.90**	-	48	-5.45**	-	48	-	-	489	-	-	489	-	-0.56	487	-9.60**	-	491
		1.17	9		0.81	9	1.67	0.25		1.32	0.20		3.76**				1.42	
Poly-Open	0.90	0.16	13	-0.92	-	13	1.11	0.19	134	1.62	0.28	134	1.95	0.34	133	-0.05	-	136
			4		0.16	4											0.01	
Poly-Swinger	-1.82	-	11	-2.27*	-	11	-	0.16	110	-	-	110	-0.22	-0.04	110	-3.15*	-	110
		0.35	0		0.43	0	0.82			0.45	0.09						0.60	
Open-Swinger	-2.55*	-	12	-1.71	-	12	-	-	124	-	-	124	-1.95	-0.36	123	-2.95*	-	126
		0.46	4		0.31	4	1.91	0.35		2.12	0.38							

*indicates a significant difference at $p < .05$; **indicates a significant difference at $p < .001$

Note. Sample consisted of 438 monogamous (mono) individuals, 61 polyamorous (poly), 77 open, and 51 swingers. The effect sizes presented are based on independent t -tests. The degrees of freedom vary in each analysis due to missing data points.

CHAPTER EIGHT: GENERAL DISCUSSION

8.1. Discussion

Public interest in consensual non-monogamous relationships has increased dramatically (Moors, 2017) with “what is a polyamorous relationship” listed among the top 10 relationship queries by Google in 2017 (Lebowitz, 2017). Paralleling this increased interest, scholars have recently posited that the family system and rules regarding romantic relationships are changing, with roughly 4-5% of people reporting being in some form of consensually non-monogamous relationship (Conley, Ziegler, Moors, Matsick, & Valentine, 2012; Rubin, Moors, Matsick, Ziegler, & Conley, 2014) and 20% reporting having been involved in a consensually non-monogamous relationship (Hauptert, Gesselman, Moors, Fisher, & Garcia, 2017).

Despite increased interest in deviations from the couple and the diversification of the family system, people in consensually non-monogamous relationships remain stigmatized (e.g., Anderson, 2012; Conley, Moors, Matsick, & Ziegler, 2013; Conley et al., 2012) and overlooked by researchers and health-care providers (see Conley, Matsick, Moors, & Ziegler, 2017; Moors, 2017). A notable over-reliance on monogamous, heterosexual participants in social psychology, relationship research, and even couples therapy/clinical information pertaining to couples, along with the practice of a-priori labelling consensual non-monogamy as psychologically damaging, immature, unethical (e.g. Salmansohn, 2009, 2010; Slick, 2010) and detrimental to relationships (Conley et al., 2013; Hymer & Rubin, 1982), has fostered wide-spread under-appreciation of the unique challenges faced by people in consensual non-monogamous relationships and the benefits such non-traditional relationships may offer. My dissertation addressed this oversight via six peer-reviewed journal articles. All hypotheses were pre-registered to the Open Science Framework prior to conducting analyses. Relationship outcomes across partners, the impact of

stigma on relationships, the extent to which stigma differed based on relationship orientation, and individual differences and relationship outcomes among non-monogamists and monogamists were examined using a variety of statistical approaches (e.g., structural equation modeling, confirmatory factor analyses, multi-level modeling, etc.). Overall, these studies revealed that (1) polyamorous participants reported important differences in relationship processes (e.g., commitment and investment) as well as perceived stigma and attempts to conceal stigma (e.g., lack of acceptance, increased secrecy) between primary and secondary partners; (2) primary-secondary configurations are the most common, though up to half of polyamorous participants rejected this label; (3) commitment may be influencing secrecy and acceptance which then influences the proportion of time spent on sex; (4) polyamory helps people meet diverse needs with primary partners filling the role for nurturance and secondary partners meeting more erotic needs; (5) stigma towards consensual non-monogamy is in part due to relationship orientation and perceptions of STIs; and (6) sexual attitudes, sociosexuality, and erotophobia-erotophilia varied across consensually non-monogamous relationships. Thus, my research incrementally advances research on commitment processes, stigma management, minority stress, passionate and companionate love, and sexual attitudes by examining relationship processes among people in non-dyadic relationships.

8.1.1. Polyamorous Partners Differ in Meaningful Ways

Most research examining relationships outcomes among consensually non-monogamists has focused on comparing non-monogamous relationships to monogamous relationships (see Conley et al., 2013; Rubel & Bogaert, 2015). As such, research on consensual non-monogamy has just begun delineating how relationships amongst partners in consensually non-monogamous arrangements vary (see Mitchell, Bartholomew, & Cobb, 2014 and Mogilski, Memering,

Welling, & Shackelford, 2017 for exceptions). To address this, Balzarini and colleagues (2017) examined this issue using a convenience sample of 1,308 self-identified polyamorous individuals who provided responses to various indices of relationship evaluation (i.e., acceptance, secrecy, investment size, satisfaction level, commitment level, relationship communication, and sexual frequency). Measures were compared between perceptions of two concurrent partners within each polyamorous relationship, specifically focusing on those who considered one partner to be primary and the other to be secondary, as this is one of the most common configurations among polyamorists (Veaux, 2011; Veaux, Hardy, & Gill, 2014). Results suggested non-monogamous participants reported lower secrecy and disapproval as well as more investment, satisfaction, commitment, and greater communication about the relationship with primary compared to secondary relationships, but a greater proportion of time spent on sexual activity in secondary compared to primary relationships. These findings run contrary to the common assumption that people seek out additional partners because they are not satisfied with their primary partner or that polyamorous relationships are inherently dysfunctional, given that people in polyamorous relationships reported greater satisfaction and commitment to their primary partner. Furthermore, polyamorous participants reported more relationship communication with their primary partners, which further supported the idea that primary relationships are highly functional and satisfying. That said, people in polyamorous relationships reported a much larger proportion of time spent on sex with secondary partners, thus this research also suggested that one reason people may seek secondary partners is to achieve sexual satiation and experience passion. Additionally, though research has shown consensually non-monogamous relationships are stigmatized (e.g., Conley et al., 2013; Moors et al., 2013), this is the first evidence suggesting perceptions of stigma (i.e., disapproval) and attempts to conceal stigma are not experienced similarly across

partners. More specifically, people in polyamorous relationships perceive secondary partners to be less accepted by friends and family and secondary relationships are maintained in greater secrecy compared to primary relationships. Importantly, all effects held when controlling for relationship length and cohabitation, suggesting these effects are not simply due to secondary relationships being newer or in the “honeymoon stage” of a relationship.

However, a notable limitation of this research is relying on differences among polyamorous relationships in which there is a clearly identified primary and secondary partner. It is possible that one reason for the differences observed is the relationship structure itself, such that individuals who identify a partner as primary and another as secondary naturally reinforce differences through preferring one partner to the other with regards to investments, time afforded, and even control over the relationship (e.g., primary partners may be given “veto” power in which they can reject relationship partners for their partner). In fact, one criticism that can be made about research on consensual non-monogamy to date is an over reliance in focusing on primary-secondary relationships and excluding other potential arrangements. Understanding relationship configurations beyond primary-secondary models is important because it has been suggested that some people reject the hierarchical nature of assigning one partner to be primary and another secondary (Ritchie & Barker, 2006), and that non-hierarchical configurations exist, such that some individuals report having multiple primary partners or having multiple non-primary partners (Labriola, 2003, 1999). However, no empirical data was available to support these claims. To address this limitation, Balzarini and colleagues (2018b) examined perceptions of partners and relationship quality among individuals in various polyamorous configurations and compared results for each configuration to monogamous partners. Results demonstrated that co-primary and non-primary configurations are common among polyamorous participants, with

approximately 38% identifying with one of these configurations in 2013, and 55% in 2017. Furthermore, results suggested that while relationships within co-primary structures differed in some ways (e.g., investment, acceptance and secrecy, time spent having sex), they were closer to their ideals on across indicators of relationship quality (e.g., commitment and satisfaction); whereas non-primary partners presented similar outcomes to primary-secondary. In other words, despite rejecting hierarchical primary-secondary labels, many of the same relationship qualities differed systematically among partners in non-hierarchical relationships as they do in primary-secondary relationships. That said, when differences emerged, they were smaller in magnitude than the differences that emerged among primary-secondary partners. Furthermore, pseudo primary partners (i.e., primary partners in co-primary and non-primary configurations) and primary partners in these relationships were more comparable to monogamous partners than to secondary partners.

