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ORIGINAL PAPER

An Empirical Investigation of Variations in Outcomes Associated with Heterosexual Adults' Most Recent Mixed-Sex Threesome Experience

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Abstract

Research reveals that a substantial proportion of North American adults report interest in and experience with mixed-sex threesomes (MSTs; sexual activity involving three people at the same time in which persons of more than one sex are present). Despite the prevalence of MST participation, little is known about the outcomes of MST experiences. Thus, the current study assessed MST outcomes using various metrics including the extent to which one's most recent MST met expectations, the likelihood of participating in the MST again, and whether an orgasm was experienced. In addition, the extent to which one's sex, the sex of those involved, and the inclusion of one's romantic partner impacted outcomes was examined. Data from 276 heterosexual adults (217 men, 59 women) revealed that, overall, adults report fairly positive outcomes from their most recent MST and that males reported more positive outcomes than did females (particularly when engaging in a MST with two members of the other sex). In addition, MSTs involving one's romantic partner resulted in more positive outcomes than did those with casual partners. These results confirm that MSTs can be a satisfying experience particularly for heterosexual males and those participating with a romantic partner. Implications for educators looking to destigmatize various forms of nonmonogamies and for practitioners who intend to assist adults interested in safely exploring multi-person sexual behavior are discussed.

Keywords Mixed-sex threesomes · Threesomes · Multi-person sex · Sexual satisfaction

Introduction

Among Western cultures, sexual behaviors that were once considered "taboo" or "deviant" have recently become more commonplace (e.g., Attwood, 2005; Sheff & Hammers, 2011; Twenge et al., 2016). This is likely due to a shift in social norms relating to enhanced sexual permissiveness. For example, research reveals that the proportion of U.S. participants who had at least one same-sex sexual partner doubled between the 1990s and the 2010s (Twenge et al., 2016). The same trend likely applies to participation in multi-person sexual behavior as well, particularly mixed-sex threesomes (MSTs; i.e., sexual activity involving three people at the same time in which persons of more than one sex are present; Thompson et al., 2021).

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Although research has documented the increased social acceptance and participation in non-traditional sexual behaviors in recent years (Twenge et al., 2015, 2016), trends related to participation in MSTs are difficult to establish due to the novelty associated with this research area. That said, results from the few existing studies indicate that a substantial proportion of North American adults report experience with MSTs. In particular, 13% of Canadian undergraduate students (24% of men; 8% of women) report experience with at least one MST (Thompson & Byers, 2017). In another more recent study, 30% of North American adults (32% of men; 29% of women) reported at least one MST experience (Thompson et al., 2021). Finally, in a study evaluating marital and sexual satisfaction among swingers, around half of the participants reported engaging in some form of threesome (Fernandes, 2009).

Despite the substantial proportion of adults reporting experience with MSTs, little is known about the outcomes of these experiences. Although a small body of research has assessed MSTs in swinging relationships (finding that adults report more positive outcomes from threesomes with women than with men;

Wilt et al., 2018), to our knowledge, only one study has attempted to examine the outcomes associated with adults' participation in MSTs broadly (Thompson et al., 2021). In their study of 1573 North American adults, men and women reported that their most recent MST experience "met expectations" as evidenced by a mean score of 4.73 on a 7-point scale (ranging from "much worse than expected" to "much better than expected").

Thus, more research on MST outcomes is needed. In particular, it is unclear what "neutral" MST outcomes reflect in Thompson et al.'s research (2021). Do these outcomes indicate ambivalence or mixed/complex outcomes, in which one's MST experience is characterized as a combination of positive and negative events (e.g., engaging in an MST in which one partner greatly enjoys the experience while another does not)? In addition, the extent to which MST outcomes vary according to contextual variables (e.g., one's relationship with the other members of the MST and the sex of the participants) remains unknown. These are important variables to assess considering that MSTs involving one's romantic partner and members of the other-sex generate more interest than those involving casual partners and a member of the same-sex. (Thompson & Byers, 2017). Thus, the current study obtained a more nuanced understanding of MST outcomes by adopting numerous outcome metrics and by assessing variations in outcomes in regards to one's sex, relationship with those involved (i.e., whether the MST included their romantic partner), and whether the MST included two additional members of the other-sex (MST-O) or one member of each sex (MST-S).

