



Exploring Variations in North American Adults' Attitudes, Interest, Experience, and Outcomes Related to Mixed-Gender Threesomes: A Replication and Extension

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Abstract

Mixed-gender threesomes (MGTs) are a type of consensually nonmonogamous sexual encounter involving three people of more than one gender. Little research has been conducted on MGTs, and what little work does exist is limited to college students, who may actually be less experienced with MGTs than older adults. The present study investigated attitudes toward, interest in, experiences with, and outcomes of MGTs in two samples (college $N = 231$; online $N = 1342$), comprised of 907 heterosexual and 666 sexual minority participants in total. Results indicated that participants reported neutral-to-positive attitudes toward and moderate-to-high levels of interest in MGTs (81% indicated some degree of interest). MGTs involving familiar others were preferred to those involving strangers. Men, sexual minority individuals, and participants from the online sample reported more favorable attitudes toward and greater interest in MGTs as compared to women, heterosexual individuals, and participants from the student sample. In addition, 30% of participants indicated having experience with a MGT. Sexual minority individuals reported more experience with MGTs and more positive outcomes than did heterosexual individuals. In addition, on average, participants reported that their MGT experiences “met expectations.” Overall, these results indicate that MGTs are a common sexual behavior that often results in positive outcomes, especially among sexual minority individuals. Additional research on this understudied topic is needed, particularly as it relates to outcomes and the role of MGTs in consensually nonmonogamous relationships.

Keywords Mixed-gender threesomes · Threesomes · Multi-person sex · Consensual nonmonogamy

Introduction

The practice of consensual nonmonogamy (CNM) is defined as involvement in a relationship in which all parties agree that it is acceptable to have additional romantic or sexual partners (Conley, Ziegler, Moors, Matsick, & Valentine, 2013c). CNM is anything but new, with evidence of CNM relationships found as far back as ancient Mesopotamia, China, and Pharaonic Egypt where polygyny (the practice of having more than one wife at a time; Polygyny, 2019) was a frequent occurrence (Scheidel, 2011). In addition, various pieces of artwork dating back to ancient Greece depict orgies and multi-person sex (Blanshard, 2018).

Despite that the long history humans have had with CNM, there has been a recent surge in discourse surrounding CNM among the general public. For example, a recent study examining Google Search queries discovered that searches for words related to CNM (e.g., polyamory, open relationships) have significantly increased in recent years (Moors, Matsick, &

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Schechinger, 2017). In addition, the results of a brief Google trend analysis for the purposes of the current study indicated that searches for the term “threesome” have increased in recent years, peaking in July of 2015 (rising 25% from 2004 to 2019; Google Trends, 2019). In addition, many celebrities (e.g., Will Smith, Zac Efron, Brad Pitt, Ashton Kutcher) have hinted or announced they practice and explore various forms of CNM, and various dating/matchmaking Web sites (e.g., OK Cupid) have expanded their profile options to allow users to seek open and polyamorous relationships. Academic research on the topic of CNM has also increased, with studies finding that 4% to 5% of adults in online samples report currently practicing CNM (Conley, Moors, Matsick, & Ziegler, 2013a; Fairbrother, Hart, & Fairbrother, 2019), while 20% of Canadian adults and 21–22% of U.S. single adults report having engaged in CNM at least once (Fairbrother et al., 2019; Hauptert, Gesselman, Moors, Fisher, & Garcia, 2017).

Although research on CNM has grown immensely over the past decade, few studies have attempted to investigate attitudes, interest, experience, and outcomes related to specific subtypes of CNM. It is likely that these constructs vary according to the type of CNM that one participates in. In fact, the more a given form of CNM appears to violate norms related to monogamy, the less favorably it is viewed. For example, in a study conducted by Thompson, Hart, Stefaniak, and Harvey (2018), hypothetical individuals described as practicing forms of CNM that violate both sexual and emotional exclusivity norms (i.e., polyamory and open relationships) were judged less favorably than those described as practicing forms of CNM that only violate sexual exclusivity (i.e., swinging and group sex). More research exploring specific forms of CNM is needed. Thus, the current study was designed to investigate variations in attitudes, interest, experience, and outcomes related to mixed-gender threesomes (MGTs) among adults who identify as a man or woman. MGTs are defined as a form of CNM involving the sexual behavior of three people at the same time in which persons of more than one gender are present.

Mixed-Gender Threesomes

The empirical investigation of MGTs is important because it offers researchers a unique opportunity to explore behaviors that violate norms surrounding heterosexuality and monogamy. Despite violating these societal norms, research indicates that MGTs may serve as a “golden opportunity” to explore both CNM and same-sex sexual behavior without experiencing the stigma commonly associated with them (Scoats & Anderson, 2018; Scoats, Joseph, & Anderson, 2018). For example, Scoats et al. found that 29 of their 30 heterosexual male participants indicated that they did not view an individual instance of a MGT involving two males as indicative of homosexuality. In fact, involvement in MGTs may indicate certain personality characteristics (i.e., risk

taking, sensation seeking) rather than one’s sexual orientation or preferences (Frank, 2008). In addition, Scoats and Anderson (2019) found that adults engaging in MGTs do not perceive their behavior as violating norms surrounding monogamy, rather they report using MGTs as means by which to promote or enhance monogamy and commitment. Thus, examining MGTs provides researchers with important information that is distinct and novel from previous studies that have explored CNM more broadly.

Research on threesomes is incredibly scarce, and research on MGTs in particular is nearly absent from the literature (Scoats, 2019; Scoats & Anderson, 2019; Thompson & Byers, 2017, 2020). However, research indicates that threesomes are one of the most popular sexual fantasies. In an online survey of 4175 American adults, one-third of participants reported that being in a threesome was part of their favorite sexual fantasy of all time, while 93% of men and 84% of women reported that they had fantasized about a threesome at least once before (Lehmiller, 2018).

Despite how common it is for people to fantasize about threesomes, relatively few people report actually experiencing one in real life. According to the National Survey of Sexual Health and Behavior (NSSHB), which is based on a nationally representative U.S. sample, 18% of men and 10% of women reported having been in a threesome before (Herbenick et al., 2017). It is important to note that the NSSHB did not assess gender composition of the threesome, just whether participants have ever had any type of threesome. Consequently, it remains unclear which types of threesomes are most common or desired and how they might vary across persons of different genders and/or sexualities.

Only two studies to date have attempted to quantitatively examine attitudes, interest, and/or experiences relating to MGTs. First, Jonanson and Marks (2009) randomly assigned a group of U.S. college students to read one of the six hypothetical vignettes in which the gender of the target (man or woman) and the type of sexual scenario were manipulated (MMF—sexual behavior between two males and a female; FFM—sexual behavior between two females and a male; dyadic—sexual behavior between a male and a female). Participants were then asked to rate their perceptions of the target using six favorable semantic differential items and 35 derogatory semantic differential items. They found that targets described as engaging in a MGT were rated higher on the derogatory items and lower on the favorable items in comparison with those described as engaging in dyadic sex. Among the targets described as engaging in a MGT, targets involved with one member of each gender were rated higher on the derogatory items and lower on the favorable items in comparison with the target involved with two members of the opposite gender.

Second, Thompson and Byers (2017) assessed attitudes, interest, and experiences relating to MGTs among college-aged

individuals. According to their results, 13% of participants had actual experience with MGTs and their general perceptions of MGTs were relatively neutral. In addition, 64% of participants reported interest in MGTs to some degree, with men reporting greater interest than women (but only in FFM MGTs, not MMF MGTs). Finally, both men and women reported greater interest in MGTs that involved a romantic partner or other individual they knew (either an acquaintance or a friend vs. a stranger), as opposed to being the third person in another couple's threesome.