8.1.2. Stigma Influences Relationships in Positive and Negative Ways

People in consensually non-monogamous relationships perceived their relationships to be stigmatized (see Conley et al., 2013), with the burden of social rejection and secrecy falling particularly hard on the secondary partner (Balzarini et al., 2017, 2018b, 2018d). Indeed, secrecy and acceptance within relationships have meaningful connections with commitment processes and for intimacy. Specifically, the literature on relationship secrecy implies it may have both detrimental and beneficial effects on romantic relationships, such as lower relationship satisfaction and greater anxiety about the relationship among long-term couples (Berzon, 1988; Jordan & Deluty, 2000; Lehmiller, 2009), but higher sexual attraction in the initial stages of relationships (Wegner, Lane, & Dimitri, 1994). Likewise, relationship acceptance appears to have inconsistent effects as well; for instance, while a lack of relationship acceptance can be a

barrier to commitment (Lehmiller & Agnew, 2006), individuals who perceive their relationship to be stigmatized may simultaneously utilize sex as a means of increasing intimacy and closeness in order to compensate. This could in part explain differences found among primary-secondary partners in previous research, as individuals tend to report lower acceptance and commitment, and yet higher secrecy and proportion of time spent on sex with secondary partners (Balzarini et al., 2017, Balzarini et al., 2018b). As such, across three of monogamous and polyamorous participants, Balzarini and colleagues (2018d) examined whether secrecy negatively related to commitment but positively related to the proportion of time spent on sex, and whether acceptance positively related to commitment but was negatively associated with the proportion of time spent on sex. Across the three studies, an alternative model wherein commitment was the precursor was also tested. The alternate model presumed that it is possible that low commitment motivates people to keep their relationships secret and reduces family and friends' acceptance, and as such, an alternative model was also examined. Results for the hypothesized model were inconsistent across samples, though results for the alternative model were consistent providing support for commitment as a pre-cursor. Accordingly, findings suggested that commitment negatively predicted secrecy and secrecy positively predicted proportion of time spent on sex, whereas commitment positively predicted acceptance and acceptance negatively predicted the proportion of time spent on sex.

Accordingly, findings implied that commitment is driving effects on secrecy and acceptance, while secrecy and acceptance are impacting the proportion of time spent on sex in monogamous and polyamorous relationships. This research further suggests that the differences that emerged across partners may be in part due to commitment, as well as attempts to conceal stigma and perceptions of disapproval, consistent with evidence linking acceptance and lower

secrecy to commitment (Lehmiller, 2009; Lehmiller & Agnew, 2006, 2007). Though this research suggests the relationship between stigma management and attempts to conceal stigma on commitment and proportion of time spent on sex may not be binary, such that secrecy and acceptance can promote both positive and negative relationship outcomes.

8.1.3. Partners in Polyamorous Relationships Meet Different Needs

People rely on romantic partners to meet many—sometimes contradictory—needs (e.g., Finkel, Hui, Carswell, & Larson, 2014). For example, people highly value both passion and companionship in relationships, though unfortunately, relationships between any two partners sometimes do not satiate needs for both passion and companionship instantaneously. Given polyamorous relationships, by definition, provide the opportunity to simultaneously pursue multiple romantic relationships, and there is often one partner who fills a more primary role with greater commitments, investments, and communication, and yet another partner who fulfills a secondary role that is accompanied by reports of greater sexual frequency (Balzarini et al., 2017; Balzarini et al., 2018b), people in polyamorous relationships may have different needs met by each of their partners. As such, Balzarini and colleagues (2018c) examined how primary partners may be especially suited to meet an individual's need for nurturance and companionship simultaneously, while secondary partners may be better suited to their need for eroticism and passion. Results revealed polyamorous participants experienced less eroticism but more nurturance in their relationships with their primary partners compared to their relationships with their secondary partners, and that this was true across primary-secondary, co-primary, and non-primary partners, and occurred regardless of gender. Furthermore, consistent with the idea that passion and companionship in relationships follow a time course (Tennov, 1979; Winston, 2004), results suggested relationship length was associated with both nurturance and eroticism,

such that levels of eroticism decreased with increased relationship length in both primary and secondary relationships, while levels of nurturance increased with longer relationship lengths for both primary and secondary relationships. Findings suggest polyamory may provide a unique opportunity for individuals to experience both nurturance and eroticism simultaneously, and that nurturance and eroticism may in fact be influenced by relationship length, such that as relationships progress eroticism decreases and nurturance increases.

8.1.4. Stigma Towards CNM Varies by Relationship Orientation

People in consensually non-monogamous relationships experience tremendous stigma (Conley, Moors, Matsick, & Ziegler, 2013; Moors, Matsick, Ziegler, Rubin, & Conley, 2013; Barker & Langdrige, 2010). In an illustrative study, Conley and colleagues (2013) reported both monogamous and consensually non-monogamous participants viewed monogamous relationships more positively with regards to both relationship relevant and irrelevant traits. However, this pattern of stigma towards consensually non-monogamous relationships and the “halo effect” surrounding monogamous relationships is at odds with the view that people typically favor members from their own groups over members of other groups (Mullen, Brown & Smith, 1992). Additionally, research documenting a halo effect around monogamy collapsed all consensually non-monogamous individuals into one group, which is problematic as attitudes towards swingers, open, and polyamorous relationships differ (Matsick et al., 2014) and could furthermore could have blurred the ingroup boundaries. As such, Balzarini and colleagues (2018e) sought to re-examine the halo effect, using a more direct measure of stigma (i.e., desired social distance), in a methodological context that differentiated between the three most common types of consensually non-monogamous relationships. A convenience sample of individuals who self-identified as monogamous, open, polyamorous, or swinger provided social distance ratings

in response to these same relationship orientations in a counterbalanced order. Consistent with previous findings consensually non-monogamous participants favored monogamy over consensually non-monogamous relationships and when they were collapsed into an overall non-monogamy category, replicating the halo effect. However, results indicated this effect dissipated when participants were asked to differentiate between relationships they identify with, and other consensually non-monogamous relationships. Furthermore, it has been suggested that polyamorous relationships are favored over swinging and open relationships, as the latter two relationships are perceived to be more promiscuous (Matsick, Conley, Ziegler, Moors, & Rubin, 2014). Supplementary findings suggested monogamous relationships were perceived to be the least promiscuous and were associated with the lowest perceived sexually transmitted infection (STI) rates, while swingers were perceived as the most promiscuous and were associated with the highest perceived STI rates. However, inconsistent with the idea that promiscuity is a driving force of stigma argument, results indicate social distance is partly attributable to the perception of STI risk, but not perceptions of promiscuity. Importantly, while individuals in non-monogamous relationships differ in their political and religious affiliations (e.g., Balzarini et al., 2018a), and despite evidence that such affiliations are related attitudes towards consensually non-monogamists (Johnson, Giuliano, Herselman, & Hutzler, 2015; Hutzler, Giuliano, Herselman, & Johnson, 2014; Herek, 2000), all effects held when controlling for political and religious affiliation, suggesting that findings are not driven by differences in individuals political and religious affiliation.