Sexual Script Theory as a Conceptual Framework

According to social learning theory (Bandura, 1971), human behavior is best understood when considering the complex interplay between cognitive, behavioral, and environmental influences. Although new patterns of behavior can be obtained through direct experience, much of human behavior is acquired via observing that of others (i.e., vicarious learning). This is also true for sexual behavior. In fact, proponents of sexual script theory (Gagnon & Simon, 1986) posit that social and cultural exemplars communicate and specify the appropriate aims, objects, qualities, and outcomes of sexual behavior (i.e., what "counts" as sex, how to recognize sexual situations, and what to do in a sexual encounter; Frith & Kitzinger, 2001). In addition, because the history of sex includes a great deal of oppression (Rubin, 1984), sexuality can be conceptualized as a system of power in which certain individuals and activities are rewarded (i.e., vanilla encounters, pro-creative sexual behavior), whereas others are punished (i.e., same-sex behavior, sex work). This system of power was coined by Rubin as the "Charmed Circle." Thus, the sexual behaviors, identities, and opinions depicted by exemplars are those that are privileged and supported in society. The current study will adopt sexual script theory as well as the Charmed Circle framework when understanding variations in MST outcomes.

It has been argued that the sexual messages disseminated via socialization share three common themes, they are heteronormative, mononormative, and sex-typed (Thompson & Byers, 2021). Heteronormativity is defined as the privileging of heterosexuality over all other forms of sexuality (Oswald et al., 2009). Mononormativity can be defined as "the dominant assumption of the normalcy and naturalness related to monogamy" (Barker & Langdridge, 2010, p. 750). Thus, the traditional sexual script prescribes that appropriate sexual relationships occur between two (and only two) people of other sexes (Byers, 1996).

Finally, because of males' and females' different social experiences and expectations, sexual scripts are sex-typed (i.e., males and females adopt different scripts resulting in discrepant sexual roles and approaches to sexuality; Masters et al., 2013; Wiederman, 2005). Males are socialized to be sexually assertive and highly sexually skilled (Masters et al., 2013). Females, on the other hand, are socialized to be desirable yet resist sexual advances, accrue limited sexual experience, and seek emotional intimacy. In addition, most males are encouraged to explore their genitals and sexuality at a young age; thus, they are more sexually explorative than females whose roles are based more on ideals of behavioral restraint and control (Wiederman, 2005). Because of sex differences in the traditional sexual script, males and females report prioritizing males' satisfaction and desires over females' sexual desires while engaging in sexual activity (Jozkowski & Peterson, 2013). Moreover, the sexual objectification and fetishization of bisexual females' performance for male pleasure may contribute to the adoption of sexually disparate scripts and expectations (Serpe et al., 2020).

The Impact of Norm Violation on Sexual Outcomes

Violations to the traditional sexual script are often met with negative attitudes and high social disapproval (Bergstrand & Sinski, 2010). This stigma can lead to adverse outcomes, including a variety of negative sexual consequences (Doyle & Molix, 2015; Li et al., 2019; Meyer, 2003) and is often explained by the minority stress model (Meyer, 2003). Proponents of this model posit that stressors are not distributed evenly in society and are related to social standing and group membership (Pearlin, 1999). Minority stress can be described as the excess stress placed on a member of a stigmatized group beyond that experienced by members of the broader population (Meyer, 2003). In turn, this extra stress can increase the risk of a variety of negative personal and interpersonal outcomes.

Violations to Heteronormativity

Numerous studies have applied the minority stress model to sexual minority populations (e.g., Kelleher, 2009; Livingston et al., 2016; Meyer et al., 2021). This research reveals that people engaging in same-sex sexual behavior often experience social disapproval and internalized stigma (e.g., Herek, 2009; Herek et al., 2009). In addition, research has also linked this stigma to mental health concerns (Baams et al., 2015; Cochran et al., 2003), sexual anxiety (Moody et al., 2018), and low sexual satisfaction (Budge & Katz-Wise, 2019; Gonçalves et al., 2020).

The stress and stigma associated with violations to norms surrounding heterosexuality have been documented to be greater for men in comparison to women (Bettinsoli et al., 2020; Ratcliff et al., 2006). For example, in a study conducted by Herek in 2009, gay men were significantly more likely to have experienced hate crimes and violence in comparison to lesbian women. This increased stigma on same-sex behavior among men may be the result of the eroticization, and thus, societal acceptance of same-sex behavior among women (Diamond, 2008; Louderback & Whitley, 1997). Therefore, variations in outcomes reported by men and women related to the make-up of the MST (MST-O/MST-S) will be assessed.

Violations to Mononormativity

Although the minority stress model has been applied to violations of monogamy to a lesser extent, existing literature reveals that relationship structures involving more than one partner (consensual non-monogamy) are often perceived as less satisfying and of lower quality than are monogamous relationships (Balzarini et al., 2019). As with sexual minority stress, this stigma has recently been documented to result in internalized consensual non-monogamy negativity (Moors et al., 2021) as well as psychological distress, depression, and anxiety (Witherspoon & Theodore, 2021). There has also been research linking negative attitudes toward consensual non-monogamy and homophobia since both practices are considered non-normative in Western society. Thus, variations in MST outcomes related to the involvement of one's romantic partner will be examined.