Previously observed gender differences in attitudes toward MGTs could potentially be explained through sexual script theory (Gagnon & Simon, 1973; Tomkins, 1987). This theory posits that gender role socialization at a young age leads to gendered norms/scripts that guide subsequent sexual interactions. To the extent that boys are socialized to prioritize pleasure and short-term encounters while women are socialized to prioritize long-term monogamous relationships, this could potentially account for men's greater threesome interest.

Limitations Associated with Existing MGT Research

Although the existing research on MGTs has expanded our understanding in many ways, two primary limitations must be noted. First, the population from which these studies were sampled was limited and comprised entirely of heterosexual college students (Jonason & Marks, 2009; Thompson & Byers, 2017). As a result, the extent to which the results from these studies are externally valid is unknown. For example, how does interest in MGTs vary according to one's sexual identity and/or age? Second, these studies failed to assess outcomes of MGTs (Jonason & Marks, 2009; Thompson & Byers, 2017). Do people who pursue this activity tend to enjoy it, and do the outcomes vary according to gender and other demographic characteristics? Additional research is required in order to ascertain the extent to which MGT experiences are living up to people's expectations.

The primary objective of the current study was to replicate and extend Thompson and Byers' (2017) study by investigating attitudes, interest, experience, and outcomes related to MGTs using both a college sample as well as a larger and more diverse online convenience sample. In addition, we sought to extend this research by exploring the roles of age and sexual identity in MGT attitudes, interest, and experiences, as well as by considering the outcomes reported by those who have actually participated in a MGT.

Mixed-Gender Threesomes and Age

Currently, the existing literature provides contradictory evidence as to whether age is an influential factor in MGT interest. Although there is little research examining the influence of age specifically in regard to MGTs, research examining correlates

of those most likely to engage in CNM suggests that age is not a predictor (Hauptert, et al., 2017; Rubin, Moors, Matsik, Ziegler, & Conley, 2014). However, these null results may be due, in part, to methodological limitations and oversampling of middle-aged adults in CNM research (Rubin et al., 2014; Sizemore & Olmstead, 2017). Other evidence suggests that interest in engaging in MGTs should be highest for college-aged adults, given that they are in a life stage associated with both strong sexual desire and sexual exploration (Beutel, Stöbel-Richter, & Brähler, 2008; Sizemore & Olmstead, 2017, 2018). Additionally, sexual attitudes and behaviors have become increasingly more permissive with each generation since the 1970s—most notably, those surrounding casual sexual relations and same-sex sexual experiences (Twenge, Sherman, & Wells, 2015, 2016).

However, conflicting evidence suggests that although sex drive may be strongest among young adults in their college years, it may not necessarily equate to having more accepting attitudes and greater interest in MGTs (Lehmiller, 2018; Sizemore & Olmstead, 2018). For example, in a study examining willingness to engage in CNM among a sample of emerging adults, Sizemore and Olmstead found that a majority of respondents reported an unwillingness to consider engaging in CNM. Lehmiller also found that college-aged adults were less likely to fantasize about novel or taboo sex acts, including group sex, in comparison with older adults. Moreover, older adults that are in long-term monogamous relationships may be experiencing declining levels of sexual arousal due to their sex lives becoming routine. While being subjected to the same sexual stimulus leads to habituation of arousal, introduction of a novel stimulus (e.g., a new partner) can bring it back—a phenomenon known as the "Coolidge effect" (Hatfield & Walster, 1978; Hughes, Aung, Harrison, LaFayette, & Gallup, Jr., 2020; Kelley & Musialowski, 1986; O'Donohue & Geer, 1985; O'Donohue & Plaud, 1991). Both men and women alike report that monotony reduces sexual desire in long-term relationships, which can occur among younger adults but is more common among adults that are older and "settled down" (Call, Sprecher, & Schwartz, 1995; Mark & Lasslo, 2018).

Taken together, these findings suggest contradictory predictions regarding age and attitudes, interest, experience, and outcomes associated with MGTs. On the one hand, shifting sexual attitudes and behaviors suggest that younger, college-aged adults should express more favorable attitudes toward and be more interested in participating in MGTs than middle-aged or older adults. On the other hand, not yet having had time to acquire significant sexual experience and potential habituation accompanying long-term monogamous relationships suggests a contrary prediction.

Mixed-Gender Threesomes and Sexual Identity

It is also likely that one's sexual identity influences attitudes, interest, experience, and outcomes related to MGTs. In fact, persons of any orientation could potentially be open to MGTs. For example, many sexual minority men and women across identities (e.g., lesbian, gay, bisexual) report experiences and interests related to engaging in sexual behavior with another sex (Vrangalova & Savin-Williams, 2012), while many heterosexually identified men and women report sexual interest in and experiences with the same sex (e.g., Diamond, 2016), due in part to the phenomenon of sexual fluidity.

With respect to research on CNM, rates of participation appear to differ based on sexual identity. For example, in online survey research, 20–22% of heterosexual adults report experience with CNM (Rubin et al., 2014). By contrast, studies assessing gay men specifically indicate that 20–56% have participated in CNM (Fairbrother et al., 2019; Hauptert et al., 2017). These findings align with research, suggesting that various forms of CNM have been prevalent among the gay male community for decades (Bonello & Cross, 2010; Klesse, 2007). While some empirical work has examined participation in CNM among gay men, there has been a lack of investigation into participation in CNM among sexual minority women and sexual minority men who do not identify as gay (e.g., bisexual, pansexual, etc.); however, the limited data that exist suggest that, across gender, CNM is a more common practice across sexual minorities than it is among heterosexuals (Levine, Herbenick, Martinez, Fu, & Dodge, 2018). Further, in a study comparing willingness to engage in CNM among sexual minority men and women, no gender difference was observed (Moors, Rubin, Matsick, Ziegler, & Conley, 2014).

Sexual stigma theory can also help to understand potential differences in MGT attitudes, interest, experience, and outcomes (Herek, 2007). In particular, sexual minority individuals by their very existence violate heterosexist norms of sexuality and may, therefore, perceive less risk in violating norms of sexuality regarding monogamy by engaging in CNM. Are adults identifying as a sexual minority likely to report more favorable attitudes, greater interest, and more experience associated with MGTs in comparison with those identifying as heterosexual? The current study was designed to obtain a sample inclusive of a diverse range of sexual identities in order to explore differences in attitudes, interest, and experiences related to MGTs according to one's sexual identity.

Mixed-Gender Threesome Outcomes: Do Some People Report Better Experiences Than Others?

On average, people report positive experiences when they act out their sexual fantasies; however, some people report better experiences than others (Lehmiller, 2018). The odds

of having a positive experience are likely to depend upon a number of factors, but we sought to focus specifically here on the roles of gender and sexual identity.

With respect to gender, men are more likely to have fantasized about MGTs and they report having MGT fantasies more often than do women (Lehmiller, 2018). The simple fact that men appear more interested in MGTs may translate to more positive outcomes because it suggests that they desire this activity to a greater extent than do women. However, it is also likely that men and women think about and approach MGTs from very different vantage points, with different expectations regarding pleasure, as well as different safety concerns. Conley (2011), working from the perspective of pleasure theory (Abramson & Pinkerton, 2002), which stipulates that pleasure is the primary motivating factor behind sexual behavior, found that women's lower interest in casual sex relative to men stems from the fact that women generally report a lower anticipation of pleasure arising from casual encounters. We suspect that women likely also anticipate less pleasure from MGTs than do men. The way that MGTs are often depicted in pornography and in the popular media (e.g., two women working to pleasure one man at the same time) could reinforce a perception that MGTs are less focused on female pleasure. Likewise, it is plausible that women see more potential risks in having a MGT in comparison with men, just as women tend to view casual sex in riskier terms (Conley, 2011). To the extent that women have more safety concerns (e.g., risk of sexual assault, STIs, unintended pregnancy), this could impede MGT enjoyment. Finally, it is also possible that stigma related to the sexual double standard (Marks & Fraley, 2005) may impact the outcomes men and women experience. In particular, because women are often judged more harshly than men for engaging in comparable sexual behavior, women may report more negative outcomes stemming from their MGT experiences than do men. Research supports the existence of the sexual double standard with respect to engagement in MGTs, such that women are judged more harshly than men (Thompson & Byers, 2020).