8.1.5. Attitudes Towards Sex, Sociosexuality, and Erotophilia Differ Based on Relationship Orientation

People appear to disapprove of swingers more than consensually non-monogamous relationships (e.g., polyamorous or open relationships), due to the perception that swingers focus on strictly sexual relationships (Matsick et al., 2014), or perceptions of swingers as more apt to carry STIs (Balzarini, Shumlich, Kohut, & Campbell, 2018e). Yet, despite different attitudes held towards people practicing different types of consensually non-monogamous relationships, it was unclear if the psychosexual characteristics of individuals actually engaging in these different consensually non-monogamous relationships differ in a manner consistent with these attitudinal distinctions. As such, in spite of the diversity of consensually non-monogamous relationship orientations and growing research examining consensually non-monogamous, it was unclear whether the sexual attitudes, inclination to approach/avoid sexual stimuli (i.e., erotophobia-erotophilia), and sociosexuality differ among individuals who identify with specific forms of consensually non-monogamy. Further, as the agreements made in consensually non-monogamous relationships permit for extradyadic relationships, important differences might emerge for CNM and monogamous individuals. Balzarini and colleagues (2018f) addressed this by examining differences in sexual attitudes, erotophobia-erotophilia, and sociosexuality among individuals who identify as monogamous, open, polyamorous, or swinger. Results indicated swingers had the most permissive and instrumental sexual attitudes, were the most erotophilic, and were the most unrestricted sexually. Conversely, monogamists scored the lowest on these traits and open and polyamorous participants were in-between. No differences emerged between relationship orientations for attitudes towards communion and birth control, suggesting these attitudes are similar across relationship orientations. These findings reinforce the view that some underlying differences and similarities exist between monogamous and consensually non-monogamous individuals and could elucidate the reasons for varying levels of stigma towards

consensually non-monogamous. Indeed, individuals may not be equally likely to seek out consensually non-monogamous relationships and in fact differences in these attitudes and inclinations to seek out sexual stimulus may have important implications on stigma towards consensual non-monogamy (e.g., individuals who are highly erotophobic, low in permissiveness and instrumentality, and sexually restricted may judge non-monogamists more harshly, and views of individuals as permissive may influence stigma).

8.1.6. Theoretical and Clinical Implications

Our understanding of relationships is largely guided by research on monogamous, heterosexual couples. But theories or models need to be tested at their margins. If theories about relational processes, including interdependence theory (Thibaut & Kelley, 1959), the investment model (Rusbult, Martz, & Agnew, 1988), and minority stress (Meyer, 2003), fail to hold up when tested on non-traditional samples (i.e., consensually non-monogamous, or non-heterosexual samples), this could be indicative of a potential boundary condition, or a built-in assumption, thus providing valuable insight into mechanisms at work/ways to revise or improve the theoretical perspective in research. As such, one major contribution of this research is that it extends previous theories by examining concepts in relationship science, Social Psychology, and Evolutionary Psychology among individuals in consensually non-monogamous relationships. To illustrate, Balzarini and colleagues (2017) show that the investment model can be used to generate predictions about individuals in polyamorous relationships across two concurrent partners. Consistent with the investment model, when individuals were more satisfied, invested, and perceived lower quality of alternatives, they were more satisfied. In this same study, it was shown that perceptions of acceptance and attempts to conceal relationships are not equal across partners, with secondary partners bearing the brunt of lower acceptance and greater secrecy. This

is the first research to extend the investment model to examine relationship processes beyond the dyad and is among the first research to assess how stigma can impact relationship partners differently among the same individual, providing further support for these theories.

However, in other instances, theories and scales used to test theories contained built in biases or presumptions that influence their ability to accurately reflect relationship processes in relationships that extend beyond monogamy. For example, despite the vast interest in and research assessing love in relationships, the standard approaches for measuring different types of love (Hatfield & Rapson, 2013; Hatfield & Rapson, 1993; Hatfield & Sprecher, 1986), may inhibit researchers understanding of eroticism/passionate and nurturance/companionate processes in consensually non-monogamous relationships. Consistent with this line of reasoning, Conley and colleagues (2017) recently argued that many of the theoretical perspectives in Social Psychology and surrounding relationship science presume monogamy, and measures of relational adjustment and characteristics have similarly been created with the implicit assumption that monogamy is the most desirable relationship style (Conley, Matsick, Moors, & Ziegler, 2017). For example, the Passionate Love Scale (Hatfield & Sprecher, 1986; 2013) includes the item “I’d get jealous if I thought [my partner] were falling in love with someone else.” This item is premised on the assumption that more jealousy about a third party is equivalent to more passionate love; however, researchers point out that this may not be true for individuals in consensual nonmonogamous relationships who may actually experience positive affect in response to a partner finding a new relationship (i.e., a partner may feel happy when a loved one is finding joy in other relationships; Ritchie & Barker, 2006; Sheff, 2014). As such, Balzarini and colleagues (Balzarini, Dharma, & Kohut, 2018c) address these limitations (among other theoretical limitations) by creating a scale that can be used to assess eroticism/passion and

nurturance/companionship without the built-in biases and validated this scale among polyamorous participants.

Beyond the theoretical implications outlined there are several clinical implications for my work. First, as people in non-monogamous relationships have been marginalized and risk being ostracized if they disclose their relationship orientation (e.g., “come out”) to friends and family, clinicians could help consensually non-monogamous clients recognize and cope with the effects of stigma and could help clients prepare for the coming out process (if desired). However, individuals who are in consensually non-monogamous relationships may hesitate to seek out help from mental health professionals, as mononormativity may lead clinicians to enact microaggressions against consensually non-monogamous clients (Kolmes & Witherspoon, 2012). This is problematic because individuals who deviate from monogamy may face more stigma and stigma can lead to minority stress (Meyer, 2003) and attempts to manage stigma (e.g., secrecy) and perceptions of stigma from friends and family (e.g., disapproval) impacts commitment processes (Balzarini, Dobson, Kohut, & Lehmler, 2018d). As such, counselors must be aware that dysfunction within a nontraditional relationship may stem in part from stressors resulting from stigma and attempts to conceal stigmatized relationships, and not necessarily from the relationship per se (as has been suggested by some clinicians; see Johnson, 2013). Second, people in consensually non-monogamous relationships believe clinicians are not well informed about their lifestyles and needs and have reported encounters with counselors who are uninformed and at times biased about the non-monogamous partner lifestyle (Johnson, 2013; Weitzman, 2006). This limits the extent to which polyamorous individuals feel that they have access to quality mental health services (Roman, Charles, & Karasu, 1978). In line with this, clinicians have recently suggested that there is a lack of information about non-monogamous

couple dynamics to inform clinicians and that there is a disparity in the training that clinicians receive to be competent in working with couples in non-monogamous relationships. Moreover, some of the most commonly used scales and assessment tools in research and in clinical work have been developed from a monogamous framework (Girard & Brownlee, 2015) and thus may not be easily applied to relationships beyond the dyad and may suffer from built in assumptions of monogamy. As such, consensually non-monogamous individuals may not be properly represented or treated within the health care system. The current research can inform clinicians of the dynamics of consensually non-monogamous relationships, how they differ across partners and primary status, and how they are similar to and different from monogamous relationships.