Violations to Prescribed Sex-Typed Roles

Finally, research has revealed that violations to one's prescribed sex role can result in stigma and, ultimately, negative outcomes. In line with the minority stress model, the societal disapproval of sexual experience among females has been associated with numerous negative outcomes (Dubé et al., 2017; Fielder & Carey, 2010). In fact, research investigating sex differences in the outcomes associated with casual sexual behavior reveals that females report greater psychological distress following penetrative casual sex as compared to males (Dubé et al., 2017).

On the other hand, in line with societal expectations than males should be more sexually explorative than females, research indicates that sexually inexperienced males are often viewed as less desirable partners (Stewart-Williams et al., 2017). Therefore, it is likely that males do not experience the same psychological distress as females following a casual sexual encounter. Consequently, sex differences in outcomes associated with MST participation will be assessed as well as the impact of the inclusion of one's romantic partner.

The Current Study

In an effort to advance the literature, the current study was designed to obtain a more nuanced understanding of MST outcomes among heterosexual adults. The decision to recruit and assess adults identifying as heterosexual was because of the current discourse that identifies MSTs as opportunities to explore same-sex sexual behavior with reduced stigma. For example, in a qualitative study conducted by Scoats et al. (2018), 29 of their 30 heterosexual male participants indicated that they did not view an individual instance of a MST involving two males and a female as a threat to one's "heterosexual identity."

Thus, to enhance the assessment of MST outcomes, several metrics were used, including the extent to which one's most recent MST met expectations, the likelihood of participating in the MST again, and whether an orgasm was experienced. We also explored the extent to which certain variables impacted the outcomes of one's most recent MST including sex, MST Type (MST-O versus MST-S), and the involvement of one's romantic partner. Based on previous research, sexual script theory (Gagnon & Simon, 1973), and the minority stress model (Meyer, 2003), the following hypotheses were generated:

H1 Heterosexual males were expected to report more positive outcomes in comparison to females.

H2 Heterosexual adults engaging in a MST-O were expected to report more positive outcomes in comparison to those engaging in a MST-S. This difference was expected to be larger for males as compared to females.

H3 Heterosexual adults engaging in a MST involving one's romantic partner were expected to report more positive outcomes in comparison to those engaging in a MST involving casual partners. This difference was expected to be larger for females in comparison to males.

Method

Participants

A total of 343 heterosexual adults (253 males, 86 females, 4 other) were recruited to participate. All were required to be 18 years of age or older, speak English as their first language, identify as heterosexual, and have "experience with a sexual threesome in which members of both sexes were involved." However, several participants were removed due to identifying as something other than a male or female (or participating in a MST with someone identifying as something other than male/female), missing over 20% of their data, failing one or more validity check item, and/or indicating experience with a MMM or FFF threesome (not a MST). Thus, the final sample was comprised of 276 adults (217 males, 59 females). Of these participants, 121 were recruited via social media and the website *Sex and Psychology* (43.8%) and the remaining 155 were recruited through the mobile application, 3Fun® (56.2%). Participants had a mean age of 36.04 years ($SD = 10.39$) and the majority identified as White (76.1%). The bulk of our sample indicated currently being married (29.6%) or single (23.6%), with the remaining indicating being in an open or polyamorous relationship (18.1%), a monogamous relationship (14.9%), dating (7.2%), or "other" (6.8%). Among the participants that were currently in some form of relationship, a mean relationship duration of 80.73 months ($SD = 91.17$) was reported. Finally, our sample reported an average of 30.68 oral sexual partners ($SD = 57.83$), 34.88 vaginal sexual partners ($SD = 75.74$), and 6.65 anal sexual partners ($SD = 17.28$).

Measures

Threesome Outcome Scale (TOS)

The TOS was developed for the purposes of the current study. It was comprised of three items assessing the outcomes of one's most recent MST. The first item asked participants to report on the extent to which their most recent MST "met their expectations," (referred to as "MST Expectations") using a scale from 1 (*far below expectations*) to 5 (*far above expectations*). The second asked participants "to what extent they would engage in another MST experience with these partners again" (referred to as "MST Again"), using a scale from 1 (*not likely*) to 3 (*very likely*). Finally, participants were asked to indicate whether they experienced an orgasm during their most recent MST experience (referred to as "MST Orgasm").