In considering sexual identity, we can once again draw upon sexual stigma theory (Herek, 2007) to understand the role that stigma plays in sexual satisfaction. It is likely that adults identifying as a sexual minority have fewer concerns about the potential stigma resulting from their participation in a norm-violating behavior (such as MGTs) than do adults identifying as heterosexual, given that they have already violated norms surrounding heterosexuality and have become accustomed to receiving social stigma surrounding their sexual identities and behaviors. Thus, adults identifying as a sexual minority may experience greater comfort and more positive outcomes when participating in MGTs than adults identifying as heterosexual. In fact, scholars argue that the more positive attitudes toward CNM reported by sexual minority adults in comparison with heterosexual adults can explain increased participation in CNM among sexual minorities (Moors et al., 2014).

The Current Study

To address limitations from previous research and to replicate and extend the study conducted by Thompson and Byers (2017), the current study examined variations in U.S. adults' attitudes, interest, experience, and outcomes related to MGTs according to age and sexual identity using both an undergraduate and a more diverse online sample. The following hypotheses were advanced based on sexual script theory, sexual stigma theory, and previous research.

H1 In line with Thompson and Byers (2017), men were expected to report more accepting attitudes, greater interest, and more experience with MGTs in comparison with women. Men were also expected to report more positive outcomes than women.

H2 Participants identifying as a sexual minority were expected to report more accepting attitudes toward, greater interest in, and more experience with MGTs in comparison with participants identifying as heterosexual. Sexual minority participants were also expected to report more positive outcomes with MGTs in comparison with heterosexual participants.

H3 Consistent with the results reported by Thompson and Byers (2017), men were expected to report greater interest in FFM as compared to MMF MGTs, whereas women were expected to report greater interest in MMF as compared to FFM MGTs, regardless of the sample.

H4 Based on research conducted by Thompson and Byers (2017), participants were expected to report greater interest in MGTs involving their romantic partner as compared to MGTs in which they are the third person; they were also expected to report more interest in MGTs involving familiar others (i.e., friends and acquaintances) in comparison with those involving strangers.

Due to inconsistencies in the existing literature, no predictions were generated on the basis of age. Thus, variations in attitudes, interest, experience, and outcomes related to MGTs according to one's age were examined for exploratory purposes.

Method

Participants

Two separate samples were obtained for this study: one consisting of American undergraduate college students from a Midwestern university and the other consisting of a diverse group of adults recruited primarily through social media. With respect to the undergraduate sample, a total

of 249 young adults (39 men, 202 women, 2 other) ranging in age from 18 to 42 were recruited. In an attempt to replicate the findings obtained from Thompson and Byers (2017) with a parallel sample, we removed any participant who reported an age over 24 or who reported a gender identity other than man or woman. Thus, 18 participants were removed, which resulted in a final sample comprised of 231 young adults. See Table 1 for descriptive information.

In the online sample, a total of 1400 adults (696 men, 646 women, 13 agender, 19 genderqueer, 7 bigender, 7 transgender, 13 other) were recruited. In order to examine gender differences and compare results to the undergraduate sample, all participants indicating a gender identity other than man or woman were removed from the sample, resulting in a final sample of 1342 adults. See Table 1 for descriptive information. Data on gender minority participants from both samples were combined and reported in a supplemental analysis.

Measures

Demographics questionnaire Demographic information collected from participants included current gender identity, sexual identity, race, and country of origin. Participants also indicated their sexual identity and race by choosing from a variety of response options, which are presented along with demographic results in Table 1. Relationship status was assessed with one dichotomous choice item inquiring whether participants were currently in a romantic relationship. Those who responded “yes” were asked to provide additional details, including how long they had been in the relationship (in months) and whether the relationship was sexually exclusive (yes or no).

Mixed-Gender Threesome Scale—Revised (MGTS; Thompson & Byers, 2017) The original MGTS was developed by Thompson and Byers and included three subscales: an attitudes, interest, and experience subscale. These subscales were retained and preserved for the purposes of the current study; however, an additional item was added to assess MGT outcomes. This item asked participants to reflect on their most recent MGT and report whether “it lived up their expectations” using a 7-point scale ranging from 1 (*much worse than expected*) to 7 (*much better than expected*).

MGT attitudes subscale Participants first completed the MGT attitudes subscale (Thompson & Byers, 2017), which was comprised of ten 7-point semantic differential items about their feelings toward MGTs (e.g., “pure dirty,” “helpful–harmful”). Possible mean scores ranged from 1 to 7 with higher scores indicating more accepting attitudes toward MGTs. The MGT attitudes subscale demonstrated excellent internal consistency ($\alpha=0.95$).

MGT interest subscale Participants then completed the 8-item MGT interest subscale (Thompson & Byers, 2017). The first

Table 1 Final participant demographic information presented by subsample

	Undergraduate Sample		Online Sample	
	N=231		N=1342	
	M (SD)	N (%)	M (SD)	N (%)
Age	20.67 (1.27)	–	30.84 (12.71)	–
Gender				
Woman	–	195 (84.42%)	–	696 (51.86%)
Man	–	36 (15.58%)	–	646 (48.14%)
Sexual Identity				
Heterosexual	–	191 (83.04%)	–	719 (53.24%)
Mostly heterosexual	–	20 (8.70%)	–	263 (19.61%)
Homosexual/gay/lesbian	–	4 (1.73%)	–	64 (4.77%)
Mostly homosexual/gay/lesbian	–	2 (0.87%)	–	28 (2.09%)
Bisexual	–	11 (4.78%)	–	175 (13.05%)
Other ^a	–	2 (0.87%)	–	97 (7.24%)
Race				
African American/Black	–	29 (12.55%)	–	53 (3.96%)
Asian/Pacific Islander	–	1 (0.43%)	–	61 (4.56%)
White or European American	–	182 (78.79%)	–	1042 (77.94%)
Hispanic	–	10 (4.33%)	–	83 (6.21%)
Biracial or Multiracial	–	7 (3.03%)	–	49 (3.66%)
Other	–	2 (0.87%)	–	49 (3.66%)
Relationship Status				
In relationship	–	122 (54.71%)	–	809 (65.56%)
Not in relationship	–	101 (45.29%)	–	425 (34.44%)
Relationship Length (in months)	21.35 (19.21)	–	56.28 (44.27)	–
Monogamy Status				
Sexually exclusive	–	115 (95.04%)	–	612 (78.26%)
Not sexually exclusive	–	6 (4.96%)	–	170 (21.74%)

^a“Other” sexual identities included asexual, pansexual, and queer. Numbers may not add up to total due to missing responses or the opportunity to “check all that apply”. Proportions represent valid percentages due to pairwise deletion and missing values

two items assessed interest in MMF and FFM MGTs (e.g., “If presented with the opportunity, how interested would you be in engaging in a threesome if it involved: two males and a female?”). Each item was rated on a 7-point scale ranging from 1 (“not open at all”) to 7 (“very open”). These two items were combined to determine the percentage of participants who reported interest in MGTs. The final six items varied according to two dimensions: the relationship with other participants (familiarity) and whether the MGT was with their partner or whether the participant was a third person with a couple (third-person status). With respect to the familiarity, participants were asked to indicate their interest in engaging in a MGT with “a close friend (future contact with them), a casual acquaintance (no future contact with them), and a stranger.” For third-person status, participants indicated their interest in engaging in a MGT that “involved you and your romantic partner” or a MGT in which “you are part of a romantic couple’s threesome.” For example, the item that assessed an acquaintance and being the third person asked: “How interested would you be in being the third person in a romantic couple’s

threesome, if the couple are your acquaintances (no future contact with them)?” Each item was rated on the same 7-point scale used for Questions 1 and 2. To determine the overall extent of interest in engaging in MGTs, the mean for all subscale items was computed with higher scores reflecting greater interest in engaging in MGTs. The internal consistency for the MGT Interest subscale was adequate ($\alpha=0.88$).