8.2. Limitations and Future Directions

The present integrated article has several limitations. First, a cross-sectional design was used in all studies. As such, the impact of effects over time and the directionality of effects of stigma and commitment processes, as well as sexual attitudes and stigma among orientations, remains unclear. The challenge of establishing causal relationships can in part be addressed by conducting longitudinal research and by having closely matched comparison groups. Future research using longitudinal designs could ascertain how differences among primary and secondary partners influences relationship dynamics over time, the influence of secrecy and acceptance on commitment and proportion of time spent on sex, the link between role of relationship partner and primary status, as well as the influence of sexual attitudes, erotophilia, and sociosexuality, which could help determine the temporal sequence of differences that emerge across partners, the role partners play, and ways in which relationship orientation influences or is influenced by a host of sexual attitudes.

Additionally, because all participants were recruited online, the samples may be limited in generalizability and may suffer from self-selection. Specifically, across the studies we had predominately white, middle aged, and educated participants from the US and Canada. In a review of research examining consensual non-monogamy, Rubel and Bogaert (2015) noted an over-reliance on recruitment strategies that use referrals, snowball sampling, and advertising through social organizations (e.g., swingers clubs, Facebook groups). One issue with these recruitment strategies concerns the homogeneity of samples. Individuals recruited from social networks and social organizations are likely to share common values and beliefs, and to have similar demographic characteristics (Rubel & Bogaert, 2015). This can limit the generalizability of findings as the samples may fail to capture the diversity of consensual non-monogamists. To try to overcome this we use large samples and, in some cases, collected multiple samples in which we assessed the same questions to bolster confidence in conclusions. In some instances (Balzarini et al., 2018e; 2018f), we also used MTurk to recruit participants, and a growing literature focusing on the generalizability of experimental research using MTurk data finds that researchers can make credible, generalizable inferences with some confidence (e.g., Berinsky, Huber, & Lenz, 2012; Krupnikov & Levine, 2014; Mullinix, Leeper, Druckman, & Freese, 2015). Another issue concerns the self-selection of participants into the study. More specifically, consensual non-monogamists who agree to participate in these studies whether recruited from snow ball sampling or MTurk could differ in important ways from those who refuse. For example, individuals may be less willing to discuss their experiences if they have found consensual non-monogamy distressing or hurtful to their relationships, or if exposing their relationship orientation could be detrimental.

Lastly, the articles presented involved either consensually non-monogamous or monogamous participants self-reports of their perceptions of their relationship(s), stigma, sexual attitudes, and so forth. While the present research provides a starting point for understanding how relationship orientation can impact relationship outcomes, experiences of stigma, sexual attitudes, and much more, the current research did not assess partners' perspectives. This is problematic because relationships by nature include more than one person, and thus results are limited in scope and in the ability to speak to how the processes examined impact partners and the various relationships among partners. For example, while results for Chapter 2-3 showed that secondary partners are the recipients of less investments and lower commitment, the degree to which this is detrimental to a secondary partner may depend on the secondary partner's other relationships, with the most optimal outcomes arising among secondary partners who report having their own primary relationship. A reliance on the individual perspective of a given partner clearly limits the understanding of dyadic/triadic processes in relationships. Future research could therefore productively examine how partners in non-monogamous and monogamous relationships experience their relationships (e.g., do partners report similar levels of commitment for each other), partners' influences on outcomes (e.g., if my secondary partner does not have their own primary, how does it impact my perception of the relationship?), and the influence of concordance or similarity among partners and how that affects the relationships (e.g., when people's partners match their relationship orientation, they will likely experience the best outcomes).

8.3. Concluding Remarks

Considering the evidence presented across the findings included in this integrated article it is clear that the a-priori labelling of consensual non-monogamy as dysfunctional and driven by

low satisfaction is unwarranted. Though meaningful differences do exist among partners in polyamorous relationships with regards to commitment processes, proportion of time spent on sex, and much more, differences that emerge among partners can in part be explained by experiences and attempts to cope with stigma (e.g., disapproval and secrecy), and potentially due to the fact that polyamorous partners meet different roles in relationships. Furthermore, while consensually non-monogamous relationships are subject to stigma, one of the unique benefits these relationships offer is promoting fulfillment of diverse needs, including needs for nurturance and eroticism. Moreover, stigma towards consensual non-monogamy differs depending on one's relationship orientation, with individuals favoring their own relationship orientation over other consensually non-monogamous orientations. Additionally, those who choose to seek out consensual non-monogamy report more permissive and instrumental sexual attitudes, report a higher propensity to seek out sexual stimuli (e.g., erotophilia), and are more unrestricted sexually. In closing, I maintain it is time to examine the adaptiveness of relationships beyond the dyad, to consider how stigma management and minority stress may impact relationships outcomes among a growing minority of individuals who deviate from the norm of monogamy, and how individual differences and sexual attitudes may be impacting decisions to pursue consensual non-monogamous relationships and stigma towards consensual non-monogamy.

8.4. References

- Anderson, E. (2012). *The monogamy gap: Men, love, and the reality of cheating*. New York, NY: Oxford University Press.
- Balzarini, R. N., Campbell, L., Kohut, T., Holmes, B. M., Lehmiller, J. J., Harman, J. J., & Atkins, N. (2017). Perceptions of primary and secondary relationships in polyamory. *PLoS ONE*, *12*, 1–20.
- Balzarini, R. N., Dharma, C., Kohut, T., Campbell, L., Holmes, B. M., Lehmiller, J. J., & Harman, J. J. (2018a⁹). Demographic comparison of American individuals in polyamorous and monogamous relationships. *Journal of Sex Research*. Advanced online publication.
- Balzarini, R. N., Dharma, C., Kohut, T., Campbell, C., Lehmiller, J. J., & Harman, J. J., & Holmes, B. M. (under review, b). Outcomes of co-primary and non-primary polyamorous relationships: What are the implications of rejecting relationship hierarchies. *Archives of Sexual Behavior*.
- Balzarini, R. N., Dharma, C., & Kohut, T. (under review, c). Eroticism versus nurturance: Does the role of a romantic partner influence relationship characteristics in polyamorous relationships. *Social Psychology*.
- Balzarini, R. N., Dobson, K., Kohut, T., & Lehmiller, J. J. (under review, d). The role of relationship acceptance and romantic secrecy on commitment processes and the proportion of time spent on sex. *Personality and Social Psychology Bulletin*.
- Balzarini, R. N., Shumlich, E., Kohut, T., & Campbell, L. (2018e). Dimming the “halo” around monogamy: Re-assessing stigma surrounding consensually non-monogamous romantic

⁹ To avoid confusion, letters a-j are used in the in-text citations to provide additional reference for all Balzarini et al. references for 2018 or that are currently under review.

- relationships as a function of personal relationship. *Frontiers in Psychology*. Advanced online publication.
- Balzarini, R. N., Shumlich, E., Kohut, T., & Campbell, L. (revision submitted, f). Sexual attitudes, opinions, and sociosexual orientation differ based on relationship orientation. *Journal of Sex Research*.
- Barker, M., & Langdridge, D. (2010). Whatever happened to non-monogamies? Critical reflections on recent research and theory. *Sexualities, 13*, 748–772.
- Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis, 20*, 351–368
- Berzon, B. (1988). *Permanent partners: Building gay and lesbian relationships that last*. New York, NY: EP.
- Conley, T. D., Matsick, J., Moors, A. C., & Ziegler, A. (2017). Investigation of consensually nonmonogamous relationships: Theories, methods, and new directions. *Perspectives on Psychological Science, 12*, 205–232.
- Conley, T. D., Moors, A. C., Matsick, J. L., & Ziegler, A. (2013). The fewer the merrier?: Assessing stigma surrounding consensually non-monogamous romantic relationships. *Analyses of Social Issues and Public Policy, 13*, 1–30.
- Conley, T. D., Ziegler, A., Moors, A. C., Matsick, J., & Valentine, B. (2012). A critical examination of popular assumptions about the benefits and outcomes of monogamous relationships. *Personality and Social Psychology Review, 2*, 124–141.
- Finkel, E. J., Hui, C. M., Carswell, K. L., & Larson, G. M. (2014). The suffocation of marriage: Climbing Mount Maslow without enough oxygen. *Psychological Inquiry, 25*, 1–41.