Threesome Behavior Checklist (TBC)

The TBC was also developed for the current study to assess the various behaviors engaged in during one's most recent MST. Items for this scale were adapted, in part, from a measure utilized in a recent content analysis of free online MST pornography (Kulibert et al., 2021). The scale included 13 different behaviors and participants were asked to "check all of the behaviors that they engaged in during their most threesome interaction with each partner." Sample behaviors include: cunnilingus, fellatio, anal intercourse, manual stimulation, and breast play. They were also asked to describe the sex (male/female) and their relationship with each partner (i.e., friend, stranger, current partner). Scale scores were created by totaling the number of behaviors occurring between members of the "same-sex" and "other-sex." The TBC demonstrated excellent internal consistency ($\alpha = 0.81$). Additional information relating to the dimensionality and psychometric properties of the TBC are included on our OSF page (https://osf.io/47z52/?view_only=31944194573540d69af8abc038f795d8).

Demographics Questionnaire

Demographic information including biological sex, age, race, relationships status, relationships duration, and sexual history.

Procedure

Participants were recruited via social media platforms (e.g., Twitter®, Reddit®), the website *Sex and Psychology*, and pop-up ads on 3Fun® (a threesome and swinger app). The title of the recruitment message read "seeking English speaking adults for a study on sexual threesome experiences." Upon providing informed consent, participants were given further information about the study's purpose. Consenting participants completed the TBS, the TOS (among other non-relevant scales)[1], and the demographics questionnaire. Participants were informed that they may choose to forgo responding to any item they wished without repercussions. The survey took approximately 20 min to complete. No compensation was offered to participants who were recruited via social media advertisements or via the *Sex and Psychology* website. However, participants recruited through 3Fun® were offered a free one-month VIP membership for their

[1] Additional measures administered in the current study include the General Homonegativity Scale (Morrison et al., 1999), Internalized Homonegativity Inventory (IHNI; Mayfield, 2001), and the Revised Sociosexual Orientation Inventory (SOI-R; Penke, 2011). See our OSF page for all measures used (https://osf.io/47z52/?view_only=31944194573540d69af8abc038f795d8).

time. This study was approved by the university's research ethics board prior to data collection.

Results

Data Cleaning and Screening

To ensure the most robust sample size when conducting all analyses, pairwise deletion was used to deal with missing values. All data were then screened and cleaned according to procedures outlined by Tabachnick and Fidell (2013). After converting all raw scores into standardized scores for the primary variables, no outliers were identified. Normality was then assessed, in which only the total for the same-sex behaviors demonstrated significant positive.

However, no transformations were successful at reducing the skew. Thus, results obtained from using the same-sex behaviors variable should be interpreted with caution.

Descriptive Results

Of the 276 heterosexual participants, 158 (57.2%) indicated that their most recent MST was a MST-O and 118 (42.8%) indicated that it was a MST-S. On average, participants reported that their most recent MST included 13.54 behaviors with someone of the other-sex ($SD = 5.73$) and 0.95 behaviors with someone of the same-sex ($SD = 2.27$). When asked about their relationship with those involved, 171 (62.0%) indicated that their MST involved their romantic partner at the time. With regard to outcomes, participants indicated that their most recent MST "slightly exceeded expectations," as evidenced by a mean score of 3.74 ($SD = 1.14$) on the 5-point scale. In addition, participants' responses revealed that they would be willing to engage in the MST again (with the same partners), as evidenced by a mean score of 2.39 ($SD = 0.69$) on the 3-point scale. Finally, 242 participants (87.7%) indicated that they were able to achieve an orgasm during their most recent MST experience.

Variations in Mixed-Sex Threesomes Outcomes

Analytic Strategy

Unfortunately, due to the relatively small number of participants identifying as a female, a comprehensive model assessing variations in outcomes related to sex, MST-type, and inclusion of one's romantic partner was not feasible. In fact, we only had 11 females indicating experience with a MST-O that did not involve a romantic partner and 12 indicating experience with a MST-S that did not involve a romantic partner. Thus, variations in MST outcomes related to the inclusion of one's romantic partner were analyzed separately. In addition, because two of our outcome variables (MST Expectations and MST Again) were continuous and the other (MST Orgasm) was dichotomous, a MANOVA was used to assess variations related to MST Expectations and MST Again, whereas a binary logistic regression was used to assess variations related to MST Orgasm.