MGT experience subscale Finally, participants completed the MGT Experiences subscale. This subscale included two dichotomous questions (yes/no) that assessed participants’ previous experience with MMF and FFM MGTs (e.g., “Have you ever participated in a threesome: with two males and one female?”). Three dichotomous variables were created using the responses from the MGT Experiences subscale items: MMF experience, FFM experience, and any experience.

Procedure

This study was advertised as a survey of “sexual attitudes,” and calls for participation were posted on a variety of social media platforms (e.g., Facebook, Twitter, Reddit) as well as Web sites that advertise psychological studies (e.g., The Social Psychology Network, Craigslist, Sex and Psychology). Social media posts initially occurred on the investigators’ accounts, which were then widely shared by other users. For the student sample, the call for participation was posted in a university subject pool. Prospective participants were provided with a link to a survey hosted on Qualtrics. Upon providing informed consent, participants were given further information about the study’s purpose. Participants first completed demographic information and were then asked to provide responses to various measures examining attitudes toward, interest in, and experiences with a variety of MGT scenarios. They also completed an assortment of personality assessments that were not utilized in the present study and are not discussed further. Participants were informed that they may choose to not answer any item they wished and could quit the survey at any time. The survey took approximately 20 min to complete. No compensation was offered to participants who were recruited for the online sample; however, undergraduate participants recruited through the subject pool received research participation credits. This study was approved by the university’s research ethics board prior to data collection.

Analytic Strategy

Data from the student and online samples were combined and a dichotomous variable indicating which sample each participant was from was created. All analyses were conducted using this data file in order to allow for statistical analyses assessing sample differences in MGT attitudes, interest, experiences, and outcomes. To ensure that participants were included in any and all analyses for which they provided data, pairwise deletion was used to handle missing values. Although no outliers were identified on any of the primary variables, the computation of skew *z*-scores (obtained by dividing the skewness by the skew standard error) provided evidence that the attitudes scale, some of the interest items, and the outcomes item were slightly skewed. However, given that statistical transformations may compromise the interpretations of results, all data were included in their raw form for all analyses. In addition, because of the fairly large sample size of the combined dataset, only effects that were considered greater than small in size ($\eta p^2 = 0.01$; Richardson, 2011) and statistically significant ($p < .05$) were followed up.

Results

Preliminary Analyses

Prior to testing any of the hypotheses, preliminary analyses were conducted to compare the two samples on various demographic variables. With respect to gender, the results of a chi-square test indicated that the online sample had a significantly greater proportion of men than did the undergraduate sample, $\chi^2(1) = 85.04$, $p < .001$, $\phi = 0.23$. The online sample reported an average age that was significantly older than the average age reported by the undergraduate sample, $t(1577) = 12.28$, $p < .001$, $d = 1.13$. A greater proportion of participants in the online sample reported a sexual identity other than heterosexual as compared to the undergraduate sample, $\chi^2(8) = 73.31$, $p < .001$, $\phi = 0.22$. Finally, a significantly greater proportion of participants from the undergraduate sample indicated that they were in a sexually exclusive relationship as compared to the online sample, $\chi^2(1) = 18.80$, $p < .001$, $\phi = 0.14$. See Table 1 for the descriptive information associated with each of these differences.

Attitudes Toward Mixed-Gender Threesomes

Overall, participants across the two samples reported somewhat neutral-to-positive attitudes toward MGTs ($M = 4.42$, $SD = 1.36$). In order to compare gender and sample differences in attitudes toward MGTs, a 2 (gender) \times 2 (sample) between-subjects factorial ANOVA was conducted. The main effects of gender, $F(1, 1557) = 22.67$, $p < .001$, $\eta p^2 = 0.02$, and sample were significant, $F(1, 1557) = 17.66$, $p < .001$, $\eta p^2 = 0.01$. With respect to gender, as predicted (H1), men reported more favorable attitudes ($M = 4.75$, $SD = 1.25$) compared to women ($M = 4.18$, $SD = 1.38$). With respect to the main effect of sample, participants in the online sample reported more favorable attitudes ($M = 4.54$, $SD = 1.33$) than did participants in the student sample ($M = 3.77$, $SD = 1.36$). The interaction effect between gender and sample was not significant.

To assess whether the effect of sample was due to differences in age between samples, a mediational model was tested using Hayes’ PROCESS Macro (Model 4; Hayes & Preacher, 2013). In this model, sample was included as the independent variable (*X*), age as the mediator (*M*), and attitudes scores as the dependent variable (*Y*). The results indicated that age partially mediated the effect of sample on the MGT attitudes. After age was added to the model, the coefficient between sample and MGT attitudes was reduced from 0.75 to 0.61 (both $ps < .001$). The Sobel test provided further evidence that the reduction in the effect of sample, after including the mediator (i.e., age), was statistically significant ($Z = 11.47$, $p < .001$). Age was positively correlated with MGT attitudes ($r = .17$, $p < .001$).

A separate analysis was conducted to examine H2 (sexual identity differences in MGT attitudes). Because the number of participants from the undergraduate sample who identified as sexual minorities was quite small, all sexual minority identities were collapsed into one category for both samples. Thus, heterosexual adults were coded as “1” and sexual minority adults were coded as “2.” In addition, although we had intended to include sexual identity as a variable in the primary ANOVA (reported above), several of the cell sizes were too small ($N=7$). Thus, to examine differences according to sexual identity, we collapsed across sample to conduct a 2 (gender) \times 2 (sexual identity) between-subjects factorial ANOVA.

The results of the ANOVA indicated that the effect of gender was still significant, $F(1, 1554) = 70.24, p < .001, \eta p^2 = 0.04$, with men reporting more favorable attitudes toward MGTs than women. In addition, the effect of sexual identity was significant, $F(1, 1554) = 127.75, p < .001, \eta p^2 = 0.08$. Further examination of the means and SDs indicated that participants identifying as a sexual minority reported more accepting MGT attitudes ($M = 4.87, SD = 1.13$) in comparison with individuals identifying as heterosexual ($M = 4.10, SD = 1.42$).

Interest in Mixed-Gender Threesomes

Overall, 81.43% of participants (in both samples) indicated some degree of interest in engaging in a MGT. To examine variations in the proportion of participants interested in MGTs, a 2 (sample) \times 2 (interest) chi-square test of association was conducted. According to the results, a significantly smaller proportion of the student sample indicated interest in MGTs (66.22%) as compared to the online sample (83.96%), $\chi^2(1) = 39.61, p < .001, \phi = 0.16$. However, unlike the results from the analyses related to attitudes, differences in interest could not be attributed to age. In fact, there was not a significant difference in age between those reporting interest in MGTs ($M = 29.62, SD = 12.35$) compared to those not reporting interest ($M = 28.19, SD = 11.79$), $t(1554) = 1.79, p = .07, d = 0.12$. Differences in the proportion of participants interested in MGTs were also assessed with respect to gender using a 2 (gender) \times 2 (interest) chi-square test of association. The results indicated that a significantly greater proportion of men indicated interest in MGTs (90.09%) as compared to women (74.74%), $\chi^2(1) = 59.46, p < .001, \phi = 0.20$.