- Girard, A., & Brownlee, A. (2015). Assessment guidelines and clinical implications for therapists working with couples in sexually open marriages. *Sexual and Relationship Therapy, 30*, 462–474.
- Hatfield, E., & Sprecher, S. (1986). Measuring passionate love in intimate relationships. *Journal of Adolescence, 9*, 383–410.
- Hatfield, E., & Rapson, R. (1993). Love and attachment processes. In M. H. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 595–604). New York, NY: Guilford Press
- Hatfield, E., & Rapson, R. L. (2013). Companionate love scale. *Measurement Instrument Database for Social Science*. Retrieved from www.midss.ie
- Hauptert, M., Gesselman, A., Moors, A., Fisher, H., & Garcia, J. (2017). Prevalence of experiences with consensual non-monogamous relationships: Findings from two nationally representative samples of single Americans. *Journal of Sex and Marital Therapy, 43*, 424–440.
- Herek, G. M. (2000). The psychology of sexual prejudice. *Current Directions in Psychological Sciences, 9*, 19–22.
- Hutzler, K. T., Giuliano, T. A., Herselman, J. R., & Johnson, S. M. (2015). Three's a crowd: Public awareness and (mis)perceptions of polyamory. *Psychology and Sexuality, 7*, 69–87.
- Hymer, S. M., & Rubin, A. M. (1982). Alternative lifestyle clients: Therapists' attitudes and clinical experiences. *Small Group Behavior, 13*, 532–541.
- Johnson, A. L. (2013). Counseling the polyamorous client: Implications for competent practice. *VISTAS*. Retrieved from <https://www.counseling.org/docs/default-source/vistas/counseling-the-polyamorous-client-implications.pdf?sfvrsn=5>

- Johnson, S. M., Giuliano, T. A., Herselman, J. R., & Hutzler, K. T. (2015). Development of a brief measure of attitudes towards polyamory. *Psychology and Sexuality, 6*, 325–339.
- Jordan, K. M., & Deluty, R. H. (2000). Social support, coming out, and relationship satisfaction in lesbian couples. *Journal of Lesbian Studies, 4*, 145–164.
- Kolmes, K., & Witherspoon, R. G. (2012). Sexual orientation microaggressions in everyday life: Expanding our conversations about sexual diversity: Part I. *Independent Practitioner, Summer Issue*, 96–101.
- Krupnikov, Y., & Levine, A. S. (2014). Cross-sample comparisons and external validity. *Journal of Experimental Political Science, 1*, 59–80.
- Labriola, K. (1999). Models of open relationships. *Journal of Lesbian Studies, 3*, 217–225.
- Labriola, K. (2003), Models of Open Relationships. Retrieved from <http://www.cat-and-dragon.com/stef/poly/Labriola/open.html>
- Lebowitz, S. (2013). 10 things everyone wants to know about their relationship, according to Google. *Business Insider*. Retrieved from <http://www.businessinsider.com/most-popular-google-searches-on-relationships-2017-12>
- Lehmiller, J. J. (2009). Secret romantic relationships: Consequences for personal and relational well-being. *Personality and Social Psychology Bulletin, 35*, 1452–1466.
- Lehmiller, J. J., & Agnew, C. R. (2006). Marginalized relationships: The impact of social disapproval on romantic relationship commitment. *Personality and Social Psychology Bulletin, 32*, 40–51.
- Lehmiller, J. J., & Agnew, C. R. (2007). Perceived marginalization and the prediction of romantic relationship stability. *Journal of Marriage and Family, 69*, 1036–1049.

- Matsick, J. L., Conley, T. D., Ziegler, A., Moors, A. C., & Rubin, J. D. (2014). Love and sex: Polyamorous relationships are perceived more favourably than swinging and open relationships. *Psychology and Sexuality, 5*, 339–348.
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*, 674–697.
- Mogilski, J. K., Memering, S. L., Welling, L. L., & Shackelford, T. K. (2017). Monogamy versus consensual non-monogamy: Alternative approaches to pursuing a strategically pluralistic mating strategy. *Archives of Sexual Behavior, 46*, 407–417.
- Moors, A. C. (2017). Has the American public's interest in information related to relationships beyond "the couple" increased over time? *Journal of Sex Research, 54*, 677–684.
- Mullinix, K. J., Leeper, T. J., Freese, J., & Druckman, J. N. (2015). The generalizability of survey experiments. *Journal of Experimental Political Science, 2*, 109–138.
- Ritchie, A., & Barker, M. (2006). "There aren't words for what we do or how we feel so we have to make them up": Constructing polyamorous languages in a culture of compulsory monogamy. *Sexualities, 9*, 584–601.
- Roman, M., Charles, E., & Karasu, T. B. (1978). The value system of psychotherapists and changing mores. *Psychotherapy Theory, Research, and Practice, 15*, 409–415.
- Rubel, A. N., & Bogaert, A. F. (2015). Consensual nonmonogamy: Psychological well-being and relationship quality correlates. *The Journal of Sex Research, 52*, 961–982.
- Rubin, J. D., Moors, A. C., Matsick, J. L., Ziegler, A., & Conley, T. D. (2014). On the margins: Considering diversity among consensually non-monogamous relationships. *Journal für Psychologie, 22*, 1–23.

- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357–391.
- Salmansohn, K. (2009). *Prince Harming Syndrome: Break bad relationship patterns for good*. Long Island City, NY: Langenscheidt Publishing Group.
- Salmansohn, K. (2010). Do open marriages work? *CNN*. Retrieved from <http://www.cnn.com/2010/LIVING/personal/03/23/o.open.marriages.work/index.html>
- Sheff, E. (2014). *The polyamorists next door: Inside multiple partner relationships and families*. Lanham, MD: Rowman & Littlefield.
- Slick, M. (2010). What is polyamory? *Christian Apologetics and Research Ministry*. Retrieved from <http://carm.org/polyamory>
- Tennov, D. (1979). *Love and limerence: The experience of being in love*. New York, NY: Stein & Day.
- Thibaut, J. W. & Kelley, H. H. (1959). *The social psychology of groups*. New York, NY: Wiley.
- Veaux, F. (2011, June 18). Care and feeding of polyamorous secondary relationships. *More Than Two*. Retrieved from <https://www.morethantwo.com/primarysecondary.html>
- Veaux, F., Hardy, J., & Gill, T. (2014). *More than two: A practical guide to ethical polyamory*. Thorntree Press, LLC.
- Wegner, D. M., Lane, J. D., & Dimitri, S. (1994). The allure of secret relationships. *Journal of Personality and Social Psychology, 66*, 287–300.
- Weitzman, G. (2006). Therapy with clients who are bisexual and polyamorous. *Journal of Bisexuality, 6*, 137–164.
- Winston, R. (2004). *Human*. London, EN: Dorling Kindersley.