Variations in Mixed-Sex Threesomes Outcomes related to Biological Sex and Mixed-Sex Threesomes Type

To examine H1 and H2, a 2 (sex) × 2 (MST type) MANOVA was conducted, with Mixed-Sex Threesomes Expectations and MST Again entered as outcome variables. To ensure sufficient power to detect the hypothesized effects, a sensitivity analysis using G*Power 3.1 (Faul et al., 2007) was conducted. The analysis revealed that this analysis was sufficiently powered (95%) to detect a moderate effect ($f = 0.19$) with an alpha = 0.05. The results revealed that none of the multivariate main effects reached significance. However, the multivariate interaction effect between sex and MST Type was significant, Wilks lamba = 0.97, $F(2, 270) = 4.66$, $p = 0.01$, $\eta p^2 = 0.03$. Follow-up univariate tests revealed that the interaction effect was significant for MST Again, $F(1, 271) = 3.86$, $p = 0.003$, $\eta p^2 = 0.03$, but not MST Expectations. A simple effects analysis was used to probe this interaction and revealed that the effect of sex had a significant impact on one's willingness to have the MST again, but only among those participating in a MST-O, $F(1, 272) = 15.11$, $p < 0.001$, $\eta p^2 = 0.05$ (not a MST-S). As expected (among participants reflecting on a MST-O), males reported greater desire to engage in their most recent MST again as compared to females. See Table 1 for the mean score on each outcome variable for each group.

A binary logistic regression examining the impact of sex and MST Type on MST Orgasm was also conducted. The results revealed that the model explained about 4.9% (Nagelkerke R^2) of the variance in MST Orgasm and correctly classified 89.0% of cases. As shown in Table 2, only sex made a statistically significant unique contribution to the model, with males more likely to experience an orgasm in comparison to females. The interaction between sex and MST Type was not significant.

The Role of Number of Same and Other-Sex Behaviors

To determine whether MST outcomes were impacted by the number of same and other-sex behaviors (for exploratory purposes), Pearson product-moment correlation coefficients were computed between the number of same-sex behaviors, the number of other-sex behaviors, MST Expectations, and MST Again. The results revealed that the number of same-sex behaviors was not associated with either outcome measure,

Table 1 Descriptive information for mixed-sex threesomes expectations and mixed-sex threesomes again by mixed-sex threesomes type

	MST expectations		MST again	
	Male *M (SD)*	Female *M (SD)*	Male *M (SD)*	Female *M (SD)*
MST-O	3.81 (1.15)	3.39 (1.43)	2.54 (0.65)	2.03 (0.78)
MST-S	3.79 (1.00)	3.64 (1.13)	2.32 (0.62)	2.46 (0.59)

$N = 276$ adults (121 social media, 155 3Fun®). MST Expectations was measured using a 5-point scale with 1 indicating "far below expectations" and 5 indicating "far above expectations."

but the number of other-sex behaviors was significantly positively correlated with both MST Expectations and MST Again. See Table 3 for correlation matrix.

In addition, to determine if there were differences in the number of same- and other-sex behaviors between those who experienced an orgasm versus those who did not, independent samples *t*-tests were computed. The results revealed that there was no difference in the number of same-sex behaviors between those experiencing an orgasm versus those who did not. However, there was a significant difference in the number of other-sex behaviors between those who orgasmed versus those who did not, $t(260) = 3.10$, $p = 0.002$, $d = 0.66$. In particular, those experiencing an orgasm reported engaging in more other-sex behaviors ($M = 13.96$, $SD = 5.74$) than did those not experiencing an orgasm ($M = 10.46$, $SD = 4.75$).

Because of the significant effect of sex on MST Again and because of the significant positive relationship between the number of other-sex behaviors and MST Again, two mediational analyses were conducted in order to determine if the number of other-sex behaviors could explain sex differences in MST outcomes. Both mediational models were tested using Hayes' PROCESS Macro (Model 4; Hayes, 2013). The requirements for concluding significant mediation were: (1) the mediator (M) is significantly associated with the predictor variable (X) and the outcome variable (Y), (2) the direct effect is significantly different from zero, and (3) the indirect effect of X → Y via M is statistically different from zero (Preacher & Hayes, 2008). To assess the significance of the indirect effect (c–c′), confidence intervals were reported and a Sobel test was computed (Fritz et al., 2012; Sobel, 1982).

For the first model, assessing only males, MST Type was included as the predictor variable (X), MST Again as the outcome variable (Y), and number of other-sex behaviors as the mediator (M). The results of the first mediational analysis indicated that the number of other-sex behaviors completely mediated the effect of MST Type on the extent to which men would have their most recent MST again (See Fig. 1). After the number of other-sex behaviors was added to the model, the coefficient was reduced from $\beta = -0.34$ to $\beta = -0.30$ and was no longer significant (from a $p = 0.01$ to a $p = 0.11$). The indirect effect was significantly different from zero, indirect effect = −0.36, SE = 0.07, 95% CI = [−0.52; −0.23]. The Sobel test provided further evidence that the reduction in the effect of the MST Type, after including the number of other-sex behaviors, was statistically significant ($z = -18.38$, $p < 0.001$). However, for females, mediation did not occur in the second model because path c (the direct effect) was not significant. This is consistent with the results of the MANCOVA, revealing there was no difference in the extent to which women would have their most recent MST-O or MST-S again. See Fig. 2.