On the 7-point scale, participants' mean level of interest in MGTs was moderate ($M = 4.06, SD = 2.08$). To assess variations in the degree of interest in MMFs compared to FFMs, a 2 (gender) \times 2 (sample) \times 2 (type of MGT) mixed-design factorial ANOVA was conducted (see Table 2 for all descriptive statistics). The results indicated that there was a significant main effect of gender (consistent with H1), such that men reported greater interest in MGTs ($M = 4.50, SD = 1.94$) than did women ($M = 3.72, SD = 2.13$), $F(1, 1533) = 11.05, p < .001,$

Table 2 Differences in interest across gender of participant and type of Mixed-Gender Threesomes

	Student Sample		Online Sample	
	Men <i>M</i> (SD)	Women <i>M</i> (SD)	Men <i>M</i> (SD)	Women <i>M</i> (SD)
MMF	2.24 (1.57)	2.82 (2.20)	3.83 (2.34)	4.07 (2.38)
FFM	5.03 (2.18)	2.87 (2.16)	5.26 (2.22)	3.85 (2.34)

$N=39$ student men, 192 student women, 640 men from the online sample, 693 women from the online sample. All items were rated on a 7-point scale from 1 (“not at all open”) to 7 (“very open”)

$\eta p^2 = 0.01$. A main effect of sample also emerged, in which those in the online sample reported greater interest in MGTs ($M = 4.25, SD = 2.06$) as compared to those in the student sample ($M = 2.97, SD = 1.89$), $F(1, 1533) = 30.83, p < .001, \eta p^2 = 0.02$. Finally, the main effect of type of MGT was also significant, with FFM MGTs ($M = 4.34, SD = 2.42$) resulting in greater interest than MMF MGTs ($M = 3.77, SD = 2.37$), $F(1, 1533) = 93.72, p < .001, \eta p^2 = 0.06$.

However, these main effects were qualified by significant interaction effects, including a significant two-way interaction between gender and type of MGT, $F(1, 1533) = 107.23, p < .001, \eta p^2 = 0.07$. Follow-up simple effects analysis suggested that the gender differences only emerged with respect to FFM MGTs, $F(1, 1535) = 184.91, p < .001, \eta p^2 = 0.11$, not MMF MGTs, $F(1, 1535) = 0.21, p = .65, \eta p^2 = 0.00$. In line with H3, men reported greater interest in FFM MGTs than women. See Fig. 1 for a visual representation.

A two-way interaction between sample and type of MGT also emerged, $F(1, 1533) = 15.74, p < .001, \eta p^2 = 0.01$. According to follow-up simple effects analysis, although FFM MGTs were preferred in both samples, the discrepancy in interest was greater among the online sample, $F(1, 1535) = 77.75, p < .001, \eta p^2 = 0.05$, as compared to the student sample, $F(1, 1535) = 10.30, p < .001, \eta p^2 = 0.01$, despite the fact that interest in both types of MGTs was higher in the online sample than in the student sample. See Fig. 2 for a visual representation of the interaction effect.

To examine differences in interest by sexual identity, as stated in H2, the two samples were collapsed in order to examine differences in MGT interest according to one's sexual identity. Thus, a 2 (gender) \times 2 (sexual identity) \times 2 (type of MGT) mixed-design factorial ANOVA was conducted. Consistent with the previous ANOVA, gender, $F(1, 1530) = 50.51, p < .001, \eta p^2 = 0.03$, and type of MGT, $F(1, 1530) = 124.36, p < .001, \eta p^2 = 0.08$, were still significant. As expected (H2), there was a significant main effect of sexual identity $F(1, 1530) = 123.21, p < .001, \eta p^2 = 0.02$, in which participants identifying as heterosexual reported greater interest in MGTs ($M = 4.73, SD = 2.08$) in comparison with participants identifying as a sexual minority ($M = 3.57, SD = 1.94$).

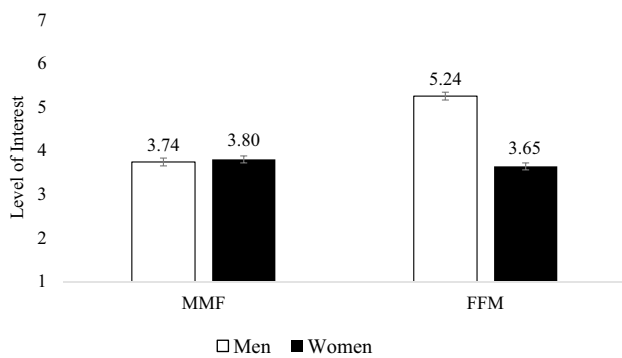


Fig. 1 Two-way interaction between type of MGT and gender of participant (Mean \pm SEM). Note Level of interest scores ranged from 1 to 7, with higher scores indicating greater interest. MMF=Threesomes involving two males and one female. FFM=threesome involving two females and one male. Error bars indicate standard error of the mean. The values above of bars reflect the mean

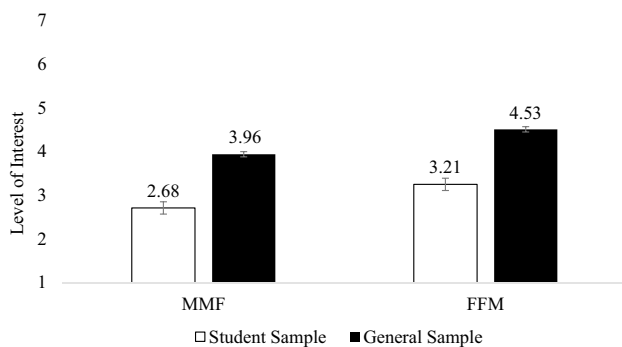


Fig. 2 Two-way interaction between type of MGT and sample (Mean \pm SEM). Note Level of interest scores ranged from 1 to 7, with higher scores indicating greater interest. MMF=Threesomes involving two males and one female. FFM=threesome involving two females and one male. Error bars indicate standard error of the mean. The values above of bars reflect the mean

The two-way interaction between the type of MGT and sexual identity was also significant, $F(1, 1530) = 58.89, p < .001, \eta^2 = 0.04$. The results of a simple effects analysis indicated that the preference for FFM MGTs in comparison with MMF MGTs was larger for participants identifying as heterosexual, $F(1, 1532) = 110.73, p < .001, \eta^2 = 0.06$ as compared to participants identifying as a sexual minority $F(1, 1532) = 5.19, p = .02, \eta^2 = 0.00$. See Fig. 3 for a visual representation.