CURRICULUM VITAE**Rhonda N. Balzarini**

Doctoral Candidate

The University of Western Ontario

✿ <https://osf.io/rxnhd/>**EDUCATION**

- 2014 – Present PhD. Social Psychology, Western University, London, ON
Supervisor: Lorne Campbell, PhD
- 2013 M.A. Psychology, Stony Brook University (SBU), Stony Brook, NY
Supervisor: Arthur Aron, PhD
- 2009 B.A. Psychology & Women's & Gender Studies, Magna cum Laude,
Sonoma State University (SSU), Rohnert Park, CA
Supervisor: Heather Smith, PhD

SELECTED ACADEMIC DISTINCTIONS AND AWARDS

- 2018 – 2020 Accelerate Grant, Mitacs and Standard Innovations (\$110,000)
- 2014 – 2018 Ontario's Trillium Scholarship, Western University (\$160,000)
- 2018 Pre-Registration Challenge Award, Open Science Framework (\$1000)
- 2018 Graduate Travel Award, IARR (\$175)
- 2018 SPSP Poster Award Finalist
- 2018 Graduate Travel Award, SPSP (\$500)
- 2017 Academic Achievement Award, Western University (\$1000)
- 2017 Graduate Student Teaching Award, Western University (\$500)
- 2017 Travel Award for SISPP, SPSP (\$500)
- 2016 Graduate Research Award, Western University (\$750)
- 2013 Distinguished Travel Award, Graduate Student Organization (\$300)
- 2013 Research Travel Award, Stony Brook University (\$250)
- 2011 Chairs Discretionary Fund, Sonoma State University (\$250)
- 2009 Distinction Award, Psychology and WGS, Sonoma State University
- 2009 American Association of University Women, Petaluma Branch (\$600)
- 2009 Alden W. Hanson, SSU Scholarship Program (\$4000)
- 2009 Activist of the Year Award, American Civil Liberties Union (\$1000)






RESEARCH EXPERIENCE

- 06/2018 – Present Postdoctoral Researcher
The SHARE Lab, Dept. of Psychology, York University
Supervisor: Amy Muise, PhD
- 08/2014 – 09/2018 Graduate Research Assistant

- 08/2014 – 09/2018 The Smart Lab, Dept. of Psychology, Western University
Supervisor: Taylor Kohut, PhD and Bill Fisher, PhD
Graduate Research Assistant
- 01/2014 – 01/2018 The Love Lab, Dept. of Psychology, Western University
Supervisor: Lorne Campbell, PhD
Graduate Research Assistant
- 08/2009 – 12/2013 The LOVES initiative, Dept. of Psychology, Champlain College
Supervisor: Bjarne Holmes, PhD
Lab Manager (research assistant from 2009-2011)
- 08/2012 – 06/2013 Organizational Justice Lab, Dept. of Psychology, Sonoma State Univ.
Supervisor: Heather Smith, PhD
Project Manager
- 01/2012 – 08/2012 Interpersonal Relationships Lab, Dept. of Psychology, Stony Brook Univ.
Supervisor / thesis advisor: Arthur Aron, PhD
Project Manager
- 05/2011 – 08/2012 Dept. of Conflict Resolution, Human Security, and Global Governance,
University of Massachusetts Boston
Supervisor: Rezarta Bilali, PhD
Research Internship
- Hedonic Laboratory (Gilbert Lab), Dept. of Psychology, Harvard
Supervisor: Daniel Gilbert, PhD

PUBLICATIONS

Peer-Reviewed Journal Articles

1. **Balzarini, R. N.**, Shumlich, E., Kohut, T., & Campbell, L. (in press). Dimming the “halo” around monogamy: Re-assessing stigma surrounding consensually non-monogamous romantic relationships as a function of personal relationship. *Frontiers in Psychology*. [Open Science Framework link: ]
2. **Balzarini, R. N.**, Dharma, C., Kohut, T., Campbell, L., Holmes, B. M., Lehmilller, J. J., & Harman, J. J. (in press). Demographic comparison of American individuals in polyamorous and monogamous relationships. *Journal of Sex Research*. 
3. Kohut, T., **Balzarini, R. N.**, Fisher, B. A., & Campbell, L. (2018). Pornography’s associations with sexual communication and intimacy vary as a function of dyadic patterns of pornography use within heterosexual relationships. *Journal of Personal and Social Relationships*, 35, 655-676. 
4. **Balzarini, R. N.**, Campbell, L., Kohut, T., Holmes, B. M., Lehmilller, J. J., Harman, J. J., & Atkins, N. (2017). Perceptions of primary and secondary relationships in polyamory. *PLoS ONE*, 12, 1-20. 
5. Campbell, L., **Balzarini, R. N.**, Kohut, T., Dobson, K., Hahn, C., Moroz, S., & Stanton, S. (2017). Self-esteem, relationship threat, and dependency regulation: Independent replication of Murray, Rose, Bellavia, Holmes, and Kusche (2002) Study 3. *Journal of Research in Personality*, 72, 5-9. 

6. **Balzarini, R. N.**, Dobson, K., Chin, K., & Campbell, L. (2017). Does exposure to erotica reduce attraction and love for romantic partners in men: Independent replications of Kenrick, Gutierrez & Goldberg (1989) Study 2. *Journal of Experimental and Social Psychology*, 70, 191-197. ✿
7. Selterman, D. F., Mashek, D. J., **Balzarini, R. N.**, & Holmes, B. M. (2014). Teaching about consensual non-monogamy in relationship science and sexuality courses. In the official news report for the *Journal of the International Association for Relationship Research*.
8. Smith, H. J., Goode, C., **Balzarini, R. N.**, Ryan, D., & Georges, M. (2014). The cost of forgiveness: Observers prefer victims who leave unfaithful romantic partners. *European Journal of Social Psychology*, 44, 758-773.
9. Goode, C., **Balzarini, R. N.**, & Smith, H. J. (2014). Positive peer pressure: Priming member prototypicality can decrease undergraduate drinking? *Journal of Applied Social Psychology*, 44, 567-578.
10. McKee, S., Smith, H. J., Koch, A., **Balzarini, R. N.**, Georges, M., & Callahan, M. P. (2013). Looking up and seeing green: Women's everyday experiences with physical appearance comparisons. *Psychology of Women Quarterly*, 37, 351-365.

Book Chapters

1. Jonason, P. K., & Balzarini, R. N. (2016). Unweaving the rainbow of human sexuality: A review of one-night stands, serious romantic relationships, and the relationship space in between. In K. Aumer (Ed.), *The Psychology of Love and Hate in Intimate Relationships* (pp. 13-28). New York City, NY: Springer International Publishing.

Manuscripts Under Review

1. **Balzarini, R. N.**, Jonason, P. K., Kohut, T., Campbell, L., & Aron, A. (under review). Are we in a relationship? A prototype analysis of what it means to be in a romantic relationship. *Personality and Social Psychology Bulletin*. [Open Science Framework link: ✿]
2. **Balzarini, R. N.**, Dobson, K., Kohut, T., & Lehmiller, J. J. (under review). The role of relationship acceptance and romantic secrecy on commitment processes and the proportion of time spent on sex. *Personality and Social Psychology Bulletin*. ✿
3. **Balzarini, R. N.**, Dharma, C., & Kohut, T. (under review). Eroticism versus nurturance: Does the role of a romantic partner influence relationship characteristics in polyamorous relationships. *Social Psychology*. ✿
4. **Balzarini, R. N.**, Dharma, C., Kohut, T., Campbell, C., Lehmiller, J. J., Harman, J. J., & Holmes, B. M. (under review). Outcomes of Co-Primary and Non-Primary Polyamorous Relationships: What are the Implications of Rejecting Relationship Hierarchies. *Archives of Sexual Behavior*. ✿
5. Harman, J. J., McDonald, J., Domke, L., **Balzarini, R. N.**, Lehmiller, J. J., & Holmes, B. M. (under review). This I promise you and you and you: How polyamorous individuals define commitment. *Personal Relationships*.
6. **Balzarini, R. N.**, Shumlich, E., Kohut, T., & Campbell, L. (revision requested). Sexual attitudes, opinions, and sociosexual orientation differ based on relationship orientation. *Journal of Sex Research*. ✿