Table 3 Bivariate correlations between number of same-sex behaviors, number of other-sex behaviors, and outcome measures

		1	2	3
1	Number of Same-Sex Behaviors			
2	Number of Other-Sex Behaviors	−0.34*		
3	MST Expectations	0.15	0.24*	
4	MST Again	−0.05	0.29*	0.36*

* = significant at $p < .001$ level

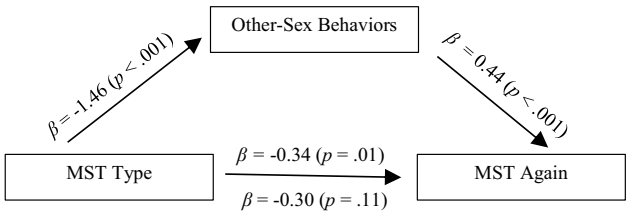

Fig. 1 Mediational model for men

Table 2 Summary of the mixed-sex threesomes orgasm binary logistic regression

	B	*S.E*	Wald	*p*	Exp(B)	95% C.I. for odds ratio	
						Lower	Upper
Biological Sex	-1.10	.41	7.22	.007	3.00	1.35	6.68
MST Type	0.02	.40	0.00	.99	1.00	0.46	2.18

$N = 276$ adults (121 social media, 155 3Fun®)

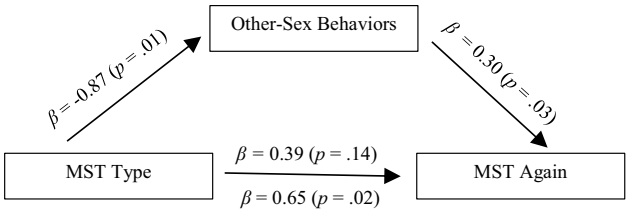

Fig. 2 Mediational model for women

Variations in Mixed-Sex Threesomes Outcomes Related to Romantic Partner Inclusion

To determine whether MST Expectations, MST Again, and MST Orgasm were impacted by one's sex and/or the inclusion of one's romantic partner (H3), a MANOVA and a binary logistic regression were conducted. First, a 2 (sex) × 2 (romantic partner) MANCOVA was conducted, with MST Expectations and MST Again as dependent variables. The results revealed that, although there were no significant multivariate effects, the univariate effect of sex, $F(1, 271) = 4.78$, $p = 0.04$, $\eta p^2 = 0.02$, and romantic partner on MST Again were significant, $F(1, 271) = 4.21$, $p = 0.04$, $\eta p^2 = 0.02$. A follow-up examination of the descriptive statistics revealed that males ($M = 2.45$, $SD = 0.65$) reported a greater desire to have their most recent MST again in comparison to females ($M = 2.18$, $SD = 0.79$) and those indicating that their most recent MST involved their romantic partner reported a greater desire to have their most recent MST again ($M = 2.43$, $SD = 0.65$) in comparison to those participating without a romantic partner ($M = 2.32$, $SD = 0.74$).

Finally, a binary logistic regression examining the impact of sex and romantic partner on MST Orgasm (controlling for sample) was conducted to explore differences in orgasm experiences. Although the results revealed that the model explained about 5.2% (Nagelkerke R^2) of the variance in MST Orgasm, none of the predictors made a statistically significant unique contribution to the model. Thus, the inclusion of one's romantic partner did not seem to impact orgasm experiences for males or females.

Discussion

The current study obtained a more nuanced understanding of the outcomes stemming from heterosexual adults' most recent MST experiences. Specifically, outcomes were measured by assessing the extent to which participants' most recent MST experience met expectations, the extent to which they would be interested in participating in the MST again, and whether they experienced an orgasm. Additionally, variations in MST outcomes were assessed by exploring the impact of one's sex, relationship with the other participants (i.e., whether the MST included a current romantic partner), and the makeup of the MST (i.e., MST-O, MST-S).

The results of this study help to explain the neutral outcomes reported by adults participating in previous research conducted by Thompson et al. (2021). In particular, in the current study, outcomes varied according to the metric used (i.e., expectations, intentions to participate again, and orgasm experience). Subjectively, participants' responses to the expectations measure were less positive than responses to the item assessing intentions to participate in the MST again. Furthermore, if assessing outcomes using orgasm occurrence as a metric, it would appear as though participants had very positive outcomes (as evidenced by the majority experiencing an orgasm).