However, all main effects and the two-way interaction were qualified by a significant three-way interaction effect between gender, sexual identity, and type of MGT, $F(1, 1530) = 252.29, p < .001, \eta^2 = 0.14$. To probe this three-way interaction, a simple interaction effects analysis was conducted in which the two-way interaction between gender and sexual identity met the criteria for significance for FFM MGTs, $F(1, 1539) = 165.83, p < .001, \eta^2 = 0.10$, but not MMF MGTs, $F(1,$

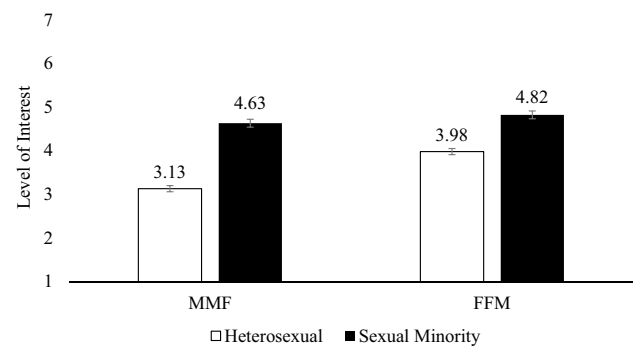


Fig. 3 Two-way interaction between type of MGT and sexual identity (Mean \pm SEM). Note Level of interest scores ranged from 1 to 7, with higher scores indicating greater interest. MMF=Threesomes involving two males and one female. FFM=threesome involving two females and one male. Error bars indicate standard error of the mean. The values above of bars reflect the mean

$1539) = 4.92, p = .03, \eta^2 = 0.00$. With respect to FFM MGTs, the simple effects analysis following up the two-way interaction between gender and sexual identity indicated that the effect of gender was significant for heterosexual participants, $F(1, 1539) = 387.76, p < .001, \eta^2 = 0.20$, but not for sexual minority participants, $F(1, 1539) = 0.01, p = .93, \eta^2 = 0.00$. Specifically, heterosexual men ($M = 5.55, SD = 1.99$) reported greater interest in FFM MGTs than did heterosexual women ($M = 2.71, SD = 1.98$). See Fig. 4.

Variations in Interest According to Differences in Familiarity and Third-Person Status

To examine the effects of familiarity and third-person status on men's and women's interest in MGTs, we conducted a 2 (gender) \times 2 (sample) \times 2 (third-person status) \times 3 (familiarity) mixed-design ANOVA. Consistent with the results reported above, the results indicated that there was a significant main effect of gender, such that men reported greater overall interest in MGTs ($M = 5.05, SD = 2.23$) than did women ($M = 3.65, SD = 2.21$), $F(1, 1529) = 30.96, p < .001, \eta^2 = 0.02$. There was also a significant main effect of sample, $F(1, 1529) = 38.52, p < .001, \eta^2 = 0.03$, in which participants from the online sample reported greater overall interest ($M = 4.48, SD = 2.32$) in comparison with participants from the student sample ($M = 2.30, SD = 1.94$). To assess whether the effect of sample was due to differences in age between samples, a second mediational model was tested in which sample was included as the independent variable (X), age as the mediator (M), and interest scores as the dependent variable (Y). The results indicated that age partially mediated the effect of sample on the MGT interest. After including age, the coefficient between sample and MGT interest was reduced from 1.48 to 1.29 (both $ps < .001$). The Sobel test provided further evidence that the reduction in the effect of

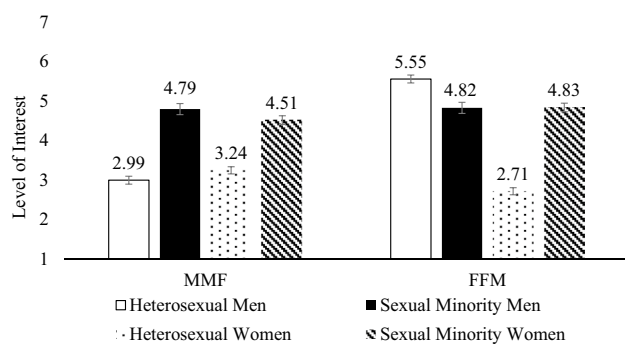


Fig. 4 Three-way interaction between type of MGT, gender, and sexual identity (Mean \pm SEM). *Note* Level of interest scores ranged from 1 to 7, with higher scores indicating greater interest. MMF=Threesomes involving two males and one female. FFM=threesome involving two females and one male. Error bars indicate standard error of the mean. The values above of bars reflect the mean

sample, after including the mediator (i.e., age), was statistically significant ($Z = 5.79, p < .001$).

A significant main effect for third-person status also emerged, $F(1, 3058) = 144.97, p < .001, \eta^2 = 0.09$, with participants reporting greater interest in MGTs involving a romantic partner ($M = 4.38, SD = 2.63$) than those in which they are the third person ($M = 3.41, SD = 2.03$). Finally, there was a significant main effect for familiarity, $F(2, 3058) = 47.68, p < .001, \eta^2 = 0.03$. Participants were least interested in MGTs involving a stranger ($M = 3.53, SD = 2.48$), somewhat more interested in MGTs involving a friend ($M = 3.76, SD = 2.47$), and most interested in MGTs involving a casual acquaintance ($M = 4.40, SD = 2.53$) (differences in all means $p < .001$).

However, the third-person status and familiarity main effects were qualified by a two-way interaction, $F(2, 3058) = 10.55, p < .001, \eta^2 = 0.01$. The results of a simple effects analysis indicated that, although the familiarity effect was significant for MGTs involving one's romantic partner, $F(2, 1531) = 257.93, p < .001, \eta^2 = 0.25$, and MGTs in which the participant would serve as the third person, $F(2, 1531) = 203.11, p < .001, \eta^2 = 0.21$, this effect was significantly greater for the MGTs in which the participant would be a third person. In particular, when serving as a third person, participants reported greatest interest in MGTs involving acquaintances, followed by friends, followed by strangers (differences in all means $p < .001$). See Fig. 5 for a visual representation of the interaction effect. All other interaction effects failed to reach our criteria for significance.

Experience with Mixed-Gender Threesomes

A total of 433 participants (30.07%) indicated that they had experienced a MGT at least once. However, contrary to H1, men (31.88%) were not more likely than women (28.61%) to

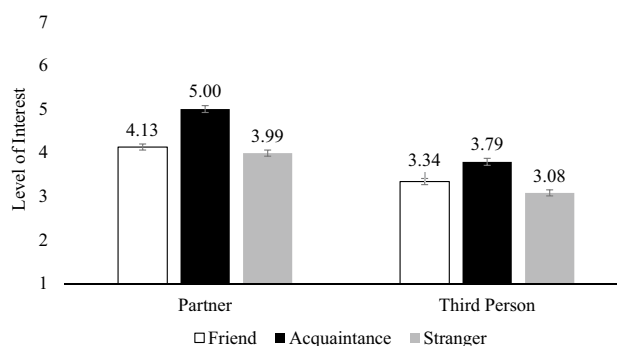


Fig. 5 Two-way interaction between third-person status and familiarity (Mean \pm SEM). *Note* Level of interest scores ranged from 1 to 7, with higher scores indicating greater interest. Error bars indicate standard error of the mean. MMF=threesomes involving two males and one female. FFM=threesome involving two females and one male. Error bars indicate standard error of the mean. The values above of bars reflect the mean

report experience with MGTs, $\chi^2(1) = 1.81, p = .18, \phi = 0.04$. Reports of MGT experience differed according to sample: participants in the online sample (33.74%) were significantly more likely to report MGT experience than were those in the student sample (9.91%), $\chi^2(1) = 50.73, p < .001, \phi = 0.19$. This effect is likely related to age, in which those with MGT experience reported an older average age ($M = 36.17, SD = 14.13$) than did those without experience ($M = 26.48, SD = 10.18$), $t(1438) = 14.66, p < .001, d = 0.79$.¹

Of the 433 individuals who reported having MGT experience, 104 (24.02%) reported experience with MMF MGTs only, 168 (38.80%) reported experience with FFM MGTs only, and 137 (31.64%) reported experience with both an MMF and an FFM MGT. When examining gender differences based on MGT breakdown, a chi-square analysis with follow-up Bonferroni-corrected z -tests suggested that a greater proportion of men reported experience with MMF MGTs (30%) and both types of MGTs (38%) than did women (23% and 30%, respectively). However, a greater proportion of women reported experience with FFM MGTs (47%) than did men (32%), $\chi^2(1) = 9.17, p = .01, \phi = 0.15$ (differences between all proportions were $p < .05$).