Manuscripts in Preparation

1. **Balzarini, R. N.**, Dobson, K., Kohut, T., Muise, A., & Campbell, L. (in prep). The dilemma of discrepant sexual ideals: How real or perceived discrepancies detriment relational outcomes and the buffering role of sexual communal strength. ❀
2. **Balzarini, R. N.**, Kohut, T., Leis, M., Harman, J. J., Lehmilller, J. J., & Holmes, B. M. (in prep). Thematic analysis of jealousy in multi-partnered relationships. ❀
3. Kohut, T., **Balzarini, R. N.**, Dobson, K., Rogge, R., McNulty, J., Fisher, B. A., Shaw, A., & Campbell, L. (in prep). Pornography's associations with sexual and relationship satisfaction vary as a function of dyadic patterns of pornography use and perceptions of partner's use. ❀
4. McDonald, J., **Balzarini, R. N.**, Kohut, T., Harman, J. J., Lehmilller, J. J., & Holmes, B. M. (in prep). Compersion: When jealousy inducing situations don't (just) induce jealousy. ❀
5. Dobson, K., **Balzarini, R. N.**, & Campbell, L. (in prep). Sources of information and comparison regarding sexual pleasure. ❀
6. Dobson, K., Stanton, S., **Balzarini, R. N.**, Kohut, T., & Campbell, L. (in prep). Tired of "us"? Accuracy and bias in couples' perceptions of relational boredom. ❀
7. Charlot, N., Campbell, L., & **Balzarini, R. N.** (in prep). The influence of romantic rejection on changes in ideal standards, ideal flexibility, and self-perceived mate value. ❀
8. **Balzarini, R. N.**, Smith, M. M., Charlot, N., & Campbell, L. (in prep). Personality, perceived mate value, and romantic initiation: Evidence from a mixed method longitudinal study.

PRESENTATIONS

Presentations to Scholarly Audiences

1. **Balzarini, R. N.**, Dobson, K., Kohut, T., Lehmilller, J. J., & Campbell, L. (2018). The role of relationship acceptance and secrecy on commitment processes and time spent on sex in monogamous and polyamorous relationships. Talk presented at the International Association of Sex Research (IASR) annual meeting, Madrid, Spain.
2. **Balzarini, R. N.**, Dobson, K., Kohut, T., Muise, A., & Campbell, L. (2018). The dilemma of discrepant sexual ideals and the buffering effect of sexual responsiveness. Talk presented at the International Association of Relationship Research (IARR) annual meeting, Fort Collins, CO.
3. **Balzarini, R. N.**, Dobson, K., Kohut, T., Campbell, L., & Lehmilller, J. J. (2018). Understanding stigma, commitment, and sex in polyamorous relationships: Findings from three journal articles. Talk presented at the Guelph Sexuality Conference annual meeting, Guelph, CA.
4. Dobson, K., **Balzarini, R. N.**, & Campbell, L. (2018). Social comparisons regarding sexual pleasure and their effects on romantic relationships. Research brief presented at the Guelph Sexuality Conference annual meeting, Guelph, CA.
5. **Balzarini, R. N.**, Medd, S., Dobson, K., Kohut, T., Muise, A., & Campbell, L. (2017). The dilemma of discrepant desires. Talk presented at the Guelph Sexuality Conference annual meeting, Guelph, CA.
6. **Balzarini, R. N.**, Jonason, P., Aron, A., & Campbell, L. (2017). Are we in a romantic relationship? A prototype analysis of what it means to be in a romantic relationship. Talk

- presented at the Society for Personality and Social Psychology (SPSP) annual meeting, San Antonio, TX.
7. **Balzarini, R. N.**, Dobson, K., Chin, K., & Campbell, L. (2016). The playboy effect. Talk presented at the Society for the Scientific Study of Sexuality (SSSS) annual meeting, Phoenix, AZ.
 8. **Balzarini, R. N.**, Campbell, L., Holmes, B. M., Lehmiller, J. J., Harman, J. J., & Kohut, T. (2016). Investment and commitment processes in polyamory. Talk presented at the SSSS annual meeting, Phoenix, AZ.
 9. Holmes, B. M., **Balzarini, R. N.**, Lehmiller, J. J., Harman, J. J., & Kohut, T. (2016). The unique demographic qualities of polyamory. Talk presented at the SSSS annual meeting, Phoenix, AZ.
 10. Kohut, T., **Balzarini, R. N.**, Holmes, B. M., Harman, J. J., & Lehmiller, J. J. (2016). Can jealousy be adequately measured in polyamorous relationships with traditional closed-ended assessments? Talk presented at the SSSS annual meeting, Phoenix, AZ.
 11. **Balzarini, R. N.**, Campbell, L., Holmes, B. M., Lehmiller, J. J., Harman, J. J., & Atkins, N. (2016). Perceptions of romantic partners in polyamorous relationships. Talk presented at the IARR annual meeting, Toronto, CA.
 12. Lehmiller, J. J., Harman, J. J., Holmes, B. M., **Balzarini, R. N.**, & Campbell, L. (2016). An investment model analysis of commitment in polyamorous relationships. Talk presented at the American Psychological Society (APS) annual meeting, Toronto, CA.
 13. **Balzarini, R. N.**, Dobson, K., Chin, K., & Campbell, L. (2016). Independent replication of Kenrick, Gutierrez, & Goldberg's (1989) Study 2. Talk presented at the Guelph Sexuality Conference annual meeting, Guelph, CA.

Poster Presentations to Scholarly Audiences

1. **Balzarini, R. N.**, Dobson, K., Kohut, T., Muise, A., & Campbell, L. (2018). The dilemma of discrepant sexual ideals and the buffering effect of sexual responsiveness. Poster presentation at the SPSP annual meeting, Atlanta, GA.
2. Dharma, C., **Balzarini, R. N.**, Kohut, T., Campbell, L., Holmes, B. M., Lehmiller, J. J., & Harman, J. J. (2018). Demographic comparison of American individuals in polyamorous and monogamous relationships. Poster presentation at the SPSP annual meeting, Atlanta, GA.
3. Dobson, K., Stanton, S., **Balzarini, R. N.**, Kohut, T., & Campbell, L. (2018). Tired of "us"? Accuracy and bias in couples' perceptions of relational boredom. Poster presentation at the SPSP annual meeting, Atlanta, GA.
4. Kohut, T., **Balzarini, R. N.**, Fisher, W., & Campbell, L. (2017). Concordance in personal pornography is associated with better sexual communication and higher intimacy in heterosexual relationships. Poster presentation at the SPSP annual meeting, San Antonio, TX.
5. **Balzarini, R. N.**, Dobson, K., Chin, K., & Campbell, L. (2016). Influence of popular erotica on judgements of mates: Independent replication of Kenrick, Gutierrez, & Goldberg's (1989) Study 2. Poster presentation at the Western-Waterloo-Wilfrid Social Psychology Conference annual meeting, Waterloo, CA.
6. **Balzarini, R. N.**, Campbell, L., Holmes, B. M., Lehmiller, J. J., Harman, J. J., & Atkins, N. (2016). Understanding relationship acceptance and secrecy in polyamorous relationships. Poster presentation at the SPSP annual meeting, San Diego, CA.