The variations in conclusions drawn about outcomes of MSTs based on responses to these three items support research on sexual satisfaction more broadly, in which scholars have argued that single item measures lack accuracy and sophistication (Christopher & Sprecher, 2000; Guo & Hunag, 2005). Thus, this study provided much needed information to more accurately and comprehensively describe adults' experiences with MSTs. That said, each individual item had shortcomings of its own. In particular, the measurement of meeting one's expectations is heavily influenced on what sort of experience the individual was expecting. For example, reporting that one's most recent MST "met expectations" because they expected it to be a "magical, life-altering experience" is very different from someone who expected it to "fall flat, produce guilt, or result in awkwardness." In addition, the experience of an orgasm is not always indicative of a positive/pleasurable experience (Blair et al., 2018; Chadwick et al., 2019). For example, qualitative research by Chadwick et al. (2019) reveals that even consensual sexual encounters can result in "negative, non-positive, or less pleasurable" orgasm experiences. Finally, the extent to which participants would participate in the MST again may vary greatly according to the persons involved. In fact, participants were asked "to what extent they would engage in another MST experience with these partners again." This is problematic, because it is possible that an individual had an overall pleasurable experience, but that one participant may have had a detrimental impact on this experience (which may have resulted in more negative outcomes/lower ratings). Taken together, these results reveal that MST outcomes are intricate and nuanced and should be assessed holistically in an attempt to obtain the most accurate and comprehensive information.

Variables Impacting Mixed-Sex Threesomes Outcomes

Not only did the metric used to assess outcomes impact participants' reports, but there were several variables that influenced outcomes, including sex, type of MST, and the

inclusion of one's romantic partner. With regard to sex (H1), the findings of this study revealed that a greater proportion of males experienced an orgasm from their most recent MST experience in comparison to females. This finding is consistent with the traditional sexual script and previous work suggesting that males' sexual pleasure may be prioritized more than females' (Jozkowski & Peterson, 2013). In addition, it supports existing research indicating that males report achieving orgasm more frequently across a variety of sexual behaviors in comparison to females (for review, see Mahar et al., 2020). In fact, a team of researchers found that in a group of 800 undergraduate students, 91% of men reported "usually" or "always" experiencing an orgasm in partnered sexual activity versus 39% of women (Wade et al., 2005). Thus, these results likely say less about the quality of the MST and more about the traditional sexual script and sex differences in outcomes of sexual behavior broadly.

The impact of sex on outcomes (as described above) varied as a function of the type of MST. This was partially consistent with H2, such that (as compared to females) males reported greater willingness to participate in their most recent MST-O again. Although this result is consistent with previous research on MST interest, indicating that the sex difference associated with interest in MSTs is largely driven by males' desire to participate in a MST-O (Thompson & Byers, 2017; Thompson et al., 2021), it is not clear as to whether this effect can be explained by sex or heterosexuality itself. For example, it is not clear whether this effect would replicate in a sample of sexual minority men. Regardless, the prevailing portrayal of two females pleasing one male in MST pornography may inform heterosexual males' sexual scripts regarding threesomes (i.e., that MST-Os revolve around male satisfaction), and thus, may influence males' willingness to participate in their most recent MST-O again. Consequently, it would appear as though males' interest is warranted as these forms of MSTs yield the most positive outcomes.

Interestingly, the extent to which males reported greater interest in engaging in MST-Os again in comparison to MST-Ss explained the number of other-sex behaviors. However, the same was not true for females. This can likely be explained, in part, by increased sexual fluidity among females as compared to males (Diamond, 2008, 2016). In fact, research by Chivers et al. (2004) reveals that males have more category-specific arousal patterns than do females (i.e., males tend to only show high levels of arousal when engaging sexually with people of their preferred sex/gender). Because females' pattern of arousal is less category-specific, their outcomes may not have been directly tied to the number of other-sex behaviors performed during the MST. Therefore, whereas the heterosexual females who participated in this study may have experienced arousal to both participants, heterosexual males likely only became aroused (thereby having the capacity for more positive outcomes) when participating in sexual activity with members of the other-sex during their MST, maintaining males' heteronormative sexual script.