With respect to sexual identity, a significantly greater proportion of participants identifying as a sexual minority reported experience with MGTs ($N = 262, 42.67\%$) in comparison with heterosexual participants ($N = 170, 20.66\%$), $\chi^2(1) = 81.06, p < .001, \phi = 0.24$. When examining sexual

¹ A secondary hierarchical binary logistic regression was conducted in which age was controlled for by entering it on the first block. Although age accounted for a significant amount of the variance associated with MGT experience ($B = -.05, p < .001$), sample was still significant ($B = 0.87, p < .001$), indicating that age can account for some of the sample differences, but not all.

identity differences based on MGT breakdown, another chi-square analysis with follow-up Bonferroni-corrected z -tests provided evidence that a significantly greater proportion of sexual minority participants reported experience with FFM MGTs (42.44%) and both types of MGTs (35.71%) in comparison with sexual minority participants (38.83% and 30.59%, respectively). However, there was not a significant difference in the proportion of sexual minority participants reporting experience with FFM MGTs (21.85%) in comparison with heterosexual participants (30.59%).²

Mixed-Gender Threesomes Outcomes

Overall, participants reported that their most recent MGT experience “met expectations” as evidenced by a mean score of 4.73 (SD = 1.65; based on a 7-point scale ranging from “much worse than expected” to “much better than expected”). However, because only two men in the undergraduate sample responded to this item, we were unable to assess differences in outcomes according to the sample source. In order to examine whether self-reported outcomes varied as a function of gender and sexual identity, a 2 (gender) \times 2 (sexual identity) between-subjects factorial ANOVA was conducted. The results indicated that although the main effect of gender was not significant (contrary to H1), the main effect of sexual identity was significant, $F(1, 454) = 10.73, p = .001, \eta p^2 = 0.02$. Examination of the means and SDs indicates that participants identifying as a sexual minority reported more positive outcomes ($M = 4.93, SD = 1.59$) in comparison with participants identifying as heterosexual ($M = 4.44, SD = 1.74$). The interaction effect did meet our criteria for significance.

Discussion

The current study examined variations in US adults’ attitudes, interest, experience, and outcomes related to MGTs according to age and sexual identity using both an undergraduate and a more diverse online sample. The results from our study significantly expand our scientific understanding of threesomes (specifically MGTs) by replicating and extending previous work in this area with data from two different

samples. Replication has always been important, but it has become even more significant in the wake of science’s “replication crisis” (Maxwell, Lau, & Howard, 2015). Replicating findings is especially important in understudied research areas where datapoints are scarce and spurious false positives have the opportunity to garner outside attention for years. Considering how few studies have been conducted on the subject of threesomes—and MGT threesomes in particular—replicating what little work exists is vitally important for drawing accurate conclusions.

Replicated Mixed-Gender Threesomes Findings

The results of the current study confirmed that although participants reported neutral-to-positive attitudes toward and moderate-to-high interest in MGTs, experience was low, suggesting that perhaps there are significant barriers to MGT participation. One potential barrier is the fact that most people probably do not have a script for initiating and coordinating group sex encounters (Lehmiller, 2018; Scoats, 2019). Another is that many people may be hesitant to suggest a MGT to their romantic partner out of fear that it might hurt their partner’s feelings or induce jealousy, or they may have very specific ideas in mind for a MGT and those ideas may not match up well with those of their partner or with the opportunities they are afforded (Lehmiller, 2018). The fact that older adults were more likely to have had a MGT than younger adults supports these potential explanations; for example, older adults’ greater experience may stem from a combination of greater relationship security, enhanced sexual communication, as well as more potential MGT opportunities. Of course, it is also possible that anticipated stigma prevents some interested individuals from participating in a MGT (Scoats, 2019). This explanation is consistent with research on the backlash effect in which people tend to avoid norm-violating behaviors for fear being negatively evaluated (Conley et al., 2013b).

The current results also support research by Thompson and Byers (2017) by replicating gender differences associated with attitudes toward and interest in MGTs, with men reporting more positive attitudes and greater interest than women. This gender difference is not surprising, considering that men report more permissive sexual attitudes overall and greater interest in a variety of sexual behaviors than do women (see Petersen & Hyde, 2010 for a review).

With respect to interest, our findings corroborated those reported by Thompson and Byers (2017) such that the tendency for men to report greater interest in MGTs was largely a result of incredibly high interest in FFM MGTs specifically. However, this was only true for men identifying as heterosexual, not sexual minority men. In fact, men identifying as a sexual minority reported greater interest in MMF MGTs in comparison with FFM MGTs. Thus, the results reported

² A chi-square test was performed to determine whether CNM participants (those who reported that they and their partner were not sexually exclusive) were more likely to have had a MGT as compared to participants who self-identified as monogamous. Results indicated that 65.1% of participants identifying as currently being in a CNM relationship had engaged in a MGT, whereas only 24% of monogamous participants had done so, $\chi^2(1, N=904) = 109.81, p < .001$. According to the odds ratio, CNM participants were 5.84 times more likely than those in sexually exclusive relationships to have had a MGT.

by Thompson and Byers were likely a byproduct of a heterosexual sample. With respect to women, a similar trend was observed: heterosexual women were more interested in MMF MGTs, whereas sexual minority women were more interested in FFM MGTs. Despite the conclusions drawn by Scoats (2018), which posited that women were more interested in FFM MGTs because such an interaction would enable them to feel safer and less objectified, our results suggest that women's sexual preferences may trump feelings of safety, given that heterosexual women were more interested in MMF MGTs.

Finally, our results pertaining to contextual variations in MGT interest support those obtained by Thompson and Byers (2017), in which participants were most interested in MGTs involving familiar others. The tendency to prefer engaging in MGTs with familiar others corroborates previous research finding that casual sexual activity between friends is common and preferred to sex with complete strangers (Bisson & Levine, 2009; Fielder & Carey, 2010).

Interestingly, MGTs involving acquaintances generated more interest than MGTs involving friends. Consequently, although it appears that familiarity is important, these results suggest that there can be “too much of a good thing.” One potential explanation for this stems from research examining when extradyadic emotional and sexual behaviors are perceived as “unfaithful.” U.S. adults perceive behaviors involving familiar others as unfaithful to a greater extent than those involving strangers (Thompson, Zimmerman, Kulibert, & Moore, 2017). This suggests that MGTs involving highly familiar others (i.e., friends) may evoke different relational and other concerns (i.e., jealousy) than MGTs involving less familiar others (i.e., acquaintances).

Novel Mixed-Gender Threesomes Findings

One of the key contributions of the present research was that we addressed MGTs outside of a college setting, with our online sample including a substantial proportion of sexual minorities and older adults. Our results indicate that sexual identity is important to account for when studying MGTs, given that adults identifying as a sexual minority reported more accepting attitudes toward, more interest in, greater experience with, and more positive outcomes from MGTs than their heterosexual counterparts. These findings are not surprising considering that sexual minority adults have likely already developed strategies to cope with societal stigma (e.g., Toomey, Ryan, Diaz, & Russell, 2018) and may therefore be more adept at handling stigma resulting from participation in MGTs and other stigmatized sexual practices.

Our results also indicate that age is an important variable to consider in this context. In our online sample, which involved a much wider age range than the college sample,

we found that attitudes toward and interest in MGTs were more favorable than they were among students, and that age accounted for this difference. Our sample of older adults was also more experienced with MGTs. These findings are consistent with Lehmiller's (2018) work on sexual fantasies, which found a positive correlation between age and fantasizing about threesomes, suggesting that as people get older, they may become more open to the idea.