7. **Balzarini, R. N.**, Campbell, L., Holmes, B. M., Lehmler, J. J., Harman, J. J., & Atkins, N. (2015). Polyamorous relationships: Understanding relationship processes and sexual behaviors with multiple partners. Poster presentation at the International Association of Sex Research (IASR) annual meeting, Toronto, CA.
8. **Balzarini, R. N.**, Michalowski, E. B., Holmes, B. M., Chelberg, M., & Aron, A. (2015). Memory biases of the concept “being in a romantic relationship.” Poster presentation at the SPSP annual meeting, Long Beach, CA.
9. **Balzarini, R. N.**, Aron, A., & Chelberg, M. B. (2014). Examining definitions of “romantic relationship” with a prototype analysis. Poster presentation at the SPSP annual meeting, Austin, TX.
10. Chelberg, M. B., **Balzarini, R. N.**, & Aron, A. (2013). Predicting successful romantic relationship initiation. Poster presentation at the SPSP annual meeting, New Orleans, LA.
11. Georges, M., Ryan, D., Fox, M., Topal, B., Snyder, A., Pasion-Caiani, T., **Balzarini, R. N.**, Goode, C., & Smith, H. J. (2012). Observers’ reactions to infidelity: Victims who forgive damage ingroups reputation. Poster presentation at the WPA annual meeting, SFO-Burlingame, CA.
12. Koch, A., **Balzarini, R. N.**, Georges, M., McKee, S., & Smith, H. J. (2011). Antecedents and consequences of women’s physical appearance comparisons. Poster presentation at the WPA annual meeting, Los Angeles, CA.
13. Weil, J., Grenier, G., **Balzarini, R. N.**, Villagomez, T., Bellagio, P., Patterson, R., & Smith, H. J. (2011). Feeling good but doing little: Value affirmation after witnessed injustice. Poster presentation at the WPA annual meeting, Los Angeles, CA.
14. **Balzarini, R. N.**, Goode, C. R., Lorince, J., & Smith, H. J. (2010). When will social norms persuade group members to drink less alcohol? Poster presentation at the American Psychological Association annual meeting, San Diego, CA.

MEDIA RELATIONS

1. Cormier, Z. (2017). Polyamory is more common than you think, but it’s not for everyone. *VICE*. Retrieved from https://tonic.vice.com/en_us/article/pazp7b/polyamory-is-more-common-than-you-think-but-its-not-for-everyone
2. Lehmler, J. J. (2017). Till porn do us part: Why you should be skeptical of the new study claiming porn kills love. *Sex and Psychology*. Retrieved from <https://www.lehmler.com/blog/2017/9/6/till-porn-do-us-part>
3. Burnley, W. (2017). Four surprising results from this in-depth study of polyamorous people. *ATTN*. Retrieved from <https://www.attn.com/stories/18390/4-surprising-results-depth-study-polyamorous-people>
4. Basu, T. (2017). The surprising conclusion from the biggest polyamory survey ever: It’s a win-win all around, *Inverse Science*. Retrieved from <https://www.inverse.com/article/33981-polyamory-swingers-survey-better-sex-commitment-relationship>
5. Van Brenk, D. (2017). Study: Non-monogamous relationships find success. *Western News*. Retrieved from <https://news.westernu.ca/2017/06/study-non-monogamous-relationships-just-successful/>

6. Lehmiller, J. J. (2017). Four things science has taught us about polyamorous relationships. *Sex and Psychology*. Retrieved from <https://www.lehmiller.com/blog/2017/6/19/4-things-science-has-taught-us-about-polyamorous-relationships>
7. Lehmiller, J. J. (2017). Polyamorists are secretive, stigmatized, and highly satisfied. *TONIC*. Retrieved from https://tonic.vice.com/en_us/article/43y4kd/polyamorists-are-secretive-stigmatized-and-highly-satisfied
8. Skodak, A. (2017). Paving the way to polyamory? *Western Gazette*. Retrieved from https://www.westerngazette.ca/culture/paving-the-way-to-polyamory/article_1e7012e0-ff5a-11e6-8cb3-7f4e52c35b90.html
9. Dolan, E. W. (2017). Study: Exposure to pornography doesn't reduce attraction and love for romantic partners. *PsyPost*. Retrieved from <https://www.psypost.org/2017/01/study-exposure-pornography-doesnt-reduce-attraction-love-romantic-partners-46903>
10. Andrew, E. (2017). Perhaps porn doesn't make men fall out of love after all. *IF*cking Love Science*. Retrieved from <http://www.iflscience.com/brain/perhaps-porn-doesnt-make-men-fall-out-of-love-after-all/>
11. Lehmiller, J. J. (2016). 10 Revelations scientists discovered about sex this year. *Playboy*. Retrieved from <https://www.playboy.com/>
12. Engber, D. (2016). A new twist in the debate over pornography's role in romantic relationships, *Slate Magazine*. Retrieved from http://www.slate.com/articles/health_and_science/science/2016/12/the_replication_crisis_meets_pornography.html

ASSOCIATIONS

2016 – Present	Society for the Scientific Study of Sexuality (SSSS)
2015 – Present	International Association of Sex Research (IASR)
2014 – Present	International Association of Relationship Research (IARR)
2012 – Present	Society for Personality and Social Psychology (SPSP)

AD HOC JOURNAL REVIEWER

Adhoc Reviewer	Journal of Social Psychology
Adhoc Reviewer	Journal of Sexual Medicine
Adhoc Reviewer	Journal of Personal and Social Relationships
Adhoc Reviewer	Journal of Personality and Individual Differences
Adhoc Reviewer	European Journal of Social Psychology
Adhoc Reviewer	European Psychologist

TEACHING EXPERIENCE

Undergraduate Teaching

05/2018 – 08/2018 Understanding Yourself and Others (153 students)

05/2016 – 08/2016 Western University
 Social Psychology (60 students)
 Western University

Undergraduate Teaching Assistant Experience

01/2017 – 05/2017 Social Psychology (120 students)
 Western University
 08/2015 – 12/2015 Science of Romantic Relationships (200 students, with two tutorials)
 Western University
 01/2015 – 05/2015 Research Methods in Social Psychology (50 students, with two tutorials)
 Western University
 01/2010 – 05/2010 Abnormal Psychology (30 students)
 Sonoma State University
 01/2010 – 05/2010 Queer Studies (100 students)
 Sonoma State University
 01/2006 – 12/2008 Introduction to Psychology (100 students)
 Sonoma State University

HONORS THESIS AND INDEPENDENT STUDIES SUPERVISION

08/2017 – 05/2018 Cronin, D., Western University
 Title: An exploration of the relationship between pornography consumption and extradyadic sexual relationships
 08/2016 – 05/2017 Jiang, H., Western University
 Title: How much do I love thee: Different experiences of love for primary and secondary partners in polyamorous relationships
 08/2016 – 05/2017 Medd, S., Western University
 Title: Sexual ideals and relationship dissolution: Can destiny or growth beliefs buffer the detriments of sexual ideal discrepancies?
 08/2015 – 04/2016 Zhou, P., Western University
 Title: Sexual ideals: Item generation for the Sexual Ideals Scale

COMMITTEES AND VOLUNTEER WORK

08/2015 – 05/2018 Coordinator of the Social, Social Development, and Personality and Measurement Brownbag
 08/2016 – 05/2018 Coordinator of the Psychology Colloquium Series

PROFESSIONAL REFERENCES

Lorne Campbell, Ph.D. Professor, Department of Psychology, Western University
Phone: (519) 661-2111; E-mail: lcampb23@uwo.ca
 William Fisher, Ph.D. Professor, Department of Psychology, Western University

Phone: (519) 661-2111; E-mail: fisher@uwo.ca
Amy Muise, Ph.D. Professor, Department of Psychology, York University
Phone: (416) 736-2100; E-mail: muiseamy@yorku.ca
Arthur Aron, Ph.D. Professor, Department of Psychology, UC Berkeley
Phone: (631) 632-7707; E-mail: arthur.aron@sunysb.edu