Finally, the involvement of one's romantic partner had an impact on MST Outcomes (H3), particularly the extent to which they would engage in the MST again. Those whose most recent MST involved a romantic partner reported being more willing to engage in the behavior again in comparison to those that did not include a partner. Although it is difficult to ascertain exactly why MSTs with one's partner yielded better outcomes, we have generated several possible explanations. The first explanation is in line with sexual script theory (Simon & Gagnon, 1986), Rubin's Charmed Circle (Rubin, 1984), and the minority stress model (Meyer, 2003), such that sexual behaviors with casual partners violate norms and produce stigma, which may result in greater stress and adverse outcomes than sexual behaviors with committed partners. The second explanation relates to the level of comfort one has with a committed partner as compared to a casual partner. For example, research by Armstrong et al. (2012) reveals that adults report greater enjoyment during sexual activity when it involves a partner with whom they are highly affectionate and committed. In addition, Lehmiller et al. (2014) determined that sexual behavior occurring between committed partners was more satisfying, in part, because of increased communication between committed romantic partners in comparison to casual partners. Thus, participation in a MST without one's romantic partner may have been less enjoyable because of the amount of stigma one might experience when engaging with a casual partner but also because of the lack of comfort one has with casual sexual partners. Finally, mixed-sex couples seeking out an unpaired polysexual individual to join their sexual dyad may experience the pursuit (e.g., "unicorn hunting") as a thrilling bonding activity, thus increasing satisfaction with MST outcomes.

Limitations and Future Directions

Although this study has furthered our knowledge and understanding of MST outcomes, there are several limitations that must be considered. First, sampling biases may have impacted our results, particularly the focus on cisgender and heterosexual adults. For example, because we focused exclusively on adults identifying as heterosexual and as either male or female, these results may fail to replicate across sexual minority participants and folks of varying gender identities. With regard to ascertainment bias, it is plausible that those with a positive MST experience were more likely to participate than those with a negative experience. Thus, our results may paint an overly positive picture of MSTs and should be replicated by adopting more innovative recruitment strategies. Future researchers could consider surveying

all members of one's most recent threesome in an effort to compare concordance in self-reported outcomes.

Second, the retrospective approach of the current study may have introduced some level of recall bias. Although we attempted to minimize the impact of recall bias by having participants report on "their most recent MST," research indicates that adults' ability to recall memories is often subject to inaccuracies caused by telescoping (i.e., assigning thoughts and feelings that occurred before or after an experience to that experience; Graham et al., 2003). Thus, it would be beneficial for future researchers to adopt a daily diary approach, in which participants write about their experience immediately after it occurs.

Third, the way in which cultures view and talk openly about sexual practices may affect the results of this study. For example, those identifying with certain Chinese cultures view having conversations about sexual behavior as "inappropriate" (Tang et al., 2013). In fact, the words "sex" and "sexual behaviors" are considered taboo in Chinese language. Thus, people of certain cultures may refrain from taking a survey of this nature, as disclosing sexual experiences likely causes discomfort. This could mean that our sample may not be representative of the full scope of adults who participate in MSTs. In the future, researchers should attempt to examine the role of culture and geographic location when understanding MST outcomes.

Lastly, past research indicates that sexual satisfaction is heavily influenced by sexual motives (Stephenson et al., 2011). Studies assessing motives for casual sex reveal that sex differences in outcomes can be explained by motives, such that those engaging in casual sex for autonomous motives (e.g., fun and enjoyment, to explore their sexuality) report more positive outcomes than those engaging for non-autonomous motives (e.g., to please someone else, coerced; Townsend et al., 2020). Unfortunately, we failed to assess motives for MST participation. Consequently, researchers should attempt to assess MST motives and whether they can explain the sex differences reported in the current study.

Conclusions and Implications

Overall, our results reveal that people reported fairly positive outcomes resulting from their most recent MST and that these encounters have the potential to benefit couples. This information can assist practitioners, sexual health educators, as well as the general public. In particular, practitioners can use this information to gain a better understanding of how to enhance sexual satisfaction and communication. For example, clinicians and practitioners could work with adults in relationships to safely explore multi-person sexual behavior in an environment that promotes pleasure, satisfaction, and consent, all while reducing jealousy and repetition. Further, clinicians could use this information in their work with female clients, specifically, to promote equal access to sexual pleasure and the fulfillment of sexual fantasies in an effort to reduce gender/sex imbalances related to sexuality. It is our hope that this research will aide in efforts to destigmatize various forms of nonmonogamies and multi-person sexual behavior, by highlighting the benefits of such sexual arrangements and behaviors. For example, the results from this research could be used by educators to facilitate conversations about multi-person sexual behavior and normalize what may have once been perceived as inappropriate, unsatisfying, or unfaithful. Not only will these conversations benefit the general public by helping to reduce stigma, but they could also bring awareness to the many benefits of multi-person sexual behavior and ultimately enhance sexual and relationship satisfaction.

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Declarations

Conflict of interest The authors have not disclosed any competing 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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