Finally, the current study expanded on Thompson and Byers' (2017) work by investigating outcomes of MGTs. Our results indicated that adults reported fairly indifferent/neutral outcomes associated with their most recent MGT experience. However, it is not clear what these neutral outcomes reflect. Perhaps this neutrality suggests that their recent experience with MGTs was not as positive as their experience with other sexual behaviors, but not as negative either. However, it is also possible that neutral outcomes indicate ambivalence, which may indicate mixed or complex outcomes. In this case, MGT experience could be characterized as a combination of positive and negative events (e.g., imagine a romantic couple that takes part in a MGT in which one partner greatly enjoys the experience while the other does not. Such a scenario could potentially induce an ambivalent outcome). Additional work is needed in order to shed light on the extent to which MGT outcomes are, in fact, neutral.

With respect to MGT outcomes, although differences were discovered between heterosexual and sexual minority participants, there were no gender differences. However, this does not rule out the possibility that gender differences in outcomes could emerge based on the type of MGT one engaged in and the level of familiarity one had with the other participants. For example, with respect to casual sexual encounters, research indicates that women report more negative outcomes (e.g., less enjoyment, regret, unwanted emotional attachment, substance use) than men (e.g., Piemonte, Conley, & Gusakova, 2019; Townsend & Wasserman, 2011; Uecker & Martinez, 2017; Woerner & Abbey, 2017), but these same-gender differences do not emerge for committed sexual encounters. Thus, perhaps gender differences associated with MGT outcomes would emerge with a more nuanced assessment of MGT experiences.

Threesomes as a Form of Consensual Nonmonogamy

The present research situated threesomes and MGTs within the CNM literature. Academic papers on CNM do not often make mention of threesomes (or other forms of group sex); however, they are important to examine because threesomes reflect a sexual practice that is not uncommon in the world of CNM. For example, one study of swingers found that 86% reported engaging in threesomes (Houngbedji & Guilem, 2016). Likewise, a study of polyamorous relationships found

that more than 80% expressly permitted threesomes within their relationship structure (Wosick-Correa, 2010). Further, open relationships sometimes consist of a “threesomes only” rule, sometimes referred to as a “monogamish” relationship. For instance, one study of gay men in relationships found that 16% were in an open relationship that only permitted threesomes (Hosking, 2014). Indeed, 65% of CNM participants in our sample reported having had a MGT at some point during their life. What all of this tells us is that threesomes and MGTs can and often are part of the most common types of CNM relationships.

Beyond this, threesomes and MGTs have the potential to uniquely affect the dynamics of CNM relationships. For instance, in a polyamorous triad, threesomes offer a way for all three partners to sexually interact and bond at the same time. Likewise, in a swinging or open relationship, threesomes offer the opportunity for two primary partners to jointly interact with someone else—a situation that some may find to be highly erotic, others may find to be awkward, and yet others may find to be jealousy inducing. Exploring the ways in which threesomes have the potential to affect CNM relationships for better or for worse is an important topic to explore in future research.

Strengths and Limitations

Previous studies on threesomes and MGTs have been based almost exclusively on college samples. Given that we collected both a college sample and a diverse online sample, we were able to look at how the findings both converged and diverged across groups. This was perhaps the single biggest strength of the present research. Another important strength was the inclusion of an online sample, which allowed for preliminary exploration of how factors such as age and sexual identity are linked to MGT attitudes, interest, experience, and outcomes.

Although we attempted to collect data on MGTs from a large and diverse group of adults, neither of our samples were representative and were predominately young, White, and Western. This is due, in part, to our reliance on social media to collect data. In addition, some of our subsamples were limited in size (i.e., college men). Consequently, we cannot draw conclusions about how MGTs might operate in more diverse contexts. Race and ethnicity would be important to take into account, given that they often co-vary with other factors (e.g., religion). Thus, attitudes toward, interest in, experiences with, and outcomes stemming from MGTs might differ significantly across racial and ethnic groups based on their sexual and moral values.

Given that this study was advertised, in part, through the social media accounts of sex researchers and was described as a survey of “sexual attitudes,” it likely induced a selection effect/volunteer bias for people who have more permissive attitudes toward sex. This is a persistent problem in sex research

in that persons with more conservative attitudes tend to be underrepresented (Wiederman, 1999). Likewise, it is possible that socially desirable responding may have influenced participants’ responses. People do not always report honestly on their sexual attitudes and behaviors (Alexander & Fisher, 2003).

Additionally, while we identified age-related differences in experience with MGTs, these results are somewhat limited by not inquiring about when participants’ MGT experience occurred. Although older adults reported more experience with MGTs, we cannot determine at what age they engaged in these experiences. Moreover, we did not specifically assess whether participants were in a CNM relationship, but whether they and their partner were sexually exclusive. Therefore, it is possible that some participants reported non-exclusivity simply because their relationship was in an early phase and they had not yet established exclusivity with their partner at that time, as opposed to identifying as consensually nonmonogamous.

Finally, with respect to outcomes, only a single-item measure was used. We were unable to determine which aspects of the MGT were perceived most and least positively, nor were we able to assess variations in outcomes according to the type of MGT. For example, research indicates that outcomes associated with casual sexual behavior largely depend on one’s orgasm experience (Piemonte et al., 2019). Consequently, the creation of scales that assess details related to orgasm occurrences, the gender makeup of the MGT, as well as the familiarity with those involved may help to clarify the neutral outcomes reported in the current study.

Directions for Future Research

While this study extended our knowledge of threesomes and MGTs by giving due consideration to the outcomes associated with this activity, it did not explore the factors that make threesomes more or less enjoyable. An important direction for future research is therefore to elucidate the conditions that promote better versus worse experiences. For instance, one might hypothesize effects based on various personality traits, such as sociosexual orientation (Simpson & Gangestad, 1991) and sexual sensation seeking (Kalichman & Rompa, 1995). To the extent that people have an unrestricted sociosexual orientation (i.e., more comfort with casual sex and an easier time separating sex from emotion) and/or are sexual sensation seekers (i.e., they have a preference for thrilling and risky sexual encounters), it seems reasonable to predict that they would report more favorable experiences with threesomes, MGTs, and other forms of group sex.

Another important direction for future research is to explore what accounts for women’s lower interest in MGTs relative to men. We proposed that women’s lower interest could potentially be a function of the same factors that typically account for women’s lower interest in casual sex: expectations of greater risk and lesser reward (Conley, 2011). In other words, compared

to men, perhaps women anticipate a greater risk of negative outcomes (e.g., contracting STIs, unintended pregnancy, being sexually victimized) coupled with fewer rewards (e.g., less likelihood of orgasm and pleasure). Further research should explore these variables as potential mediators of the association between participant gender and interest in having MGTs.

Future research should also consider attitudes toward and experiences with same-gender threesomes (MMM and FFF MGTs) and how they compare to MGTs. Given that women tend to demonstrate more sexual fluidity than men in their sexual attractions (e.g., Diamond, 2016), it is likely that heterosexually identified women would be more open to the idea of a same-gender threesome than heterosexually identified men. In addition, while the bulk of the sexual minority participants in the present study identified as either mostly heterosexual or as bisexual, some identified as exclusively gay or lesbian. For gay and lesbian persons, same-gender threesomes are likely to be more desired and more commonly practiced compared to MGTs.

The substantial proportion of adults reporting interest in and experience with MGTs in our samples highlights the importance of examining this understudied sexual behavior. Our findings also replicate and extend our understanding of MGTs in several ways. First, they point to the importance of studying MGTs outside of college student samples, due to the fact that both age and sexual identity appear to be important factors affecting MGT attitudes and experiences. Indeed, these findings challenge the popular stereotype of threesomes as an interest/activity that peaks among college-aged adults. Second, this study offers insight not just into people's attitudes toward MGTs, but also how they evaluate their actual experiences with this activity. While experiences were rated as near neutral overall, there was significant variability. This emphasizes a need for future research to elucidate the circumstances under which MGTs (and threesomes more broadly) tend to be more or less satisfying.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interests.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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